The API Composite List

This is a directory of companies licensed to use the API Monogram and APIQR Registration Mark. This directory also lists the companies who have registered Perforator Designs with API. It provides an alphabetical list of approximately 1,400 manufacturers licensed (at the time of publication) to mark their products with the API Monogram. It also contains a classified listing (by specific API specification) of these licensed manufacturers, as well as over 200 APIQR ISO 9000 registered firms. This directory was developed to assist those individuals desiring to purchase products and services meeting API specifications from companies whose quality systems and capabilities are verified by API’s Quality Programs. It is updated and published quarterly.

A searchable on-line version of the composite list is updated weekly and can be found at https://mycerts.api.org/Search/CompositeSearch.

Free*

Spec Q1 ◆

Specification for Quality Management System Requirements for Manufacturing Organizations for the Petroleum and Natural Gas Industry

Establishes the minimum quality management system requirements for organizations that manufacture products or provide manufacturing-related processes under a product specification for use in the petroleum and natural gas industry. This specification specifies requirements of a quality management system for an organization to demonstrate its ability to consistently provide reliable products and manufacturing-related processes that meet customer and legal requirements. This specification specifies requirements of a quality management system for an organization to demonstrate its ability to consistently provide reliable products and manufacturing-related processes that meet customer and legal requirements. The quality management system requirements specified in this specification are in alignment with the clause requirements and format of document used for the provision of services and use of service-related product (API Q2). Pages: 47
9th Edition | June 2013 | Effective Date: June 1, 2014
Product Number: G0Q109 | Price: $131.00

Spec Q1 *

Specification for Quality Management System Requirements for Manufacturing Organizations for the Petroleum and Natural Gas Industry—Portuguese

Portuguese translation of Spec Q1.
9th Edition | June 2013 | Product Number: G0Q109P | Price: $131.00

Spec Q1 *

Specification for Quality Management System Requirements for Manufacturing Organizations for the Petroleum and Natural Gas Industry—Russian

Russian translation of Spec Q1.
9th Edition | June 2013 | Product Number: G0Q109R | Price: $131.00

Spec Q1 *

Specification for Quality Management System Requirements for Manufacturing Organizations for the Petroleum and Natural Gas Industry—Spanish

Spanish translation of Q1.
9th Edition | June 2013 | Product Number: G0Q109SP | Price: $131.00

Spec Q2 ◆

Quality Management System Requirements for Service Supply Organizations for the Petroleum and Natural Gas Industries

Defines the quality management system (QMS) requirements for service supply organizations for the petroleum and natural gas industries. It is intended to apply to the execution of services for the petroleum and natural gas industry. This includes, but is not limited to, activities such as well construction, intervention, production, and abandonment, as well as repair/maintenance/configuration of service-related product. Pages: 33
2nd Edition | July 2021 | Product Number: G0Q202 | Price: $96.00

Spec Q2 *

Quality Management System Requirements for Service Supply Organizations for the Petroleum and Natural Gas Industries—Russian

Russian translation of Q2.
2nd Edition | July 2021 | Product Number: G0Q202R | Price: $96.00

*These translated versions are provided for the convenience of our customers and are not officially endorsed by API. The translated versions shall neither replace nor supersede the English-language versions, which remain the official standards. API shall not be responsible for any discrepancies or interpretations of these translations. Translations may not include any addenda or errata to the document. Please check the English-language versions for any updates to the documents.
mean one or more of the following well conditions exist:

- applicable HPHT environment where HPHT environments are intended to
  - lifecycle management status, actions required to maintain a status, and
  - controls necessary to ensure the equipment is fit-for-service in the
  - natural gas industries that includes design verification analysis, design
  - document was developed for upstream activities application. This document
  - included in the scope of this document, but only as individual products. This
  - Multiple products used together as part of a system application may be
  - development of the lifecycle management plan.

Petroleum and Natural Gas Industries

Product Life Cycle Management System Requirements for the

Std 18LCM

Product Life Cycle Management System Requirements for the

Petroleum and Natural Gas Industries

This report is intended to apply to the following equipment: wellheads, tubing

- the maximum anticipated surface pressure or shut-in tubing pressure is
- the flowing temperature is greater than 350 °F on the seafloor for a well with a
- the completion of the well requires completion equipment or well control
  - a temperature rating greater than 15,000 psig or a

The design verification and validation protocols in this report should be used as a
guide by the various API standards committees to develop future
documents on equipment specifications for HPHT service. This report is not intended to replace existing API equipment specifications, but to
supplement them by illustrating accepted practices and principles that may be
considered in order to maintain the safety and integrity of the equipment.
This report is intended to apply to the following equipment: wellheads, tubing
heads, tubulars, packers, connections, seals, seal assemblies, production
trees, chokes, and well control equipment. It may be used for other
equipment in HPHT service. Pages: 90

1st Edition | March 2013 | Product Number: G1PER15K11 | Price: $159.00

TR 1PER15K-1

Protocol for Verification and Validation of High-Pressure High-
Temperature Equipment

TR 2A-LFS

Load Factor Study for API Recommended Practice 2A-LRFD

Evaluates the suitability of the load factors in API 2A-LRFD, 1st Edition
(1993) given the accumulated experience since the 1980s about hurricane
hazards and platform performance. Pages: 124

1st Edition | November 2020 | Product Number: G2ALFS01 | Price: $120.00

TR 18TR1

Guidance on Changes to API Q1, Ninth Edition

Written for experienced quality professionals seeking to implement the new
requirements of API Q1, 9th Edition and to gain a deeper understanding of
the requirements with an overall view to improving their quality management
system (QMS) and conformance to API Q1, 9th Edition. While API Q1, 9th
Edition was created independently of ISO 9001:2008, the specification
continues to satisfy those requirements and the supplemental requirements
in API Q1, 8th Edition. The formatting of API Q1, 9th Edition was revised to
align with API Q2, 1st Edition and to follow a chronological order in the
production and delivery of the product. Pages: 22

1st Edition | June 2015 | Product Number: G18TR101 | Price: $71.00

TR 18TR4

Evaluation of Welding Requirements as Applicable to API Product
Specifications

A result of an evaluation of the consistency of welding requirements between
API Product Specifications that are primarily used in exploration and
production. The intent of the evaluation was to identify a means to standardize
welding requirements across API Product Specifications. Pages: 117

1st Edition | December 2017 | Product Number: G18TR401 | Price: $131.00

OFFSHORE STRUCTURES

TR 2A-LFS

Load Factor Study for API Recommended Practice 2A-LRFD

Evaluates the suitability of the load factors in API 2A-LRFD, 1st Edition
(1993) given the accumulated experience since the 1980s about hurricane
hazards and platform performance. Pages: 124

1st Edition | November 2020 | Product Number: G2ALFS01 | Price: $120.00

RP 2A-LRFD

Planning, Designing, and Constructing Fixed Offshore Platforms—
Load and Resistance Factor Design

Specifies requirements and provides recommendations applicable to the
following types of fixed steel offshore structures for the petroleum and
natural gas industries: free-standing and braced caissons, jackets,
monotowers, and towers. In addition, it is applicable to compliant bottom
constructed structures, steel gravity structures, jack-ups, other bottom
constructed structures, and other structures related to offshore structures (such as
underwater oil storage tanks, bridges, and connecting structures), to the
extent to which its requirements are relevant. This document contains
requirements for planning and engineering of the following tasks: design,
fabrication, transportation, and installation of new structures, as well as their
future removal; in-service inspection and integrity management of both new
and existing structures; assessment of existing structures; and evaluation of
structures for reuse at different locations. Pages: 518

2nd Edition | August 2019 | Product Number: G2ALRFD2 | Price: $387.00
Exploration and Production

To purchase individual API standards, visit apiwebstore.org

RP 2A-WSD
Planning, Designing, and Constructing Fixed Offshore Platforms—Working Stress Design

Contains requirements for the design and construction of new fixed offshore platforms and for the relocation of existing platforms used for drilling, development, and storage of hydrocarbons in offshore areas. In addition, this document should be used in conjunction with RP 2SIM for the assessment of existing platforms in the event that it becomes necessary to make a determination of the fitness-for-purpose of the structure. Pages: 310
22nd Edition | November 2014 | Reaffirmed: September 2020
Product Number: G2AWSD22 | Price: $428.00

RP 2A-WSD *
Planning, Designing, and Constructing Fixed Offshore Platforms—Working Stress Design—Russian

Russian translation of RP 2A-WSD.
22nd Edition | November 2014 | Reaffirmed: September 2020
Product Number: G2AWSD22R | Price: $428.00

Spec 2B ◆
Specification for the Fabrication of Structural Steel Pipe

Covers the fabrication of structural steel pipe formed from plate steel with longitudinal and circumferential butt-welded seams. Pipe is typically in sizes of 14 in. outside diameter and greater, with a wall thickness 3/8 in. and greater (up to a nominal 40 ft in length), and is suitable for use in construction of welded offshore structures. The use of the ERW process or spiral welded pipe is not included in this specification. Pipe fabricated under this specification is intended to be used primarily in piling and main structural members, including tubular truss connections, where internal stiffeners are not usually required. Pages: 8
Product Number: G02B06 | Price: $90.00

Spec 2B *
Specification for the Fabrication of Structural Steel Pipe—Chinese

Chinese translation of Spec 2B.
Product Number: G02B06C | Price: $90.00

Spec 2B *
Specification for the Fabrication of Structural Steel Pipe—Russian

Russian translation of Spec 2B.
Product Number: G02B06R | Price: $90.00

Spec 2C ◆
Offshore Pedestal-Mounted Cranes
(includes Errata 1 dated June 2021)

Provides requirements for design, construction, and testing of offshore pedestal mounted cranes. Offshore cranes are defined in this specification as pedestal mounted elevating and rotating lift devices for transfer of materials or personnel to or from marine vessels and structures. Offshore cranes are typically mounted on a fixed (bottom supported) or floating platform structure used in drilling and production operations. Spec 2C is not intended to be used for the design, fabrication, and testing of davits and/or emergency escape devices. Spec 2C is also not intended to be used for shipboard cranes or heavy lift cranes. Pages: 150
8th Edition | October 2020 | Product Number: G02C08 | Price: $175.00

RP 2D
Operation and Maintenance of Offshore Cranes
(includes Errata 1 dated August 2015 and Addendum 1 dated October 2020)

Intended to serve as a guide to crane owners and operators in developing operating and maintenance practices and procedures for use in the safe operation of pedestal-mounted revolving cranes on fixed or floating offshore platforms, jackup drilling rigs, semi-submersible drilling rigs and other types of mobile offshore drilling units (MODUs). Guidelines are also given for the pre-use inspection and testing of temporary cranes (also called self-erecting, leaping or bootstrap cranes) that are erected offshore.

Equipment (e.g. davits, launch frames) used only for launching life-saving appliances (life boats or life rafts) are not included in the scope of this document. Pages: 120
7th Edition | December 2014 | Product Number: G02D07 | Price: $157.00

RP 2D-2
Training for Offshore Pedestal-mounted Crane Riggers, Operators, and Inspectors

Enhances the robustness of previous test programs an improved hands-on style of testing that will strengthen competency and understanding of safety protocols. This standard establishes general principles for the training of personnel for safe operations and maintenance of offshore pedestal-mounted cranes, as a companion to API 2D and API 2C. This standard also provides requirements and recommendations for personnel seeking qualification as a crane operator, inspector, or crane rigger. The revised training requirements in API 2D-2 will help enhance worker safety at offshore sites, with the goal of improving industry safety by reducing the number of drop incidents while boosting productivity and working to eliminate the economic losses that stem from damage. API 2D-2 means all around improvements when it comes to operational safety, maintenance, and sustainability of pedestal-based cranes, improving the overall lifespan of these key pieces of lifting hardware. Pages: 57
1st Edition | October 2020 | Product Number: G02D07 | Price: $90.00

RP 2EQ/ISO 19901-2:2004
Seismic Design Procedures and Criteria for Offshore Structures
(includes Addendum 1 dated January 2019)

Contains requirements for defining the seismic design procedures and criteria for offshore structures and is a modified adoption of ISO 19901-2. The intent of the modification is to map the requirements of ISO 19901-2 to the United States' offshore continental shelf (U.S. OCS). The requirements are applicable to fixed steel structures and fixed concrete structures. The effects of seismic events on floating structures and partially buoyant structures are also briefly discussed. The site-specific assessment of jack-ups in elevated condition is only covered to the extent that the requirements are applicable. This document defines the seismic requirements for new construction of structures in accordance with RP 2A-WSD, 22nd Edition and later. Earlier editions of RP 2A-WSD are not applicable. Only earthquake-induced ground motions are addressed in detail. Other geologically induced hazards such as liquefaction, slope instability, faults, tsunamis, mud volcanoes, and shock waves are mentioned and briefly discussed. The requirements are intended to reduce risks to persons, the environment, and assets to the lowest levels that are reasonably practicable.

This edition of RP 2EQ is the modified national adoption of ISO 19901-2:2004. Pages: 57
1st Edition | November 2014 | Reaffirmed: January 2021
Product Number: G02EQ01 | Price: $136.00

Spec 2F ◆
Specification for Mooring Chain

Covers flash-welded chain and forged center connecting links used for mooring of offshore floating vessels such as drilling vessels, pipe lay barges, derrick barges, and storage tankers. Pages: 16
Product Number: G02F06 | Price: $97.00

*These translated versions are provided for the convenience of our customers and are not officially endorsed by API. The translated versions shall neither replace nor supersede the English-language versions, which remain the official standards. API shall not be responsible for any discrepancies or interpretations of these translations. Translations may not include any addenda or errata to the document. Please check the English-language versions for any updates to the documents.
RP 2FB
Recommended Practice for Design of Offshore Facilities Against Fire and Blast Loading

Provides an assessment process for the consideration of fire and blast in the design of offshore structures and includes guidance and examples for setting performance criteria. This document complements the contents of the Section 18 of RP 2A-WSD, 21st Edition with more comprehensive guidance in design of both fixed and floating offshore structures against fire and blast loading.

Guidance on the implementation of safety and environmental management practices and hazard identification, event definition and risk assessment can be found in RP 75 and the RP 14 series. The interface with these documents is identified and emphasized throughout, as structural engineers need to work closely with facilities engineers experienced in performing hazard analysis as described in RP 14J, and with the operator’s safety management system as described in RP 75. Pages: 63

1st Edition | April 2006 | Reaffirmed: September 2020
Product Number: G2FB01 | Price: $171.00

TR 2FC-1
Studlink and Studless Fatigue Curves for Mooring Lines

Summarizes the derivation of fatigue curves for studless and studlink chain mooring lines for inclusion in API 2SK, 3rd Edition. The 2nd of API 2SK has a single fatigue curve for mooring chain; this curve is a non-unique lower bound to all of the in-water and in-air studlink fatigue test data. API 2SK, 2nd Edition does not have separate fatigue curves for studlink and studless chain. The studlink fatigue curve derived in this report is based on the salt water tension-tension fatigue tests performed by the National Engineering Laboratory, Glasgow, UK (NEL) and Exxon Production Research Company (EPR) on oil rig quality (ORQ) studlink chain with bar diameters of 2 in., 3 in., and 4 in. The studless fatigue curve is based on the saltwater tension-tension fatigue tests performed by NEL on R3 and R4 studless chain with a bar diameter of 3 in. Pages: 32

1st Edition | January 2020 | Product Number: G02FC101 | Price: $75.00

TR 2FC-2
Fatigue TN Curves for Chain, Wire, and Polyester Mooring Lines (Including Corrections for High-tension Ranges)

Summarizes the derivation of high-load, range-low cycle corrections to API 2SK, 3rd Edition studlink and studless chain fatigue curves, and in this respect supplements the derivation of standard fatigue curves reported in API 2FC-1, 1st Edition. In addition, low cycle high load range corrections to API 2SK’s independent wire rope core (IWR) studlink chain with bar diameters of 2 in., 3 in., and 4 in. The studless fatigue curve is based on the saltwater tension-tension fatigue tests performed by NEL on R3 and R4 studless chain with a bar diameter of 3 in. Pages: 26

1st Edition | January 2020 | Product Number: G02FC201 | Price: $65.00

RP 2FPS
Planning, Designing, and Constructing Floating Production Systems

Provides guidelines for design, fabrication, installation, inspection, and operation of floating production systems (FPSs). A FPS may be designed with the capability of one or more stages of hydrocarbon processing, as well as drilling, well workover, product storage, and export. This document addresses only floating systems where a buoyant hull of some form supports the deck, production, and other systems. Bottom-fixed components, such as self-supporting risers, and station keeping systems, such as turret mooring, catenary anchor leg mooring (CALM), single anchor leg mooring (SALM), etc. are considered as ancillary components and are addressed in more detail in other API recommended practices. Pages: 191

2nd Edition | October 2011 | Reaffirmed: September 2020
Product Number: G2FPS02 | Price: $202.00

RP 2FSIM
Floating Systems Integrity Management

Provides guidance for floating system integrity management (FSIM) of floating production systems (FPSs), which include tension leg platforms (TLPs), used by the petroleum and natural gas industries to support drilling, production, storage, and/or offloading operations. FPSs described in this recommended practice are governed by local regulatory requirements and recognized classification society (RCS) rules (if classified). No specific regulatory compliance or RCS requirements are restated in this RP. The requirements of this RP do not apply to mobile offshore drilling units (MODUs) or to mobile offshore units (MOUs) used in support of construction operations. For integrity management (IM) considerations, these units are typically governed by RCS rules. Pages: 101

1st Edition | September 2019
Product Number: G2FSIM01 | Price: $175.00

RP 2GEO/ISO 19901-4:2003
Geotechnical and Foundation Design Considerations
(Includes Addendum 1 dated October 2014)

Contains requirements and recommendations for those aspects of geoscience and foundation engineering that are applicable to a broad range of offshore structures, rather than to a particular structure type. Such aspects are site characterization, soil and rock characterization, design and installation of foundations supported by the seabed (shallow foundations), identification of hazards, and design of pile foundations. Aspects of soil mechanics and foundation engineering that apply equally to offshore and onshore structures are not addressed. The user of this document is expected to be familiar with such aspects.

This edition of RP 2GEO is the modified national adoption of ISO 19901-4:2003. Pages: 103

1st Edition | April 2011 | Reaffirmed: January 2021
Product Number: GG2GEO01 | Price: $167.00

Spec 2H
Specification for Carbon Manganese Steel Plate for Offshore Structures

Covers two grades of intermediate strength steel plates up to 4 in. thick for use in welded construction of offshore structures, in selected critical portions that must resist impact, plastic fatigue loading, and lamellar tearing. These steels are intended for fabrication primarily by cold forming and welding as per Spec 2B. The welding procedure is of fundamental importance and it is presumed that procedures will be suitable for the steels and their intended service. Conversely, the steels should be amenable to fabrication and welding under shipyard and offshore conditions. Pages: 24

9th Edition | July 2006 | Effective Date: February 1, 2007
Reaffirmed: September 2020 | Product Number: G02H09 | Price: $102.00

*These translated versions are provided for the convenience of our customers and are not officially endorsed by API. The translated versions shall not replace nor supersedethe English-language versions, which remain the official standards. API shall not be responsible for any discrepancies or interpretations of these translations. Translations may not include any addenda or errata to the document. Please check the English-language versions for any updates to the documents.
Exploration and Production

To purchase individual API standards, visit apiwebstore.org

RP 2MIM
Mooring Integrity Management
Provides guidance for the integrity management (IM) of mooring systems connected to a permanent floating production system (FPS) used for the drilling, development, production, and/or storage of hydrocarbons in offshore areas. The scope of this recommended practice (RP) extends from the anchor to the connection to the floating unit (e.g., chain stopper) and includes components critical to the mooring system (e.g., turret bearings, fairleads, chain stoppers, anchors, suction piles).

Specific guidance is provided for the inspection, monitoring, evaluation of damage, fitness-for-service assessment, risk reduction, mitigation planning, and the process of decommissioning. This RP incorporates and expands on the IM recommendations found in API 2I and API 2SK. In the event of any discrepancy between API 2MIM and API 2I/API 2SK, API 2I/API 2SK will govern. Pages: 83

1st Edition | September 2019
Product Number: G2MIM01 | Price: $137.00

Spec 2MT1
Specification for Carbon Manganese Steel Plate with Improved Toughness for Offshore Structures
Covers one grade of intermediate strength steel plates for use in welded construction of offshore structures. These steels are intended for fabrication primarily by cold forming and welding as per Spec 2B. The primary use of these steels is for Class "A" applications as defined in RP 2A. Specs 2H, 2W, and 2Y cover other steels providing improved mechanical properties and toughness for Class "A" applications and should be used where substantial z-direction stresses are expected. Pages: 6

2nd Edition | September 2001 | Effective Date: March 1, 2002
Reaffirmed: January 2012 | Product Number: G2MT12 | Price: $90.00

Spec 2MT2
Rolled Shapes with Improved Notch Toughness
(includes Addendum 1 dated December 2019)
Covers rolled shapes (wide flange shapes, angles, etc.), having a specified minimum yield strength of 50 ksi (345 Mpa), intended for use in offshore structures. Commonly available Class A, Class B, and Class C beams refer to degrees of fracture criticality as described in RP 2A-WSD, with Class C being for the least critical applications. For special critical applications, Class AA shapes may be specified by agreement, using Supplement S101. Pages: 8

1st Edition | June 2002 | Effective Date: December 1, 2002
Reaffirmed: June 2015 | Product Number: G2MT21 | Price: $86.00

RP 2MOP/ISO 19901-6:2009
Marine Operations
(includes Errata 1 dated April 2015)
Provides requirements and guidance for the planning and engineering of marine operations, encompassing the design and analysis of the components, systems, equipment, and procedures required to perform marine operations, as well as the methods or procedures developed to carry them out safely. This document is also applicable to modifications of existing structures, e.g., installation of additional topsides modules.

This edition of RP 2MOP is the identical national adoption of ISO 19901-6:2009. Pages: 168

1st Edition | July 2010 | Reaffirmed: January 2021
Product Number: G62MOP1 | Price: $263.00

RP 2I
In-Service Inspection of Mooring Hardware for Floating Structures
Provides guidelines for inspecting mooring components of mobile offshore drilling units (MODUs) and permanent floating installations. This edition includes:

• inspection guidelines for steel permanent moorings on permanent floating installations are added;
• inspection guidelines for fiber ropes used for permanent and MODU moorings are included;
• special guidance for MODU mooring inspection in the areas of tropical cyclone is provided.

Although this recommended practice was developed for the primary moorings of MODUs and permanent floating installations, some of the guidelines may be applicable to moorings of other floating vessels such as pipe-laying barges and construction vessels. Also some of the guidelines may be applicable to secondary or emergency moorings such as mooring for jack-up units, shuttle tanker mooring, and dynamic positioning (DP) vessel harbor mooring. The applicability of this document to other floating vessels and moorings is left to the discretion of the user. Pages: 73

3rd Edition | April 2008 | Reaffirmed: September 2020
Product Number: G02I03 | Price: $160.00

RP 2MET
Derivation of Metocean Design and Operating Considerations
Gives general requirements for the determination and use of meteorological and oceanographic (metocean) conditions for the design, construction and operation of offshore structures of all types used in the petroleum and natural gas industries. The requirements are divided into two broad types:

• Those that relate to the determination of environmental conditions in general, together with the metocean parameters that are required to adequately describe them;
• Those that relate to the characterization and use of metocean parameters for the design, the construction activities or the operation of offshore structures.

The environmental conditions and metocean parameters discussed are:

• Extreme and abnormal values of metocean parameters that recur with given return periods that are considerably longer than the design service life of the structure;
• Long-term distributions of metocean parameters, in the form of cumulative, conditional, marginal or joint statistics of metocean parameters; and normal environmental conditions that are expected to occur frequently during the design service life of the structure.

Metocean parameters are applicable to:

• The determination of the design of new structures;
• The determination of actions for the assessment of existing structures;
• Site-specific assessment of mobile offshore units;
• The determination of limiting environmental conditions, weather windows, actions and action effects for pre-service and post-service situations (i.e., fabrication, transportation and installation or decommissioning and removal of a structure); and facility operations, where appropriate. Pages: 280

2nd Edition | November 2019
Product Number: GG2MET02 | Price: $227.00

Bull 2HINS
Guidance for Post-Hurricane Structural Inspection of Offshore Structures
Provides guidance for above- and below-water post-hurricane structural inspections of fixed and floating structures in the Gulf of Mexico. The goal of these special inspections is to determine if a structure sustained hurricane-induced damage that affects the safety of personnel, the primary structural integrity of the asset, or its ability to perform the purpose for which it was intended. This document should be used in conjunction with the applicable API recommended practices for the structure as well as any structure specific owner or regulatory requirements. Pages: 16

1st Edition | May 2009 | Product Number: G2HINS01 | Price: $90.00

This publication is related to an API licensing, certification, or accreditation program.

This publication is a new entry in this catalog.
RP 2N/ISO 19906:2010
Planning, Designing, and Constructing Structures and Pipelines for Arctic Conditions

Specifies requirements and provides recommendations and guidance for the design, construction, transportation, installation, and removal of offshore structures, related to the activities of the petroleum and natural gas industries in arctic and cold regions. Reference to arctic and cold regions includes both the Arctic and other cold regions that are subject to similar sea ice, iceberg, and icing conditions. The objective of this standard is to ensure that offshore structures in arctic and cold regions provide an appropriate level of reliability with respect to personnel safety, environmental protection, and asset value to the owner, to the industry, and to society in general.

This standard does not contain requirements for the operation, maintenance, service-life inspection, or repair of arctic and cold region offshore structures, except where the design strategy imposes specific requirements. While this standard does not apply specifically to mobile offshore drilling units, the procedures relating to ice actions and ice management contained herein are applicable to the assessment of such units. This standard does not apply to mechanical, process, and electrical equipment or any specialized process equipment associated with arctic and cold region offshore operations except in so far as it is necessary for the structure to sustain safely the actions imposed by the installation, housing, and operation of such equipment.

This edition of RP 2N is the modified national adoption of ISO 19906:2010.

Pages: 458
3rd Edition | April 2015 | Reaffirmed: January 2021
Product Number: G02N03 | Price: $216.00

TR 2PY
Effect of Best-estimate Geotechnical p-y Curves on Performance of Offshore Structures

Performs structural analyses using soil models developed by 2GEO, 1st Edition criteria and 2GEO, 2nd Edition draft criteria to determine the effect of the new clay soil p-y formulations on the structural responses of these platforms. The predicted responses were then compared with measured or observed platform performance in field.

Pages: 89
1st Edition | February 2020 | Product Number: G2PY01 | Price: $105.00

Std 2RD
Dynamic Risers for Floating Production Systems

Addresses structural analysis procedures, design guidelines, component selection criteria, and typical designs for all new riser systems used on FPSs. Guidance is also given for developing load information for the equipment attached to the ends of the risers. The recommended practice for structural design of risers, as reflected in this document, is generally based on the principles of limiting stresses in the risers and related components under normal, extreme, and accidental conditions. This document assumes that the risers will be made of steel or titanium pipe or unbonded flexible pipe. However, other materials, such as aluminum, are not excluded if risers built using these materials can be shown to be fit for purpose. Design considerations for unbonded flexible pipe are included primarily by reference to RP 17B and Spec 17J.

Pages: 81
2nd Edition | September 2013 | Reaffirmed: September 2020
Product Number: G2RD02 | Price: $265.00

RP 2RIM
Integrity Management of Risers from Floating Production Facilities

Provides guidance for the integrity management (IM) of risers connected to a permanent floating production system (FPS) used for the drilling, development, production, and storage of hydrocarbons in offshore areas. For the purposes of this recommended practice, a riser has a top boundary that is somewhere at or above the point where it transfers load to the platform structure, and it has a lower boundary where it transfers load into a foundation, which could be a wellhead, pipeline, or subsea structure.

Pages: 72
1st Edition | September 2019
Product Number: G2RIM01 | Price: $137.00

Bull 2S
Design of Windlass Wildcats for Floating Offshore Structures

Designs the design of windlass wildcats to ensure proper fit and function between wildcat and mooring chain. Wildcats are of the five-whelp type for use with studlink anchor chain conforming to the classification society Grades 1, 2, and 3, ORQ and Grade 4 chain. Wildcat dimensions are provided for chains in integral 1/8 in. (3 mm) steps, ranging in size from 2 in. to 4 in. (51 mm to 102 mm). Wildcat dimensions for chain in intermediate 1/16 in. (1.5 mm) steps are not provided, but wildcats in these sizes are permitted within the scope of this publication.

Pages: 7
Product Number: G02S02 | Price: $82.00

Spec 2SC
Manufacture of Structural Steel Castings for Primary Offshore Applications

Castings manufactured to this specification are intended for use in the fabrication of offshore structures, manufacture of critical marine or mechanical or other system components intended for application on permanent offshore structures, or for components used in the construction of offshore tendons, risers and pipelines. This specification is based on the experience acquired during the design, construction, operation, and maintenance of offshore processing units and permanent facilities, as supplemented with the experience of operating companies with topsides, fixed platforms, floating structures (e.g. TLPs and spars), and their tendons and risers. Castings in these applications tend to be limited production components, with relatively few replications, and receive more intense scrutiny than routine mass production runs.

Pages: 29
1st Edition | September 2009 | Effective Date: March 1, 2010
Reaffirmed: September 2020
Product Number: G02SC01 | Price: $123.00

Spec 2SF
Manufacture of Structural Steel Forgings for Primary Offshore Applications

Forgings manufactured to this specification are intended for use in the fabrication of offshore structures, marine risers, TLP tendons and pipelines, or other system components intended for application on permanent offshore structures. This specification defines the minimum requirements for manufacture, testing, and inspection of carbon and low-alloy steel forgings, including extrusions and heavy-wall seamless tubular product, grades 345 N/mm² to 586 N/mm² (50 ksi to 85 ksi) for use in primary steel applications. Service categories A, B, and C (SCA, SCB, and SCC) reflect forging geometry and method of incorporation into the overall system, rather than levels of criticality. They may also be designated by the user (purchaser) to reflect moderately different but standardized levels of performance.

Pages: 26
1st Edition | August 2013 | Reaffirmed: September 2020
Product Number: G2SF01 | Price: $93.00

RP 2SIM
Structural Integrity Management of Fixed Offshore Structures

Serves as a guide for the structural integrity management of fixed offshore structures used for the drilling, development, production, and storage of hydrocarbons in offshore areas. Specific guidance is provided for the evaluation of structural damage, above and below water structural inspection, fitness-for-purpose assessment, risk reduction, and mitigation planning, and the process of decommissioning.

The SIM process provided in this recommended practice is applicable to platforms installed at any location worldwide. However, this recommended practice also provides specific metocean criteria, which are only applicable for use in fitness-for-purpose assessments of platforms located in the U.S. Gulf of Mexico and the U.S. West Coast.

Pages: 97
Product Number: G2SIM01 | Price: $184.00
RP 2SK
Design and Analysis of Stationkeeping Systems for Floating Structures
(includes Addendum 1 dated May 2008)
This publication is a new entry in this catalog.
Provides a rational method for analyzing, designing, or evaluating mooring systems used with floating units. This method provides a uniform analysis tool that, when combined with an understanding of the environment at a particular location, the characteristics of the unit being moored, and other factors, can be used to determine the adequacy and safety of the mooring system. Some design guidelines for dynamic positioning systems are also included. Appendix K of 2SK replaces RP 95F Pages: 181

Product Number: G2SK03 | Price: $138.00

RP 2SM
Design, Manufacture, Installation, and Maintenance of Synthetic Fiber Ropes for Offshore Mooring
Covers the design, manufacture, installation and maintenance of synthetic fiber ropes to include the design and analysis considerations of mooring systems, design criteria for mooring components, rope design and testing, quality assurance, and in-service maintenance and inspection.
This document applies to synthetic fiber ropes used in the form of taut leg or catenary moorings for both permanent and temporary offshore installations such as:
• monohull-based floating production, storage, and offloading units (FPSOs);
• monohull-based floating storage units (FSOs, FSUs);
• spar platforms;
• catenary anchor leg mooring (CALM) buoys;
• mobile offshore drilling units (MODUs);
• mobile offshore units. Pages: 108

Product Number: G2SM02 | Price: $201.00

RP 2T
Planning, Designing and Constructing Tension Leg Platforms
Contains a guide to the designer in organizing an efficient approach to the design of a tension leg platform (TLP). Emphasis is placed on participation of all engineering disciplines during each stage of planning, development, design, construction, installation, and inspection. This publication contains guidelines developed from the latest practices in designing tension leg platforms and are adapted from successful techniques employed for related structural systems in the offshore and marine industries. Pages: 254

3rd Edition | July 2010 | Reaffirmed: June 2015
Product Number: G02T03 | Price: $246.00

Bull 2TD
Guidelines for Tie-Downs on Offshore Production Facilities for Hurricane Season
Addresses the need to evaluate the tie-downs in use offshore production facilities for drilling rigs, permanent equipment, and facilities such as quarters, helidecks, etc. The information contained in this document is presented as recommendations to improve tie-down performance during hurricanes. Bull 2TD also addresses situations where failure of a drilling or workover rig would result in significant damage to the platform or adjacent infrastructure. Pages: 3

1st Edition | June 2006 | Product Number: G2TD01 | Price: $56.00

RP 2TOP
Topsides Structure
Provides requirements for the design, fabrication, transportation, installation, modification, and structural integrity management for the topsides structure for an oil and gas platform. It complements API 2A-WSD, API 2A-LRFD, ISO 19903, API 2FPS, API 2T, ISO 19905 1, and API 2N, which give requirements for various forms of substructures. It is based on ISO 19901-3:2010 (Corrected version, 15-Dec-2011) and is consistent with ISO 19901-3:2014. In fact, ISO 19901-3 was followed to the fullest extent possible and modified only where needed to conform to standards and practices of API.
Requirements in API 2TOP concerning modifications and maintenance relate only to those aspects that are of direct relevance to the structural integrity of the topsides structure. Pages: 136

1st Edition | August 2019 | Product Number: G2TOP1 | Price: $156.00

Bull 2U
Bulletin on Stability Design of Cylindrical Shells
Contains semi-empirical formulations for evaluating buckling strength of stiffened and unstiffened cylindrical shells. Pages: 146

3rd Edition | June 2004 | Product Number: G02U03 | Price: $207.00

Bull 2V
Design of Flat Plate Structures
(includes Errata 1 dated March 2008)
Provides guidance for the design of steel flat plate structures. Pages: 139

3rd Edition | June 2004 | Product Number: G02V03 | Price: $207.00

Spec 2W *
Steel Plates Produced by Thermo-Mechanically Controlled Processing for Offshore Structures
Covers four grades of steel plates that are to be produced by thermo-mechanically controlled processing (TMCP) for use in welded construction of offshore structures. Pages: 27

6th Edition | January 2019 | Product Number: G02W06 | Price: $105.00

Spec 2W *
Steel Plates Produced by Thermo-Mechanically Controlled Processing for Offshore Structures—Russian
Russian translation of Spec 2W.


RP 2X
Recommended Practice for Ultrasonic and Magnetic Examination of Offshore Structural Fabrication and Guidelines for Qualification of Technicians
Contains guidance on commonly used NDE methods such as visual (VT), penetrant (PT), magnetic particle (MT), radiography (RT), and ultrasonic (UT) examinations, which are routinely used in offshore structural fabrication. This recommended practice primarily addresses the MT and UT methods. Guidance on VT, PT, and RT is incorporated by reference to AWS D1.1. Further recommendations are offered for determining the qualifications of personnel using MT and UT techniques. Recommendations are also offered for the integration of these techniques into a general quality control program. The interrelationship between joint design, the significance of defects in welds, and the ability of NDE personnel to detect critical-size defects is also discussed. Pages: 77

Product Number: G02X04 | Price: $159.00

*These translated versions are provided for the convenience of our customers and are not officially endorsed by API. The translated versions shall neither replace nor supersedes the English-language versions, which remain the official standards. API shall not be responsible for any discrepancies or interpretations of these translations. Translations may not include any addenda or errata to the document. Please check the English-language versions for any updates to the documents.
**Exploration and Production**

To purchase individual API standards, visit [apiwebstore.org](http://apiwebstore.org)

---

**Spec 2Y**

*Specification for Steel Plates, Quenched-and-Tempered, for Offshore Structures*

Covers two grades of high strength steel plate for use in welded construction of offshore structures, in selected critical portions that must resist impact, plastic fatigue loading, and lamellar tearing. Grade 50 is covered in thicknesses up to 6 in. (150 mm) inclusive, and Grade 60 is covered in thicknesses up to 4 in. (100 mm) inclusive. Pages: 13

5th Edition | December 2006 | Effective Date: June 1, 2007
Reaffirmed: September 2020 | Product Number: G02Y05 | Price: $102.00

**RP 2Z**

*Recommendation Practice for Preproduction Qualification for Steel Plates for Offshore Structures*

Covers requirements for preproduction qualification, by special welding and mechanical testing, of specific steelmaking and processing procedures for the manufacture of steel of a specified chemical composition range by a specific steel producer. This is a recommended practice for material selection and qualification, but not for the performance of production weld joints. This recommended practice was developed in conjunction with, and is intended primarily for use with, Specs 2W and 2Y. However, it may be sued as a supplement to other material specifications (e.g. Spec 2H) if so desired. Pages: 19

Product Number: G02Z04 | Price: $130.00

**RP 2Z**

*Recommendation Practice for Preproduction Qualification for Steel Plates for Offshore Structures—Russian*

Russian translation of RP 2Z.

Product Number: G02Z04R | Price: $130.00

**RP 95J**

*Gulf of Mexico Jackup Operations for Hurricane Season*

Presents an interim approach to siting jackup mobile offshore drilling units (MODUs) and to recommend certain operational procedures to enhance jackup survivability and stationkeeping during hurricane season in the Gulf of Mexico during drilling and workover and while stacked (idled) at a non-sheltered location. This RP provides guidance and processes, and when combined with an understanding of the environment at a particular location, the characteristics of the unit being utilized, and other factors, it may be used to enhance operational integrity. This RP was developed through a cooperative arrangement with the International Association of Drilling Contractors’ (IADC) Jackup Rig Committee. Specifically, this RP provides guidance in the following areas:

- site—including location-specific, geotechnical, and metocean;
- preloading process;
- air gap recommendations;
- unit preparations and evacuation;
- post storm recovery; and
- post storm inspections. Pages: 15

Product Number: G95J01 | Price: $68.00

---

**DERRICKS AND MASTS**

**Spec 4F**

*Specification for Drilling and Well Servicing Structures*

Covers the design, manufacture, and use of steel derricks, portable masts, crown block assemblies, and substructures suitable for drilling and well servicing operations in the petroleum industry. It includes requirements for marking, inspection, a uniform method of rating, and design loading for the equipment. This specification provides two product specification levels (PSLs) that define two levels of technical and quality requirements. Pages: 66

5th Edition | June 2020 | Product Number: G04F05 | Price: $136.00

**RP 4G**

*Operation, Inspection, Maintenance, and Repair of Drilling and Well Servicing Structures (includes Addendum 1 dated June 2020 and Addendum 2 dated September 2020)*

Provides guidelines and establishes recommended procedures for inspection, maintenance, and repair of items for drilling and well servicing structures to maintain the serviceability of this equipment. These recommendations should be considered as supplemental to, and not as a substitute for, the manufacturer’s instructions and the recommendations in API 54. Items of drilling and well servicing structures covered are masts/derricks, substructures, and their accessories. Pages: 64

5th Edition | February 2019 | Product Number: G04G05 | Price: $126.00

---

**TUBULAR GOODS**

**RP 5A3/ISO 13678:2010**

*Recommended Practice on Thread Compounds for Casing, Tubing, Line Pipe, and Drill Stem Elements (includes Errata 1 dated April 2011)*

Provides requirements, recommendations, and methods for the testing of thread compounds intended for use on threaded casing, tubing, and line pipe connections and for thread compounds intended for use on rotary shouldered connections. The tests outlined are used to evaluate the critical performance properties and physical and chemical characteristics of thread compounds under laboratory conditions.

This edition of RP 5A3 is the identical national adoption of ISO 13678:2010. Pages: 47

3rd Edition | November 2009 | Reaffirmed: January 2021
Product Number: GX5A303 | Price: $157.00

**RP 5A3/ISO 13678:2010**

*Recommended Practice on Thread Compounds for Casing, Tubing, Line Pipe, and Drill Stem Elements—Russian (includes Errata 1 dated April 2011)*


3rd Edition | November 2009 | Reaffirmed: January 2021
Product Number: GX5A303R | Price: $157.00

---

*These translated versions are provided for the convenience of our customers and are not officially endorsed by API. The translated versions shall neither replace nor supersede the English-language versions, which remain the official standards. API shall not be responsible for any discrepancies or interpretations of these translations. Translations may not include any addenda or errata to the document. Please check the English-language versions for any updates to the documents.*
RP 5A5/ISO 15463:2003
Field Inspection of New Casing, Tubing, and Plain-End Drill Pipe
(includes Errata 1 dated December 2009)
Specifies requirements and gives recommendations for field inspection and
testing of oil country tubular goods (OCTG). This International Standard
covers the practices and technology commonly used in field inspection;
however, certain practices may also be suitable for mill inspections. Covers
the qualification of inspection personnel, a description of inspection
methods and apparatus calibration and standardization procedures for
various inspection methods. The evaluation of imperfections and marking of
inspected OCTG are included. Applicable to field inspection of OCTG and is
not applicable for use as a basis for acceptance or rejection.
This edition of RP 5A5 is the identical national adoption of
ISO 15463:2003. Pages: 118
7th Edition | June 2005 | Reaffirmed: January 2021
Product Number: GX5A507 | Price: $171.00

RP 5A5/ISO 15463:2003 *
Field Inspection of New Casing, Tubing, and Plain-End Drill Pipe—
Chinese
(includes Errata 1 dated December 2009)
7th Edition | June 2005 | Reaffirmed: January 2021
Product Number: G5X5A507C | Price: $171.00

RP 5A5/ISO 15463:2003 *
Field Inspection of New Casing, Tubing, and Plain-End Drill Pipe—
Russian
(includes Errata 1 dated December 2009)
7th Edition | June 2005 | Reaffirmed: January 2021
Product Number: G5X5A507R | Price: $171.00

Spec 5B ●
Threading, Gauging, and Inspection of Casing, Tubing, and Line Pipe
Threads
(includes Errata 1 dated June 2018, Errata 2 dated December 2018,
Addendum 1 dated December 2018, Addendum 2 dated December 2019,
and Addendum 3 dated January 2021)
Covers dimensions, tolerances, and marking requirements for API threads
and the gauges that control the acceptance criteria for the threads. Threads
element gauges, instruments, and requirements for the inspection of threads
for line pipe, round thread casing, round thread tubing, and buttress casing
connections are included. Pages: 116
16th Edition | December 2017 | Product Number: G5B016 | Price: $163.00

Spec 5B *
Threading, Gauging, and Inspection of Casing, Tubing, and Line Pipe
Threads—Russian
(includes Errata 1 dated June 2018, Errata 2 dated December 2018,
Addendum 1 dated December 2018, and Addendum 2 dated December
2019)
Russian translation of Spec 5B.
16th Edition | December 2017 | Product Number: G5B016R | Price: $163.00

RP 5B1
Gauging and Inspection of Casing, Tubing and Line Pipe Threads
(includes Addendum 1 dated September 2004)
Covers threading, gauging, gauging practice, and inspection of threads for
casing, tubing, and line pipe made under Specs 5CT, 5DP, and 5L. Also
covers gauge specifications and certification for casing, tubing, and line pipe
gauges. Pages: 48
Product Number: G05B105 | Price: $154.00

RP 5B1 *
Gauging and Inspection of Casing, Tubing and Line Pipe Threads—
Kazakh
(includes Addendum 1 dated September 2004)
Kazakh translation of RP 5B1.
Product Number: G05B15K | Price: $154.00

RP 5B1 *
Gauging and Inspection of Casing, Tubing and Pipe Line Threads—
Russian
(includes Addendum 1 dated September 2004)
Russian translation of RP 5B1.
Product Number: G05B15R | Price: $154.00

RP 5C1
Recommended Practice for Care and Use of Casing and Tubing
Covers use, transportation, storage, handling, and reconditioning of casing
and tubing. Pages: 31
18th Edition | May 1999 | Reaffirmed: July 2020
Product Number: G05C18 | Price: $124.00

RP 5C1 *
Recommended Practice for Care and Use of Casing and Tubing—
Chinese
Chinese translation of RP 5C1.
18th Edition | May 1999 | Reaffirmed: July 2020
Product Number: G05C18C | Price: $124.00

RP 5C1 *
Recommended Practice for Care and Use of Casing and Tubing—
Russian
Russian translation of RP 5C1.
18th Edition | May 1999 | Reaffirmed: July 2020
Product Number: G05C18R | Price: $124.00

*These translated versions are provided for the convenience of our customers and are not officially endorsed by API. The translated versions shall neither replace nor supersede the
English-language versions, which remain the official standards. API shall not be responsible for any discrepancies or interpretations of these translations. Translations may not
include any addenda or errata to the document. Please check the English-language versions for any updates to the documents.
**Exploration and Production**

To purchase individual API standards, visit [apiwebstore.org](http://apiwebstore.org)

**TR 5C3**
Calculating Performance Properties of Pipe Used as Casing or Tubing

Illustrates the equations and templates necessary to calculate the various pipe properties, including:
- pipe performance properties, such as axial strength, internal pressure resistance, and collapse resistance;
- minimum physical properties;
- product assembly force (torque);
- product test pressures;
- critical product dimensions related to testing criteria;
- critical dimensions of testing equipment; and
- critical dimensions of test samples.

For equations related to performance properties, extensive background information is also provided regarding their development and use. Pages: 400

7th Edition | June 2018 | Product Number: GSC307 | Price: $246.00

**RP 5C5**
Procedures for Testing Casing and Tubing Connections (includes Addendum 1 dated May 2021)

Defines tests to perform to determine the galling tendency, sealing performance, and structural integrity of threaded casing and tubing connections. The words “casing” and “tubing” apply to the service application and not to the diameter of the pipe. This recommended practice addresses the primary loads to which casing and tubing strings are subjected: fluid pressure (internal and/or external), axial force (tension and/or compression), bending (buckling and/or wellbore deviation), and temperature variations. Pages: 197


**RP 5C6**
Pipe with Welded Connectors

Provides a practice for facility or field welding of connectors to pipe. The technical content contains guidance and requirements for welding procedure qualification, welder performance qualification, materials, testing, production welding, and inspection. Additionally, this standard covers the weld fabrication of connectors and handling attachments such as lift eyes and landing pads to pipe. This standard also includes practices used within industry and is intended to be analogous to API 6A PSL 1, with additional requirements specific to the equipment fabrication. Pages: 28

3rd Edition | May 2018 | Product Number: G05C63 | Price: $103.00

**RP 5C8**
Care, Maintenance, and Inspection of Coiled Tubing

Covers the care, maintenance, and inspection of used low alloy carbon steel coiled tubing. Commonly manufactured coiled tubing outside diameters range from 25.4 mm (1.000 in.) to 88.9 mm (3.5 in.). Pages: 122

1st Edition | January 2017 | Product Number: G05C801 | Price: $131.00

---

*These translated versions are provided for the convenience of our customers and are not officially endorsed by API. The translated versions shall neither replace nor supersede the English-language versions, which remain the official standards. API shall not be responsible for any discrepancies or interpretations of these translations. Translations may not include any addenda or errata to the document. Please check the English-language versions for any updates to the documents.*
**Spec 5DP**
Drill Pipe—Russian
(includes Errata 1 dated July 2020)
Russian translation of Spec 5DP
2nd Edition | May 2020 | Product Number: G5DP02R | Price: $216.00

**RP 5SEX**
Design, Verification, and Application of Solid Expandable Systems
Establishes guidance for design, system verification, and application guidelines of solid expandable systems for the oil and gas industries. This document is not to be used as a specification for purchasing equipment; it is intended for consideration by users for well applications and design of solid expandable systems.
Expandable systems will include drilling liners, hangers, connections, receivers, and launchers for downhole use as defined herein. Only permanently installed equipment/components are covered by this recommended practice. Slotted liners and tools used for the expansion of the tubular goods (such as, but not limited to, implementation tools, pumps, jacks, and expansion tools) are not addressed by this recommended practice. Pages: 54
1st Edition | May 2018 | Product Number: G5SEX01 | Price: $114.00

**Spec 5L**
Line Pipe
(includes Errata 1 dated May 2018)
Specifies requirements for the manufacture of two product specification levels (PSL 1 and PSL 2) of seamless and welded steel pipes for use in pipeline transportation systems in the petroleum and natural gas industries. This specification is not applicable to cast pipe. Pages: 210
46th Edition | April 2018 | Effective Date: November 1, 2018
Product Number: G05L46 | Price: $298.00

**RP 5L1**
Recommended Practice for Railroad Transportation of Line Pipe—Russian
Russian translation of RP 5L1.
Product Number: G5L107R | Price: $65.00

**RP 5L3**
Drop-Weight Tear Tests on Line Pipe
(includes Addendum 1 dated October 2020 and Errata 1 dated March 2021)
Describes procedures for a recommended method for conducting drop-weight tear tests to measure the fracture appearance or fracture ductility of line pipe as referenced in Spec 5L. Pages: 11
Product Number: G5L304 | Price: $103.00

**RP 5L3**
Drop-Weight Tear Tests on Line Pipe—Russian
(includes Addendum 1 dated October 2020 and Errata 1 dated March 2021)
Russian translation of RP 5L3.
Product Number: G5L304R | Price: $103.00

**RP 5L8**
Recommended Practice for Field Inspection of New Line Pipe
Covers the qualification of inspection personnel, a description of inspection methods, and apparatus calibration and standardization procedures for various inspection methods. The evaluation of imperfections and marking of inspected new line pipe are included. Also included are recommended procedures for field inspection and testing of new plain-end line pipe. This document was prepared specifically to address the practices and technology used in field inspection of line pipe, and certain parts are not suitable or appropriate for mill inspections. Pages: 39
Product Number: G05L82 | Price: $136.00

**RP 5L8**
Recommended Practice for Field Inspection of New Line Pipe—Kazakh
Kazakh translation of RP 5L8.
Product Number: G05L82K | Price: $136.00

**RP 5L8**
Recommended Practice for Field Inspection of New Line Pipe—Russian
Russian translation of RP 5L8.
Product Number: G05L82R | Price: $136.00

---

*These translated versions are provided for the convenience of our customers and are not officially endorsed by API. The translated versions shall neither replace nor supersede the English-language versions, which remain the official standards. API shall not be responsible for any discrepancies or interpretations of these translations. Translations may not include any addenda or errata to the document. Please check the English-language versions for any updates to the documents.

- This publication is a new entry in this catalog.
- This publication is related to an API licensing, certification, or accreditation program.
### Spec 5LC

**CRA Line Pipe**  
(includes Errata 1 dated October 2015)

Covers seamless, centrifugal cast, and welded corrosion resistant alloy line pipe as well as austenitic stainless, martensitic stainless, duplex stainless, and Ni-base alloys. Also includes standard weight, regular weight, special, extra strong, and double extra strong plain end line pipe as well as processes of manufacturer, chemical and physical requirements, and methods of testing. Pages: 110

Reaffirmed: July 2020 | Product Number: G5LC04 | Price: $189.00

### Spec 5LC *

**CRA Line Pipe—Russian**  
(includes Errata 1 dated October 2015)

Russian translation of Spec 5LC.  

4th Edition | March 2015 | Reaffirmed: July 2020  
Product Number: G5LC04R | Price: $189.00

### Spec 5LCP

**Specification on Coiled Line Pipe**  
(includes Errata 1 dated July 2007)

Provides standards for pipe suitable for use in conveying gas, water, and oil in both the oil and natural gas industries. Covers welded steel continuously milled coiled line pipe in the size range 0.5 in. (12.7 mm) to 6.625 in. (168.3 mm). Pipe that is pipe-to-pipe welded outside the confines of the manufacturing plant is not included within this document. Pages: 42

2nd Edition | October 2006 | Effective Date: April 18, 2007  
Reaffirmed: July 2020 | Product Number: G5LCP2 | Price: $158.00

### Spec 5LCP *

**Specification on Coiled Line Pipe—Chinese**  
(includes Errata 1 dated July 2007)

Chinese translation of Spec 5LCP.  

2nd Edition | October 2006 | Reaffirmed: July 2020  
Product Number: G5LCP2C | Price: $158.00

### Spec 5LCP *

**Specification on Coiled Line Pipe—Russian**  
(includes Errata 1 dated July 2007)

Russian translation of Spec 5LCP.  

2nd Edition | October 2006 | Reaffirmed: July 2020  
Product Number: G5LCP2R | Price: $158.00

### Spec 5LD

**CRA Clad or Lined Steel Pipe**  
(includes Errata 1 dated June 2017)

Covers seamless, centrifugal cast, and welded clad steel line pipe, and lined steel pipe with improved corrosion-resistant properties. The clad and lined steel pipe specified in this document shall be composed of a base metal outside and CRA layer inside the pipe. The base material shall conform to Spec 5L, except as modified in the SLC document. Provides standards for pipe with improved corrosion resistance suitable for use in conveying gas, water, and oil in both the oil and natural gas industries. Pages: 38

Reaffirmed: July 2020 | Product Number: G5LD04 | Price: $157.00

### Spec 5LD *

**CRA Clad or Lined Steel Pipe—Russian**  
(includes Errata 1 dated June 2017)

Russian translation of Spec 5LD.  

4th Edition | March 2015 | Reaffirmed: July 2020  
Product Number: G5LD04R | Price: $157.00

### RP 5LT

**Recommended Practice for Truck Transportation of Line Pipe**

Applies to the transportation on railcars of Spec 5L steel line pipe in sizes 2 3/4 in. and larger in lengths longer than single random. These recommendations cover coated or uncoated pipe, but they do not encompass loading practices designed to protect pipe coating from damage. Pages: 6

Product Number: G5LT01 | Price: $65.00

### RP 5LT *

**Recommended Practice for Truck Transportation of Line Pipe—Chinese**

Chinese translation of RP 5LT.  

Product Number: G5LT01C | Price: $65.00

### RP 5LT *

**Recommended Practice for Truck Transportation of Line Pipe—Russian**

Russian translation of RP 5LT.  

Product Number: G5LT01R | Price: $65.00

### RP 5LW

**Recommended Practice for Transportation of Line Pipe on Barges and Marine Vessels**

Applies to the transportation of Spec 5L steel line pipe by ship or barge. Covers both inland and marine waterways except in cases where the specific requirement of a paragraph references only marine or only inland-waterway transport. Pages: 5

Product Number: G5LW03 | Price: $65.00

### RP 5LW *

**Recommended Practice for Transportation of Line Pipe on Barges and Marine Vessels—Russian**

Russian translation of RP 5LW.  

Product Number: G5LW03R | Price: $65.00

### RP 5MT

**Pipeline Inspection Documents for Material Traceability and Electronic Test Reports**

Provides a method for the electronic exchange of MTR inspection documents from manufacturer to purchaser to support enhanced material traceability and records for steel line pipe, and could be applied to related steel assets. Pages: 21

1st Edition | September 2021 | Product Number: G5MT01 | Price: $75.00

*These translated versions are provided for the convenience of our customers and are not officially endorsed by API. The translated versions shall neither replace nor supersede the English-language versions, which remain the official standards. API shall not be responsible for any discrepancies or interpretations of these translations. Translations may not include any addenda or errata to the document. Please check the English-language versions for any updates to the documents.
Torque-Position Assembly Guidelines for API Casing and Tubing Connections—Russian

Russian translation of TR 5TP.

1st Edition | December 2013 | Product Number: G5TP01R | Price: $124.00

Technical Report in SR22 Supplementary Requirements for Enhanced Leak Resistance LTC

Covers the supplemental requirements for Enhanced Leak Resistance LTC (SC22) connections and the changes in Spec 5CT, Std 5B, 5B1, and RP 5C1 needed to produce and inspect these connections. By agreement between the purchaser and manufacturer, the supplemental requirements for SR22 shall apply to connections manufactured in accordance with Spec 5CT.

1st Edition | June 2002 | Product Number: GSR221 | Price: $96.00

Recommended Practice for Ultrasonic Evaluation of Pipe Imperfections

(includes Addendum 1 dated April 2009)

Describes procedures that may be used to “prove-up” the depth or size of imperfections. Included in this practice are the recommended procedures for ultrasonic prove-up inspection of new pipe using the Amplitude Comparison Technique and the Amplitude-Distance Differential Technique for evaluation of:

- surface breaking imperfections in the body of pipe,
- surface breaking and subsurface imperfections in the weld area of electric resistance, electric induction or laser welded pipe, and
- surface breaking and subsurface imperfections in the weld area of arc welded pipe.

Pages: 22

2nd Edition | June 2005 | Reaffirmed: July 2020
Product Number: GSUE02 | Price: $86.00

Recommended Practice for Ultrasonic Evaluation of Pipe Imperfections—Russian

(includes Addendum 1 dated April 2009)

Russian translation of RP 5UE.

2nd Edition | June 2005 | Reaffirmed: July 2020
Product Number: GSUE02R | Price: $86.00

Spec 6A

Specification for Wellhead and Tree Equipment

Specifies requirements for the performance, dimensional and functional interchangeability, design, materials, testing, inspection, welding, marking, handling, storing, shipment, purchasing, repair, and remanufacture of wellhead and tree equipment for use in the petroleum and natural gas industries. This document does not apply to field use, field testing, or field repair of wellhead and Christmas tree equipment. This document is applicable to the following specific equipment: wellhead equipment (integral, blind, and test flanges; ring gaskets; threaded connectors; tees and crosses; bellplugs; valve-removal plugs; standard and nonstandard top connectors; crossover connectors; other end connectors; adapter spools and spacer spools; gate, plug, and ball valves; actuated valves [manual and remote]; check valves [swing- and lift-type]; back-

1st Edition | December 2013 | Product Number: G5TP01 | Price: $124.00

*These translated versions are provided for the convenience of our customers and are not officially endorsed by API. The translated versions shall neither replace nor supersedes the English-language versions, which remain the official standards. API shall not be responsible for any discrepancies or interpretations of these translations. Translations may not include any addenda or errata to the document. Please check the English-language versions for any updates to the documents.
Provides requirements for age-hardened nickel-base alloys that are intended to supplement the existing requirements of Spec 6A. For downhole applications, refer to Spec 5CRA.

These additional requirements include detailed process control requirements and detailed testing requirements. The purpose of these additional requirements is to ensure that the age-hardened nickel-base alloys used in the manufacture of Spec 6A pressure-containing and pressure-controlling components are not embrittled by the presence of an excessive level of deleterious phases and meet the minimum metallurgical quality requirements.

This standard is intended to apply to pressure-containing and pressure-controlling components as defined in Spec 6A. Requirements of this standard may be applied by voluntary conformance by a manufacturer, normative reference in Spec 6A or other product specification(s), or by contractual agreement.

This document expands the scope of 6ACRA. With its issuance, it includes Errata 1 dated April 2019, Errata 2 dated June 2020, Addendum 1 dated July 2020, Errata 2 dated September 2020, Addendum 2 dated June 2021, Errata 4 dated September 2021, and Addendum 3 dated August 2022.

Russian translation of Spec 6A.

21st Edition | November 2018 | Product Number: GX06A21R | Price: $310.00

**Std 6ACRA**

*Age-Hardened Nickel-Based Alloys for Oil and Gas Drilling and Production Equipment* (includes Errata 1 dated October 2015, Addendum 1 dated September 2017, Errata 2 dated February 2018, Addendum 2 dated September 2018, and Addendum 3 dated February 2019)

Provides requirements for age-hardened nickel-base alloys that are intended to supplement the existing requirements of Spec 6A. For downhole applications, refer to Spec 5CRA.

This document expands the scope of Std 6A718. With its issuance, it replaces Std 6A718, 2nd Edition in its entirety. Pages: 33

1st Edition | August 2015 | Product Number: G6ACRA1 | $98.00

**TR 6AF**

**Technical Report on Capabilities of API Flanges Under Combinations of Load**

(includes Errata 1 dated March 2017)

Presents the results of analysis work done in to establish the load capacity of all flanges give in the April 1986 editions of Spec 6A and Spec 6AB. A total of 69 different geometries were analyzed initially. The various loads considered were bolt makeup (preload), internal pressure, tension, and bending moment. All flanges were analyzed with an axisymmetric finite model for each of the four load cases. A post-processor program was written to calculate the maximum moment capacity for various levels of pressure and tension, based on linear superposition of results. Three different criteria were used to establish the maximum moment:

- ASME Section VIII, Division 2 allowable stress categories for the flange with the basic membrane stress allowable established by API;
- allowable bolt stresses as established by API; and
- loss of preload on the ring joint.

The results of this post-processing are presented in plots of pressure vs. allowable moment for various tension levels. Limitations to this work include: the effects of transverse shear or torsion were not considered in the analysis; dynamic, fatigue, or fretting phenomena were not considered in these results; and thermal stresses or elevated temperature effects were not considered. The charts are intended to be used only as general guidelines for design. These charts are not intended to replace a critical evaluation of any particular connection in an application where the charts show the flange to be marginal. Pages: 79

3rd Edition | September 2008 | Product Number: G6AF03 | Price: $163.00

**TR 6AF1**

**Technical Report on Temperature Derating of API Flanges Under Combination of Loading**

Continuation to the report on the capabilities of flanges under combined loadings (PRAC 86-21) that resulted in the publication of Bull 6AF. Included in this technical report is an in-depth look into the effect of elevated temperatures of API flanges. The results in this report are analytical and assume a temperature gradient across the flange as stated in this report.

Pages: 256

2nd Edition | November 1998 | Product Number: G6AF1 | Price: $171.00

**TR 6AF2**

**Technical Report on Capabilities of API Integral Flanges Under Combination of Loading—Phase II**

(includes Errata 1 dated November 2018)

Result of the evaluation of the load carrying capacity of Spec 6A integral flanges, including the end tension and bending moment in addition to the conventional rated pressure and makeup forces. The effect of a temperature difference corresponding to 250 °F on the inside and 30 °F on the outside is also evaluated. Three-dimensional finite element meshes are generated for the Type 6B and Type 6BX flanges. The computer program SESAM is used to obtain the stresses at selected critical flange and hub sections and to determine the gasket reaction due to each of the four unit load cases and the temperature difference load case. The leakage criterion is defined as the load combination with reduces the initial makeup compressive forces in the gasket to zero. The stresses in each defined section are linearized in accordance with the ASME Section VIII, Division 2 procedure to determine

---

*These translated versions are provided for the convenience of our customers and are not officially endorsed by API. The translated versions shall neither replace nor supersede the English-language versions, which remain the official standards. API shall not be responsible for any discrepancies or interpretations of these translations. Translations may not include any addenda or errata to the document. Please check the English-language versions for any updates to the documents.*
the membrane and membrane-plus-bending stress intensities. The stress intensities are checked against the allowable conditions specified in Spec 6A. Pages: 119

5th Edition | April 2013 | Product Number: G6AF25 | Price: $184.00

TR 6AF3
High-pressure High-temperature (HPHT) Flange Design Methodology
Provides design guidelines for API 6BX style flanges utilized as end and outlet connectors in high-pressure, high-temperature (HPHT) surface and subsea applications. For this document, HPHT applications are intended to mean flanges assigned a temperature rating greater than 350 °F or a pressure rating greater than 15,000 psi. This document does not address thermal effects including gradient effects or subsea production equipment. Service temperature ratings above 550 °F (288 °C) are outside the scope of this technical report. The flange designer should address thermal effects when designing flanges rated for high temperatures. Pages: 34
1st Edition | August 2020 | Product Number: G6AF301 | Price: $86.00

2nd Edition | August 2017 | Product Number: G6DSS3 | Price: $179.00

Spec 6D
Specification for Valves
(includes Errata 1 dated December 2021)
Defines the requirements for the design, manufacturing, materials, welding, quality control, assembly, testing, marking, documentation, and process controls of axial, ball, check, gate, and plug valves for application in the natural gas and petroleum industry. The specification is used on a global scale to help ensure access to reliable and sustainable energy, and supports UN Sustainable Development Goal 9, Resilient Infrastructure. The title was updated to reflect its broad use and applicability in the natural gas and petroleum industry. Pages: 173

RP 6DR
Recommended Practice for the Repair and Remanufacture of Pipeline Valves
Provides guidelines for the repair and remanufacture of steel ball, check, gate, and plug valves normally used in pipeline applications, as defined by Spec 6D. This RP covers repair or remanufacturing of end user’s (owner’s) valves for continued service in the owner’s production applications. Repaired or remanufactured valves may not meet API and/or the OEM standard requirements for new valves. The owner is responsible for the correct application of valves repaired or remanufactured per this document. It does not cover repair or remanufacture of used or surplus valves intended for resale. Furthermore, field repair is outside the scope of this document. Pages: 11
2nd Edition | May 2012 | Reaffirmed: January 2020
Product Number: G06DR2 | Price: $84.00

Spec 6DSS
Specification for Subsea Pipeline Valves
(includes Errata 1 dated May 2018, Errata 2 dated July 2018, Addendum 1 dated April 2019, and Addendum 2 dated June 2022)
Defines the requirements for the design, manufacturing, quality control, assembly, testing, and documentation of ball, check, gate, plug, and axial on-off valves for application in subsea pipeline systems for the petroleum and natural gas industries. The document contains requirements for both full-opening and reduced-opening valves. Valves covered by this specification include one of the following pressure classes: Class 150, Class 300, Class 600, Class 900, Class 1500, or Class 2500. This specification is not applicable to valves for pressure ratings exceeding Class 2500. Pages: 130
3rd Edition | August 2017 | Product Number: G6DSS3 | Price: $179.00

*These translated versions are provided for the convenience of our customers and are not officially endorsed by API. The translated versions shall neither replace nor supersede the English-language versions, which remain the official standards. API shall not be responsible for any discrepancies or interpretations of these translations. Translations may not include any addenda or errata to the document. Please check the English-language versions for any updates to the documents.
Exploration and Production

To purchase individual API standards, visit apiwebstore.org

Spec 6DSS *
Specification for Subsea Pipeline Valves—Russian
(includes Errata 1 dated May 2018, Errata 2 dated July 2018, Addendum 1 dated April 2019, and Addendum 2 dated June 2022)
Russian translation of Spec 6DSS.
3rd Edition | August 2017 | Product Number: G6DSS3R | Price: $179.00

Std 6DSSX
Operator and Mounting Kits for Subsea Valves
(includes Errata 1 dated May 2021)
Defines the requirements for design, mechanical integrity, and sizing of operators and related components used on subsea pipeline valves that conform to API Spec 6DSS. This standard is applicable to the following: electric actuators; electro-hydraulic actuators; hydraulic actuators; actuator override systems; diver and remotely operated tool (ROV)-operated gearboxes; other actuators, by agreement; mounting kit; pressure and volume compensation and associated systems; pressure caps; protection covers; and electrohydraulic position indication systems. Pages: 105
1st Edition | March 2021 | Product Number: G6DSSX1 | Price: $156.00

Std 6DX
Standard for Actuators and Mounting Kits for Valves
Defines the requirements for mechanical integrity and sizing of actuators used on valves manufactured under Spec 6D. It is applicable to all types of electric, pneumatic, and hydraulic actuators, inclusive of mounting kit, installed on pipeline valves. This document is not applicable to actuators installed on control valves, valves being used for regulation, valves in sub-sea service, handheld powered devices, stand-alone manually operated gearboxes, instrument tubing and associated fittings, and actuator control equipment. Pages: 44
2nd Edition | February 2020 | Product Number: G6DX02 | Price: $156.00

TR 6F1
Summarizes the results of four projects to test the performance of API and ANSI end connections in a fire test according to Spec 6FA. The appendices present the analytical procedures used to generate performance prediction. Pages: 29
3rd Edition | April 1999 | Product Number: G06F13 | Price: $124.00

TR 6F2
Technical Report on Fire Resistance Improvements for API Flanges
Establishes recommended methods for improving the performance of standard API flanges when subjected to the adverse effects of external high temperatures induced by exposure to fires. This publication does not cover fire prevention, suppression, or firefighting practices. Pages: 19
3rd Edition | April 1999 | Product Number: G06F23 | Price: $118.00

Std 6FA
Standard for Fire Test of Valves
(includes Errata 1 dated August 2020 and Errata 2 dated August 2020)
Establishes the requirements for testing and evaluating the pressure-containing performance of API 6A and API 6D valves when exposed to fire. The performance requirements of this document are intended to establish standard limits of acceptability regardless of size or pressure rating. This standard applies to valves with one or more closure members. Pages: 36
5th Edition | May 2020 | Product Number: G06FAX | Price: $110.00

Std 6FB
Standard for Fire Test for End Connectors
Establishes procedures for testing and evaluating the pressure-containing performance of API end connectors when exposed to fire. Valves, wellhead seals, or other related equipment are not included in the scope of this document. The performance requirements of this standard establish standard qualification criteria for all sizes and pressure ratings of end connectors. The procedures are presented in two parts: Part I represents conditions in an onshore or open offshore location, and Part II represents conditions in an offshore platform well bay. Pages: 27
4th Edition | May 2019 | Product Number: G06FB4 | Price: $75.00

RP 6HT
Heat Treatment and Testing of Carbon and Low Alloy Steel Large Cross Section and Critical Section Components
Supplements the heat treatment and testing requirements found in the API 6A equipment specification and not to replace them altogether. Heat treatment is a critical process that must be appropriate and controlled in order to produce parts that comply with design requirements. The specified mechanical properties may not necessarily be required or achieved through the entire section thickness of the production part(s). These procedures are intended to provide the manufacturer and end user with a means of ensuring that the qualification test coupon (QTC) is more representative of the mechanical properties in a large cross section component than can be expected with a standard API equipment specification QTC. Furthermore, these procedures are intended to provide fire and heat treatment response of large cross section components, thereby insuring that the component has the required mechanical properties at the depth below the surface established by the manufacturer at all critical locations. The recommend practice described herein suggests the requirements for batch-type bath quench and water spray quench-type heat treating practices. Pages: 9
2nd Edition | June 2013 | Reaffirmed: November 2018 | Product Number: G6HT02 | Price: $93.00

RP 6HT *
Heat Treatment and Testing of Carbon and Low Alloy Steel Large Cross Section and Critical Section Components—Russian
Russian translation of RP 6HT.
2nd Edition | June 2013 | Reaffirmed: November 2018 | Product Number: G6HT02R | Price: $93.00

RP 6J
Testing of Oilfield Elastomers
Describes practices for the evaluation of elastomeric seal materials and seal designs for the oil and gas industry for wellhead and tree applications. It can also serve as a general guideline for elastomer materials or elastomer seal members used for other applications, which have similar material and application issues. It is the intent of this document to provide an overview of testing criteria, environments, evaluation procedures, and guidelines for methods used to evaluate elastomeric seal materials and members. Pages: 39
2nd Edition | October 2022 | Product Number: G0J02 | Price: $97.00

TR 6J1
Elastomer Life Estimation Testing Procedures
The proposed procedure discussed in this publication outlines a technique based on the Arrhenius principle of chemical reaction rates, which permits the life of an elastomeric material to be estimated when exposed to a severe service environment. This is a companion document to Bull 6J, 2nd Edition. Pages: 14
1st Edition | August 2000 | Product Number: G0J11 | Price: $86.00

*These translated versions are provided for the convenience of our customers and are not officially endorsed by API. The translated versions shall neither replace nor supersede the English-language versions, which remain the official standards. API shall not be responsible for any discrepancies or interpretations of these translations. Translations may not include any addenda or errata to the document. Please check the English-language versions for any updates to the documents.

This publication is a new entry in this catalog. This publication is related to an API licensing, certification, or accreditation program.
Exploration and Production

To purchase individual API standards, visit apiwebstore.org

TR 6MET ■
Metallic Material Limits for API Equipment Used in High Temperature Applications
Covers testing performed to develop recommended yield strength reduction ratios and elevated temperature properties for a number of steels, stainless steels, and nickel alloys used in oil and gas drilling and production equipment. Pages: 104
3rd Edition | July 2022 | Product Number: G6MET03 | Price: $138.00

TR 6RT
Guidelines for Design and Manufacture of Surface Wellhead Running, Retrieving and Testing Tools, Clean-out Tools and Wear Bushings
Provides guidance for the design, materials selection, manufacture, and testing of tools and equipment for running, retrieving, clean-out, and testing of wellhead components and wear bushings. The equipment manufactured in accordance with this technical report is designed to satisfy the manufacturer's documented performance characteristics and the applicable service conditions. This technical report is derived from requirements previously found in API 6A, 20th Edition and earlier editions. Pages: 22
1st Edition | February 2020 | Product Number: G06RT1 | Price: $65.00

Std 6X
Design Calculations for Pressure-Containing Equipment
Describes a design analysis methodology and requirements that apply to designs where normative reference to this standard is made in an API product specification and to those components for which the methods of this standard are required or permitted.
Methods are in accordance with the rules of Appendix 4 of the ASME Boiler and Pressure Vessel Code, 2004, Section VIII, Division 2. API has adopted slightly different stress limits from the ASME Boiler and Pressure Vessel Code, 2004. The criteria used assume defect-free, tough, and ductile material behavior. Pages: 20
2nd Edition | February 2019 | Product Number: G06X02 | Price: $71.00

DRILLING EQUIPMENT

Spec 7-1/ISO 10424-1:2004 ♦
Specification for Rotary Drill Stem Elements—Chinese
(includes Addendum 1 dated March 2007, Addendum 2 dated August 2009, Addendum 3 dated April 2011, Addendum 4 dated February 2019, and Errata 1 dated July 2020)
1st Edition | February 2006 | Reaffirmed: January 2021
Product Number: GX7101C | Price: $176.00

Spec 7-1/ISO 10424-1:2004 ♦
Specification for Rotary Drill Stem Elements—Spanish
(includes Addendum 1 dated March 2007, Addendum 2 dated August 2009, Addendum 3 dated April 2011, Addendum 4 dated February 2019, and Errata 1 dated July 2020)
1st Edition | February 2006 | Reaffirmed: January 2021
Product Number: GX7101SP | Price: $176.00

Spec 7-1/ISO 10424-1:2004 ♦
Specification for Rotary Drill Stem Elements—Russian
(includes Addendum 1 dated March 2007, Addendum 2 dated August 2009, Addendum 3 dated April 2011, Addendum 4 dated February 2019, and Errata 1 dated July 2020)
1st Edition | February 2006 | Reaffirmed: January 2021
Product Number: GX7101R | Price: $176.00

Spec 7-1/ISO 10424-1:2004 ♦
Specification for Rotary Drill Stem Elements—Chinese
(includes Addendum 1 dated March 2007, Addendum 2 dated August 2009, Addendum 3 dated April 2011, Addendum 4 dated February 2019, and Errata 1 dated July 2020)
1st Edition | February 2006 | Reaffirmed: January 2021
Product Number: GX7101C | Price: $176.00

Spec 7-1/ISO 10424-1:2004 ♦
Specification for Rotary Drill Stem Elements—Spanish
(includes Addendum 1 dated March 2007, Addendum 2 dated August 2009, Addendum 3 dated April 2011, Addendum 4 dated February 2019, and Errata 1 dated July 2020)
1st Edition | February 2006 | Reaffirmed: January 2021
Product Number: GX7101SP | Price: $176.00

Spec 7-1/ISO 10424-1:2004 ♦
Specification for Rotary Drill Stem Elements—Russian
(includes Addendum 1 dated March 2007, Addendum 2 dated August 2009, Addendum 3 dated April 2011, Addendum 4 dated February 2019, and Errata 1 dated July 2020)
1st Edition | February 2006 | Reaffirmed: January 2021
Product Number: GX7101R | Price: $176.00

Spec 7-2 ♦
Threading and Gauging of Rotary Shouldered Connections
(includes Errata 1 dated August 2017, Errata 2 dated November 2019, and Addendum 1 dated March 2020)
Specifies requirements on rotary shouldered connections for use in petroleum and natural gas industries, including dimensional requirements on threads and thread gauges, stipulations on gauging practice and gauge specifications, as well as instruments and methods for inspection of thread connections. These connections are intended primarily for use in drill-string components.
Other supplementary specifications can be agreed between interested parties for special tolerance requirements, qualification, testing, inspection, and finishing. This standard applies both to newly manufactured connections and connections that are re-cut after service. It should be realized that re-cut connections are subject to additional inspection and testing—the user is referred to API 7G-2 for such information.
This standard is applicable to the following preferred rotary shouldered connection designs. These are traceable to an internationally supported system of gauges and calibration that can be described as number (NC) style, regular (REG) style, or full-hole (FH) style. Pages: 114
2nd Edition | January 2017 | Product Number: GX70202 | Price: $206.00

Spec 7-2 ♦
Threading and Gauging of Rotary Shouldered Connections—Russian
(includes Errata 1 dated August 2017, Errata 2 dated November 2019, and Addendum 1 dated March 2020)
Russian translation of Spec 7-2.

*These translated versions are provided for the convenience of our customers and are not officially endorsed by API. The translated versions shall neither replace nor supersede the English-language versions, which remain the official standards. API shall not be responsible for any discrepancies or interpretations of these translations. Translations may not include any addenda or errata to the document. Please check the English-language versions for any updates to the documents.

■ This publication is a new entry in this catalog.
◆ This publication is related to an API licensing, certification, or accreditation program.
Test data values that are acceptable based on their respective application, operational limitations, and safety practices. Pages: 18

**Oil Field Chain and Sprockets**

**Spec 7CW**

Casing Wear Tests

Provides a method by which results will be reproducible, under a specified set of conditions, for conducting tests that determine casing wear due to rotation of drill stem elements.

This standard is intended to be used in a laboratory environment and is not intended for use in the field during operations. The testing requirements in this standard are not represented at well conditions. This standard is divided into four major areas: machine apparatus, procedures, materials, and reporting.

This standard will not address the significance of specific data values. It is the responsibility of the user of this standard to establish the appropriate test data values that are acceptable based on their respective application, operational limitations, and safety practices. Pages: 18

1st Edition | June 2015 | Reaffirmed: July 2020
Product Number: G7CW01 | Price: $93.00

**Spec 7F**

Oil Field Chain and Sprockets

(includes Errata 1 dated May 2013)

Covers the manufacture of the components for, and the assembly and packaging of, single and multiple strand, numbers 40 through 240, standard and heavy series roller chains for oil field applications, including chain designation, chain length tolerance, tensile strength specifications, pin and bushing press-out specifications, and dynamic test requirements. For informational purposes, Annex A provides recommendations for installation, lubrication, and maintenance of oil field chain drives, and Annex B includes a basic description of roller chain sprockets. Pages: 29

8th Edition | November 2010 | Effective Date: May 1, 2011
Reaffirmed: July 2022 | Product Number: G7F008 | Price: $125.00

**Spec 7F**

Oil Field Chain and Sprockets—Chinese

(includes Errata 1 dated May 2013)

Chinese translation of Spec 7F.

8th Edition | November 2010 | Reaffirmed: July 2022
Product Number: G7F008C | Price: $125.00

**RP 7G**

Recommended Practice for Drill Stem Design and Operating Limits—Kazakh

(includes Errata 1 dated May 2000, Addendum 1 dated November 2003, and Addendum 2 dated August 2009)

Kazakh translation of RP 7G.

Product Number: G07G6AK | Price: $210.00

**RP 7G**

Recommended Practice for Drill Stem Design and Operating Limits—Russian

(includes Errata 1 dated May 2000, Addendum 1 dated November 2003, and Addendum 2 dated August 2009)

Russian translation of RP 7G.

Product Number: G07G6AR | Price: $210.00

**RP 7G-2**

Inspection and Classification of Used Drill Stem Elements

Specifies the requirements for each level of inspection and procedures for the inspection and testing of used drill stem elements. This document has been prepared to address the practices and technology commonly used in inspection. This document also specifies the qualification of inspection personnel, a description of inspection methods, and apparatus calibration and standardization procedures for various inspection methods. The evaluation of imperfections and the marking of inspected drill stem elements is included.

Pages: 227

2nd Edition | October 2020 | Product Number: G7G202 | Price: $167.00

**RP 7HU1**

Safe Use of 2-Inch Hammer Unions for Oilfield Applications

(includes Errata 1 dated February 2014)

Sets forth procedural recommendations as well as an engineering solution to the mismatching of a female 2-in. Figure 402, a female 2-in. Figure 602, or a female 2-in. Figure 1002 hammer union component (sub) with a male 2-in. Figure 1502 hammer union component (wing nut) as described in 3.2. The procedural recommendations described in this recommended practice should be implemented to reduce further incidents. The engineering solution, which makes impossible the mating of female 2-in. Figure 402, 2-in. Figure 602, and/or 2-in. Figure 1002 sub with the wing nut of the 2-in. Figure 1502 hammer union, applies to the manufacture of new hammer union components and should not be applied in the modification of existing hammer union components due to unknown factors caused by field wear.

Pages: 12

Product Number: H7HU11 | Price: $40.00

**Spec 7HU2**

Oilfield Hammer Unions

Addresses the incompatibility of hammer union components, a common issue in the industry that has led to equipment mismatching incidents. Its application will serve to improve operations through interoperability of a field proven standard design. This standard specifies minimum requirements for the dimensional and functional interchangeability, design, materials, inspection, marking, storing, and shipment of hammer union parts and assemblies for use in the petroleum and natural gas industries.

Pages: 50

1st Edition | March 2022 | Product Number: H7HU21 | Price: $116.00

*These translated versions are provided for the convenience of our customers and are not officially endorsed by API. The translated versions shall neither replace nor supersed the English-language versions, which remain the official standards. API shall not be responsible for any discrepancies or interpretations of these translations. Translations may not include any addenda or errata to the document. Please check the English-language versions for any updates to the documents.
**Spec 7K**

**Drilling and Well Servicing Equipment**
(includes Errata 1 dated May 2016, Errata 2 dated August 2016, and Errata 3 dated October 2017)

Provides general principles and specifies requirements for design, manufacture, and testing of new drilling and well-servicing equipment and of replacement primary load-carrying components manufactured subsequent to the publication of this specification. This specification is applicable to the following equipment:

- rotary tables;
- rotary bushings;
- high-pressure mud and cement hoses;
- piston mud-pump components;
- drawworks components;
- manual tongs;
- safety clamps not used as hoisting devices;
- blowout preventer (BOP) handling systems;
- pressure-relieving devices for high-pressure drilling fluid circulating systems;
- snub-lines for manual and power tongs;
- rotary slips, both manual and powered;
- slip bowls; and
- spiders, both manual and powered.

6th Edition | December 2015 | Product Number: G07K06 | Price: $217.00

**Spec 7NRV**

**Specification for Drill String Non-Return Valves**
(includes Addendum 1 dated December 2019)

Provides the minimum acceptable requirements for drill string non-return valve (NRV) equipment. It covers drill string non-return valves, non-return valve subs, non-return valve landing nipples, non-return valve equalizing heads, and all components that establish tolerances and/or clearances that may affect performance or interchangeability of the NRV equipment. Non-return valve subs, non-return valve landing nipples, non-return valve equalizing heads, and NRVs manufactured by different facilities or manufacturers may be supplied as separate items.

1st Edition | July 2006 | Reaffirmed: July 2020
Product Number: G7NRV01 | Price: $76.00

**Spec 7NRV**

**Specification for Drill String Non-Return Valves—Chinese**
(includes Addendum 1 dated December 2019)

Chinese translation of Spec 7NRV.

1st Edition | July 2006 | Reaffirmed: July 2020
Product Number: G7NRV01C | Price: $76.00

**HOISTING TOOLS**

**RP 8B**

**Recommended Practice for Procedures for Inspection, Maintenance, Repair, and Remanufacture of Hoisting Equipment**
(includes Addendum 1 dated March 2019 and Addendum 2 dated July 2021)

Provides guidelines and establishes requirements for inspection, maintenance, repair, and remanufacture of items of hoisting equipment manufactured according to Spec 8A, Spec 8C, or ISO 13535 used in drilling and production operations, in order to maintain the serviceability of this equipment. Items of drilling and production hoisting equipment covered are:

- crown-block sheaves and bearings;
- traveling blocks and hook blocks;
- block-to-hook adapters;
- connectors and link adapters;
- drilling hooks;
- tubing hooks and sucker-rod hooks;
- elevator links;
- casing elevators, tubing elevators, drill-pipe elevators, and drill-collar elevators;
- sucker-rod elevators;
- rotary swivel-bail adapters;
- rotary swivels;
- power swivels;
- power subs;
- spiders, if capable of being used as elevators;
- dead-line tie-down/wireline anchors;
- drill-string motion compensators;
- Kelly spinners, if capable of being used as hoisting equipment;
- riser-running tool components, if capable of being used as hoisting equipment;
- wellhead-running tool components, if capable of being used as hoisting equipment;
- safety clamps, capable of being used as hoisting equipment;
- top drives;
- casing running tools.

8th Edition | May 2014 | Product Number: G08B08 | Price: $103.00

*These translated versions are provided for the convenience of our customers and are not officially endorsed by API. The translated versions shall neither replace nor supersed the English-language versions, which remain the official standards. API shall not be responsible for any discrepancies or interpretations of these translations. Translations may not include any addenda or errata to the document. Please check the English-language versions for any updates to the documents.*

This publication is a new entry in this catalog. This publication is related to an API licensing, certification, or accreditation program.
Exploration and Production

To purchase individual API standards, visit apiwebstore.org

Spec 8C ◆
Drilling and Production Hoisting Equipment (PSL 1 and PSL 2)
(includes Errata 1 dated May 2014 and Errata 2 dated November 2020)
Provides requirements for the design, manufacture, and testing of hoisting equipment suitable for use in drilling and production operations. This specification is applicable to numerous drilling and production hoisting equipment, some of which include: hoisting sheaves, traveling and hook blocks; elevator links, casing elevators, sucker rod elevators, rotary and power swivels, drilling hooks, wireline anchors, drill string motion compensators, and safety clamps. Pages: 53
5th Edition | April 2012 | Effective Date: October 1, 2012
Reaffirmed: August 2019 | Product Number: GX08C05 | Price: $152.00

Spec 8C *
Drilling and Production Hoisting Equipment (PSL 1 and PSL 2)—
Chinese
(includes Errata 1 dated May 2014 and Errata 2 dated November 2020)
Chinese translation of Spec 8C.
5th Edition | April 2012 | Reaffirmed: August 2019
Product Number: GX08C05C | Price: $152.00

Spec 8C *
Drilling and Production Hoisting Equipment (PSL 1 and PSL 2)—
Russian
(includes Errata 1 dated May 2014 and Errata 2 dated November 2020)
Russian translation of Spec 8C.
5th Edition | April 2012 | Reaffirmed: August 2019
Product Number: G08C05R | Price: $152.00

WIRE ROPE

Spec 9A ◆
Specification for Wire Rope
Specifies the minimum requirements and terms of acceptance for the manufacture and testing of steel wire ropes not exceeding rope grade 2160 for the petroleum and natural gas industries. The following products are covered by this specification:
• wire rope,
• bright- or drawn-galvanized wire rope,
• well-measuring wire, and
• well-measuring strand.
Typical applications include tubing lines, rod hanger lines, sand lines, cable-tool drilling and clean out lines, cable tool casing lines, rotary drilling lines, winch lines, horsehead pumping unit lines, torpedo lines, mast raising lines, guideline tensioner lines, riser tensioner lines, and mooring and anchor lines. Ropes for lifting slings and cranes, and wire for well-measuring and strand for well-servicing, are also included. The minimum breaking force values for the more common sizes, grades, and constructions of stranded rope are given in tables. However, this standard does not restrict itself to the classes covered by those tables. Other types, such as ropes with compacted strands and compacted (swaged) ropes, may also conform with its requirements. The minimum breaking force values for these ropes are provided by the manufacturer. For information only, other tables present the minimum breaking forces for large diameter stranded and spiral ropes (i.e. spiral strand and locked coil), while approximate nominal length masses for the more common stranded rope constructions and large diameter stranded and spiral ropes are also given. Pages: 91

Spec 10A *
Cements and Materials for Well Cementing
(includes Addendum 1 dated November 2019 and Addendum 2 dated August 2022)
Specifies requirements and gives recommendations for six classes of well cements, including their chemical and physical requirements and procedures for physical testing.
This specification is applicable to well cement classes A, B, C, and D, which are the products obtained by grinding Portland cement clinker and, if needed, calcium sulfate, as an interground additive. Processing additives can be used in the manufacture of cement of these classes. Suitable set-modifying agents can be interground or blended during manufacture of class D cement. This specification is also applicable to well cement classes G and H, which are the products obtained by grinding clinker with no additives other than one or more forms of calcium sulfate, water, or chemical additives as required for chromium (VI) reduction. Pages: 76
25th Edition | March 2019 | Effective Date: September 2019
Product Number: GX10A25 | Price: $163.00

Spec 10A *
Cements and Materials for Well Cementing—Russian
(includes Addendum 1 dated November 2019 and Addendum 2 dated August 2022)
Russian translation of Spec 10A.

RP 9B
Application, Care, and Use of Wire Ropes for Oil Field Service
(includes Addendum 1 dated August 2020)
Covers typical wire rope applications for the oil and gas industry. Typical practices in the application of wire rope to oil field service are indicated in Table 1, which shows the sizes and constructions commonly used. Because of the variety of equipment designs, the selection of other constructions than those shown is justifiable.
In oilfield service, wire rope is often referred to as wire line or cable. For the purpose of clarity, these various expressions are incorporated in this recommended practice. Pages: 44
14th Edition | October 2015 | Product Number: G9B014 | Price: $131.00

OIL WELL CEMENTS

Bull E3
Wellbore Plugging and Abandonment Practices
Addresses the environmental concerns related to well abandonment and inactive well practices. The primary environmental concerns are protection of usable aquifers from fluid migration; and isolation of hydrocarbon production and water injection intervals. Additional issues in the document include protection of surface soils and surface waters, future use, and permanent documentation of plugged and abandoned wellbore locations and conditions. Pages: 22
2nd Edition | April 2018 | Product Number: G11008 | Price: $149.00

Spec 10A ◆
Cements and Materials for Well Cementing
(includes Addendum 1 dated November 2019 and Addendum 2 dated August 2022)
Specifies requirements and gives recommendations for six classes of well cements, including their chemical and physical requirements and procedures for physical testing.
This specification is applicable to well cement classes A, B, C, and D, which are the products obtained by grinding Portland cement clinker and, if needed, calcium sulfate, as an interground additive. Processing additives can be used in the manufacture of cement of these classes. Suitable set-modifying agents can be interground or blended during manufacture of class D cement. This specification is also applicable to well cement classes G and H, which are the products obtained by grinding clinker with no additives other than one or more forms of calcium sulfate, water, or chemical additives as required for chromium (VI) reduction. Pages: 76
25th Edition | March 2019 | Effective Date: September 2019
Product Number: GX10A25 | Price: $163.00

Spec 10A *
Cements and Materials for Well Cementing—Russian
(includes Addendum 1 dated November 2019 and Addendum 2 dated August 2022)
Russian translation of Spec 10A.

RP 10B-2
Recommended Practice for Testing Well Cements
(includes Errata 1 dated June 2006 and Errata 2 dated January 2007)
(specersedes RP 10B)
Specifies methods and gives recommendations for the testing of cement slurries and related materials under simulated well conditions. Pages: 111
2nd Edition | April 2013 | Reaffirmed: April 2019
Product Number: G10B202 | Price: $239.00
RP 10B-2 *
Recommended Practice for Testing Well Cements—Russian
(includes Errata 1 dated June 2006 and Errata 2 dated January 2007)
(supercedes RP 10B)
Russian translation of RP 10B-2.
2nd Edition | April 2013 | Reaffirmed: April 2019
Product Number: G10B202R | Price: $239.00

RP 10B-3
Testing of Well Cements Used in Deepwater Well Construction
Provides procedures for testing well cement slurries and cement blends for use in a deepwater environment or wells drilled in areas with a low seafloor temperature or areas where low well temperatures exist. For the purposes of this document the term “deepwater” includes areas where low seafloor temperatures exist, independent of water depth.
The procedures contained in this document serve as guidance for the testing of well cement slurries used in deepwater well construction. Additionally, testing methods contained in this document (most notably at mudline conditions) may also be used in those circumstances where low seafloor temperatures are found at shallow water depths. These conditions are found in areas including the North Sea, Norwegian Sea, Barents Sea, Kara Sea, Beaufort Sea, Chukchi Sea, Caspian Sea, and Black Sea.
The test methods contained in this recommended practice, though generally based on API 10B-2, take into account the specialized testing requirements and unique wellbore temperature profiles found in deepwater wells or wells in areas with low seafloor temperatures. This document does not address the mitigation of shallow water flow zones in deepwater wells, which is addressed in RP 65.
Product Number: G10B32 | Price: $103.00

RP 10B-4
Preparation and Testing of Foamed Cement Formulations at Atmospheric Pressure
 Defines the test methods including the generation of unfoamed base and their corresponding foamed cement slurries at atmospheric pressure. These procedures are developed for foaming cement slurries with air, at atmospheric conditions, which could mimic a foam quality experienced with nitrogen at downhole conditions; they may be modified to accommodate other gases such as nitrogen. Slurries that are foamed with nitrogen, and their properties, will also be discussed within this standard as they are relevant to the scope of the standard. This standard does not address testing at pressures above atmospheric conditions. 
2nd Edition | October 2015 | Product Number: G10B402 | Price: $103.00

RP 10B-5/ISO 10426-5:2004
Recommended Practice on Determination of Shrinkage and Expansion of Well Cement Formulations at Atmospheric Pressure
Provides the methods for the testing of well cement formulations to determine the dimension changes during the curing process (cement hydration) at atmospheric pressure only. This is a base document, because under real well cementing conditions shrinkage and expansion take place under pressure and different boundary conditions.
This edition of RP 10B-5 is the identical national adoption of ISO 10426-5:2004.
1st Edition | April 2005 | Reaffirmed: August 2020
Product Number: GX10B501 | Price: $87.00

RP 10B-6/ISO 10426-6:2008
Recommended Practice on Determining the Static Gel Strength of Cement Formulations
(includes Addendum 1 dated January 2020)
This document specifies requirements and provides test methods for the determination of static gel strength (SGS) of the cement slurries and related materials under simulated well conditions.
This edition of RP 10B-6 is the modified national adoption of ISO 10426-6:2008.
1st Edition | August 2010 | Reaffirmed: December 2019
Product Number: GG10B601 | Price: $68.00

Spec 10D
Casing Bow-Spring Centralizers
Provides testing, performance, and marking requirements for casing bow-spring centralizers to be used in oil and natural gas well construction. The procedures provide verification testing for the manufacturer’s design, materials, and process specifications, and periodic testing to confirm the consistency of product performance. This specification is not applicable to other devices, such as rigid centralizers and cement baskets, or bow-spring centralizers used for other purposes (e.g. wireline tools, gravel pack, inner string).
7th Edition | April 2021 | Product Number: G10D07 | Price: $107.00

Recommended Practice for Centralizer Placement and Stop Collar Testing
Provides calculations for determining centralizer spacing, based on centralizer performance and desired standoff, in deviated and dogleg holes in wells for the petroleum and natural gas industries. It also provides a procedure for testing stop collars and reporting test results.
1st Edition | August 2004 | Reaffirmed: January 2020
Product Number: GG10D21 | Price: $83.00

Spec 10F
Cementing Float Equipment Testing
(includes Errata 1 dated May 2020 and Errata 2 dated May 2020)
Provides testing and marking requirements for cementing float equipment to be used in oil and natural gas well construction.

Spec 10F *
Cementing Float Equipment Testing—Russian
(includes Errata 1 dated May 2020 and Errata 2 dated May 2020)
Russian translation of Spec 10F.

*These translated versions are provided for the convenience of our customers and are not officially endorsed by API. The translated versions shall neither replace nor supersede the English-language versions, which remain the official standards. API shall not be responsible for any discrepancies or interpretations of these translations. Translations may not include any addenda or errata to the document. Please check the English-language versions for any updates to the documents.
RP 10G
Product Evaluation, Application, and Testing of Stage Cementing Collars

Provides requirements, guidelines, and recommended practices for stage cementing collars used in cementing applications in the petroleum and natural gas industry. Information is included on the types, application, specification, validation, manufacturing, job planning and execution, and preventing and diagnosing problems. Use of stage cementing collars for non-cementing applications or annulus casing packers, or both, are outside the scope of this document. Products covered under another API or international specification are not included. This document does not cover the connections to the well conduit. Pages: 61

1st Edition | August 2020 | Product Number: G10G01 | Price: $140.00

TR 10TR1
Cement Sheath Evaluation

Provides the current principles and practices regarding the evaluation and repair of primary cementations of casing strings in oil and gas wells. Cement bond logs, compensated logging tools, ultrasonic cement logging tools, and borehole fluid-compensated logging tools are covered. Pages: 124

2nd Edition | September 2008
Product Number: G10TR12 | Price: $157.00

TR 10TR1 *
Cement Sheath Evaluation—Kazakh

Kazakh translation of TR 10TR1.

2nd Edition | September 2008
Product Number: G10TR12K | Price: $157.00

TR 10TR1 *
Cement Sheath Evaluation—Russian

Russian translation of TR 10TR1.

2nd Edition | September 2008
Product Number: G10TR12R | Price: $157.00

TR 10TR2
Shrinkage and Expansion in Oilwell Cements

Presents the results of research into shrinkage and expansion of oilwell cements in the wellbore as well as a series of test methods and procedures developed to measure these phenomena. Pages: 57

Product Number: G10TR2 | Price: $133.00

TR 10TR2 *
Shrinkage and Expansion in Oilwell Cements—Russian

Russian translation of TR 10TR2.

Product Number: G10TR2R | Price: $133.00

TR 10TR3
Technical Report on Temperatures for API Cement Operating Thickening Time Tests

Summarizes work performed by the 1984-91 API Task Group on Cementing Temperature Schedules to update the temperatures in API well-simulation test schedules found in RP 10B. The Task Group reviewed the largest set of temperature data available to the industry to date, resulting in significant improvements to the temperatures in the well-simulation test schedules. Pages: 97

1st Edition | May 1999 | Reaffirmed: May 2005
Product Number: G10TR3 | Price: $171.00

TR 10TR3 *
Technical Report on Temperatures for API Cement Operating Thickening Time Tests—Russian

Russian translation of TR 10TR3.

1st Edition | May 1999 | Reaffirmed: May 2005
Product Number: G10TR3R | Price: $171.00

TR 10TR4
Selection of Centralizers for Primary Cementing Operations

Provides the petroleum industry with information for three types of centralizers, their selection and application, and their advantages and limitations. Pages: 23

1st Edition | May 2008 | Product Number: G10TR40 | Price: $67.00

TR 10TR4 *
Selection of Centralizers for Primary Cementing Operations—Kazakh

Kazakh translation of TR 10TR4.

1st Edition | May 2008 | Product Number: G10TR40K | Price: $67.00

TR 10TR4 *
Selection of Centralizers for Primary Cementing Operations—Russian

Russian translation of TR 10TR4.

1st Edition | May 2008 | Product Number: G10TR40R | Price: $67.00

TR 10TR5
Methods for Testing of Solid and Rigid Centralizers

Provides the industry with methods for testing rigid and solid centralizers. Pages: 16

1st Edition | May 2008 | Product Number: G10TR50 | Price: $67.00

TR 10TR5 *
Methods for Testing of Solid and Rigid Centralizers—Kazakh

Kazakh translation of TR 10TR5.

1st Edition | May 2008 | Product Number: G10TR50K | Price: $67.00

TR 10TR5 *
Methods for Testing of Solid and Rigid Centralizers—Russian

Russian translation of TR 10TR5.

1st Edition | May 2008 | Product Number: G10TR50R | Price: $67.00

TR 10TR6
Evaluation and Testing of Mechanical Cement Wiper plugs

Provides recommended testing, evaluation, and performance requirements for mechanical cement wiper plugs. Mechanical cementing wiper plugs are used in most application including casing, liners, drill pipe, and tubing for primary and remedial cementing operations where they serve multiple functions in well operations, such as the following:

- separation of fluids inside of pipe,
- wiping of materials from the inner surface of pipe,
- operation of a downhole tool,
- surface indication of a downhole event, and
- formation of a temporary pressure barrier. Pages: 46


*These translated versions are provided for the convenience of our customers and are not officially endorsed by API. The translated versions shall neither replace nor supersede the English-language versions, which remain the official standards. API shall not be responsible for any discrepancies or interpretations of these translations. Translations may not include any addenda or errata to the document. Please check the English-language versions for any updates to the documents.
Exploration and Production

To purchase individual API standards, visit apiwebstore.org

TR 10TR7
Mechanical Behavior of Cement

Provides the necessary cement property data for use in cement sheath integrity simulations. The compressive strength tests and nondestructive sonic determination of compressive strength of cement defined in API 10B-2 do not provide suitable data for cement sheath integrity simulations. The methods of API 10B-2 provide information on the strength of cement to ensure that the cement is suitable for general well construction applications and to determine when sufficient strength is developed to allow well operations to continue. Pages: 63
1st Edition | December 2017 | Product Number: G10TR71 | Price: $128.00

FIELD OPERATING EQUIPMENT

RP 11AR
Recommended Practice for Care and Use of Subsurface Pumps
(includes Errata dated December 2013)
Provides information on the proper selection, operation, and maintenance of subsurface pumps so the best economical life can be obtained. Pages: 50
Product Number: G11AR4 | Price: $135.00

Spec 11AX *
Specification for Subsurface Sucker Rod Pump Assemblies, Components, and Fittings
(includes Addendum 1 dated May 2019)
Provides the requirements and guidelines for the design of subsurface sucker rod pumps and their components as defined herein for use in the sucker rod lift method for the petroleum and natural gas industry.
The specification covers subsurface sucker rod pump assemblies (including insert and tubing), components, and fittings in commonly used bore sizes for the sucker rod lift method. Sufficient dimensional and material requirements are provided to assure interchangeability and standardization of all component parts.
The specification does not cover specialty subsurface sucker rod pump accessories or special design components. Also, installation, operation, and maintenance of these products are not included in this specification; however, recommendations can be found in RP 11AR.
Product Number: G11AX13 | Price: $189.00

Spec 11B *
Specification for Sucker Rods, Polished Rods and林ers, Couplings, Sinker Bars, Polynomial Rod Clamps, Stiffening Boxes, and Pumping Tees
(includes Errata dated October 2010 and Errata 2 dated February 2011)
Provides the requirements and guidelines for the design and rating of steel sucker rods and pony rods, polished rods, polished rod liners, couplings and sub-couplings, fiber reinforced plastic (FRP) sucker rods, sinker bars, polished rod clamps, stuffing boxes, and pumping tees as defined herein for use in the sucker rod lift method for the petroleum and natural gas industry. Annexes A through H provide the requirements for specific products. Annex I includes the requirements for thread gauges. Annex J illustrates the components of a sucker rod lift system, and Annex K shows examples of sucker rod discontinuities. This specification does not cover sucker rod guides, sucker rod rotators, shear tools, on-off tools, stabilizer bars, sealing elements used in stuffing boxes, or interface connections for stuffing boxes and pumping tees. Also, installation, operation, and maintenance of these products are not included in this specification. Pages: 91
27th Edition | May 2010 | Effective Date: November 1, 2010
2-Year Extension: February 2015 | Reaffirmed: January 2019
Product Number: G11B27 | Price: $168.00

*These translated versions are provided for the convenience of our customers and are not officially endorsed by API. The translated versions shall neither replace nor supersede the English-language versions, which remain the official standards. API shall not be responsible for any discrepancies or interpretations of these translations. Translations may not include any addenda or errata to the document. Please check the English-language versions for any updates to the documents.
Specifications and standards related to sucker rods, polished rods, and pumping units are considered in this specification. Also included are the requirements for the design and rating of enclosed gear reducers wherein the pitch-line velocity of any stage does not exceed 5000 ft/min and the speed of any shaft does not exceed 3600 rpm. The document further establishes certain minimum requirements intended to promote the safe installation, operation, and servicing of pumping unit equipment.

Spec 11B
 Specification for Sucker Rods, Polished Rods, Liners, Couplings, Sinkers, Polished Rod Clamps, Stuffing Boxes, and Pumping Tees—Chinese
(includes Errata 1 dated October 2010 and Errata 2 dated February 2011)
Chinese translation of Spec 11B.
27th Edition | May 2010 | Reaffirmed: January 2019
Product Number: G11S27C | Price: $168.00

Spec 11B
 Specification for Sucker Rods, Polished Rods, Liners, Couplings, Sinkers, Polished Rod Clamps, Stuffing Boxes, and Pumping Tees—Russian
(includes Errata 1 dated October 2010 and Errata 2 dated February 2011)
Russian translation of Spec 11B.
27th Edition | May 2010 | Reaffirmed: January 2019
Product Number: G11B27R | Price: $168.00

RP 11BR
 Recommended Practice for the Care and Handling of Sucker Rods
Covers the care and handling of steel sucker rods, including guidelines on selection, allowable stress, proper joint makeup, corrosion control, and used rod inspection. Pages: 28
9th Edition | August 2008 | Reaffirmed: July 2020
Product Number: G11BR09 | Price: $114.00

RP 11BR *
 Recommended Practice for the Care and Handling of Sucker Rods—Chinese
Chinese translation of RP 11BR.
9th Edition | August 2008 | Reaffirmed: July 2020
Product Number: G11BR09C | Price: $114.00

Spec 11E Pumping Units
Provides the requirements and guidelines for the design and rating of beam pumping units for use in the petroleum and natural gas industry. Included are all components between the carrier bar and the gear reducer input shaft. This includes the following: beam pump structures; pumping unit gear reducer. Only loads imposed on the structure and/or gear reducer by the polished rod load are considered in this specification. Also included are the requirements for the design and rating of enclosed gear reducers wherein the pitch-line velocity of any stage does not exceed 5000 ft/min and the speed of any shaft does not exceed 3600 rpm. Pages: 109
20th Edition | October 2022 | Effective Date: April 1, 2023
Product Number: G11E20 | Price: $202.00

RP 11ER Guarding of Pumping Units
Provides a reference or guide for the design, manufacture, and installation of guards for moving parts on pumping units. It is based on knowledge and experience gained through the application of guards for pumping units by the production segment of the petroleum industry. Pages: 27
4th Edition | July 2022 | Product Number: G11ER04 | Price: $96.00

RP 11G
 Recommended Practice for Installation, Maintenance and Lubrication of Pumping Units
Provides guidance related to the proper installation, care, and maintenance of surface mounted beam pumping units, varieties of which are described in Spec 11E. Information provided in this document is of a general nature and is not intended to replace specific instruction provided by the pumping unit manufacturer. This document further establishes certain minimum requirements intended to promote the safe installation, operation, and servicing of pumping unit equipment. Pages: 26
5th Edition | November 2013 | Reaffirmed: July 2019
Product Number: G11G05 | Price: $93.00

TR 11L Design Calculations for Sucker Rod Pumping Systems (Conventional Units)
Covers recommendations for design calculations for conventional unit sucker rod pumping systems based on test data submitted to API by Sucker Rod Pumping Research, Inc. The topics include vibration characteristics of sucker rod strings, physical characteristics of sucker rods, and dimensional analysis of sucker rod pumping systems. The calculations apply to the broad category of average, normal pumping wells fitting the assumed conditions defined therein. Unusual or out-of-the-ordinary conditions will cause deviations from calculated performance. Pages: 24
5th Edition | June 2008 | Product Number: G11L05 | Price: $115.00

Bulletin on Catalog of Analog Computer Dynamometer Cards
Contains over 1100 polished rod dynamometer cards taken with the electronic analog simulator and arranged in convenient form for comparison with field tests. Pages: 77
1st Edition | December 1969 | Reaffirmed: September 1999
Product Number: G05700 | Price: $133.00

Design Calculations for Sucker Rod Pumping Systems (Conventional Units)
Contains print-out tables of computer calculated values for selecting sucker rod systems. Values are included for depths of 200 ft to 12,000 ft in increments of 500 feet, and production rates of 100 barrels per day to over 1,500 barrels per day in varying increments. Various rod string pump stroke, pump size, and pumping speed combinations that will do the job within the limiting parameters are listed. Pages: 574
1st Edition | May 1970 | Product Number: G05800 | Price: $143.00

Bulletin on Catalog of Analog Computer Dynamometer Cards
Contains over 1100 polished rod dynamometer cards taken with the electronic analog simulator and arranged in convenient form for comparison with field tests. Pages: 77
1st Edition | December 1969 | Reaffirmed: September 1999
Product Number: G05700 | Price: $133.00

Technical Report on Electric Motor Prime Mover for Beam Pumping Unit Service
Covers polyphase, squirrel-cage, induction motors for use as the prime mover for beam pumping units (size range of 200 hp and below). Motors to be operated from solid-state or other types of variable frequency/variable voltage power supplies for adjustable speed applications will require individual consideration to provide satisfactory performance and are beyond the scope of this document. Motors conforming to this document are suitable for operation in accordance with their full load rating under ambient conditions of average, normal pumping wells fitting the assumed conditions defined therein. Unusual or out-of-the-ordinary conditions will cause deviations from calculated performance. Pages: 24
2nd Edition | May 2008 | Product Number: G11L02 | Price: $94.00

*These translated versions are provided for the convenience of our customers and are not officially endorsed by API. The translated versions shall neither replace nor supersede the English-language versions, which remain the official standards. API shall not be responsible for any discrepancies or interpretations of these translations. Translations may not include any addenda or errata to the document. Please check the English-language versions for any updates to the documents.
**Recommended Practice for Testing of Electric Submersible Pump Installations**

Addresses the installation and replacement of all major components comprising an electrical submersible pumping system. Specifically, it addresses equipment installation on tubing in oil and gas production operations. Pages: 11

- **2nd Edition | March 1999 | Reaffirmed: October 2013**
- **Product Number: G11S32 | Price: $97.00**

---

**Recommended Practice for Sizing and Selection of Electric Submersible Pump Installations**

Discusses in some detail each component of the ESP system (pump, motor, intake, seal or protector, cable, switchboard, etc.) as far as what must be considered for the best selection at a desired rate and well conditions. Examples are given to illustrate the basic design procedure and illustrate how PVT correlations, multiphase flow correlations, and inflow performance relationships are used. Summary designs and computer examples using the detailed design principles are presented that show how design considerations fit together and how tools such as computer programs allow faster solutions resulting in easier trial and error calculations for optimization of designs and study of existing installations. Topics such as PVT correlations, multiphase flow correlations, and inflow performance relationships are discussed in the appendices. Pages: 31

- **3rd Edition | July 2002 | Reaffirmed: October 2013**
- **Product Number: G11S43 | Price: $86.00**

---

**Recommended Practice for the Application of Electrical Submersible Cable Systems**

Covers the application (size and configuration) of electrical submersible cable systems by manufacturers, vendors, or users. The document addresses the varies uses of different cable insulation systems, including jackets, braids, armor, and related coverings, as well as auxiliary cable components for cable conductors. The document also addresses splicing and terminating cables including splicing, lengthening, and repairs. Pages: 38

- **2nd Edition | April 2008 | Reaffirmed: October 2013**
- **Product Number: G11S52 | Price: $118.00**

---

**Recommended Practice for Testing of Electric Submersible Pump Cable Systems**

Covers field testing of electric submersible pump cable systems. This document is organized into three major topic categories. The first category provides general definitions and an overview of terms, safety considerations, and cable system preparation guidelines. The second category identifies various situations under which testing is performed. The third category identifies test methods and procedures. Pages: 18

- **1st Edition | December 1995 | Reaffirmed: October 2013**
- **Product Number: G11S61 | Price: $97.00**

---

These translated versions are provided for the convenience of our customers and are not officially endorsed by API. The translated versions shall neither replace nor supersed the English-language versions, which remain the official standards. API shall not be responsible for any discrepancies or interpretations of these translations. Translations may not include any addenda or errata to the document. Please check the English-language versions for any updates to the documents.

*This publication is a new entry in this catalog.  ◆ This publication is related to an API licensing, certification, or accreditation program.
This specification is designed to provide the oil production industry with tanks of adequate safety and reasonable economy for use in the storage of crude petroleum and other liquids commonly handled and stored by the production segment of the industry. This specification is for the convenience of purchasers and manufacturers in ordering and fabricating tanks. Pages: 35

13th Edition | January 2019 | Effective Date: July 1, 2019
Product Number: G12F13 | Price: $146.00

Spec 12J ♦

Specification for Oil and Gas Separators

Covers minimum requirements for the design, fabrication, and plant testing of oil and gas separators and oil-gas-water separators that are used in the production of oil and gas and are located at some point on the producing flow line between the wellhead and pipeline. Separators covered by this specification may be vertical, spherical, or single or double barrel horizontal. Unless otherwise agreed upon between the purchaser and the manufacturer, the jurisdiction of this specification terminates with the pressure vessel as defined in Section VII, Division 1 of the ASME Boiler and Pressure Vessel Code. Pressure vessels covered by this specification are normally classified as natural resource vessels. Separators outside the scope of this specification include centrifugal separators, filter separators, and desanding separators. Pages: 25

8th Edition | October 2008 | Effective Date: April 1, 2009
Product Number: G12J08 | Price: $105.00

Spec 12J ♦

Specification for Oil and Gas Separators—Chinese

Chinese translation of Spec 12J.

8th Edition | October 2008 | Product Number: G12J08C | Price: $105.00

Spec 12J ♦

Specification for Oil and Gas Separators—Russian

Russian translation of Spec 12J.

8th Edition | October 2008 | Product Number: G12J08R | Price: $105.00

Spec 12K ♦

Specification for Indirect Type Oilfield Heaters

Covers minimum requirements for the design, fabrication, and shop testing of oilfield indirect type fired heaters that are used in the production of oil, gas, and associated fluid. The heaters are located at some point on the producing flowline between the wellhead and pipeline. Heater components covered by this specification include the pressurized coils, the shell, heater bath, firetube, and the firing system. For purposes of this specification, the termination of a heater coil is at the first bevel when coils are furnished beveled for welding, or the face of the first fitting when fittings are furnished as the inlet or outlet connection to the coil. All fittings and valves between the inlet and outlet of the coil are to be considered within the coil limit. Heaters outside the scope of this specification include steam and other vapor generators, reboilers, indirect heaters employing heat media other than water solutions, all types of direct fired heaters, shell-and-tube bundles or electrical heating elements, and coils operating at temperatures less than -20 °F. Pages: 35

8th Edition | October 2008 | Effective Date: April 1, 2009
Product Number: G12K08 | Price: $124.00

Spec 12K ♦

Specification for Indirect Type Oilfield Heaters—Chinese

Chinese translation of Spec 12K.


*These translated versions are provided for the convenience of our customers and are not officially endorsed by API. The translated versions shall neither replace nor supersede the English-language versions, which remain the official standards. API shall not be responsible for any discrepancies or interpretations of these translations. Translations may not include any addenda or errata to the document. Please check the English-language versions for any updates to the documents.
**Spec 12L ◆**  
**Specification for Vertical and Horizontal Emulsion Treaters**  
Covers minimum requirements for material, design, fabrication, and testing of vertical and horizontal emulsion treaters. Emulsion treating is normally conducted on crude oil immediately after it is separated from its associated gas in a vessel referred to as a treater or sometimes as a heater treater. High gas-oil ratio wells or those produced by gas lift may require the installation of an oil and gas separator upstream of the treater to remove most of the associated gas before the emulsion enters the treater. Where the water to oil ratio is high, freewater knockouts may be required upstream of the treater. The jurisdiction of this specification terminates with each pressure vessel as applicable: the emulsion treater with firetube(s) and, if used, the heat exchanger(s) and water siphon. Pressure vessels covered by this specification are classified as natural resource vessels. An emulsion treater is a pressure vessel used in the oil producing industry for separating oil-water emulsions and gas and for breaking or resolving emulsified well streams into water and saleable clean oil components. Emulsion treaters are usually equipped with one or more removable firetubes or heat exchange elements through which heat is applied to the water and/or emulsion to aid the emulsion breaking process. Pages: 39  
5th Edition | October 2008 | Effective Date: April 1, 2009  
Product Number: G12L05 | Price: $105.00

**RP 12N**  
**Recommended Practice for the Operation, Maintenance and Testing of Firebox Flame Arrestors**  
Covers practices that should be considered in the installation, maintenance, and testing of firebox flame arrestors installed on the air intake of oilfield production equipment. Pages: 6  
Product Number: G12N02 | Price: $90.00

**Spec 12P ◆◆**  
**Specification for Fiberglass Reinforced Plastic Tanks**  
Covers material, design, fabrication, and testing requirements for fiberglass reinforced plastic (FRP) tanks. Only shop-fabricated, vertical, cylindrical tanks are covered. Tanks covered by this specification are intended for aboveground and atmospheric pressure service. This specification applies to new tanks. The requirements may be applied to existing tanks at the discretion of the owner/operator. This specification is designed to provide the petroleum industry with various standard sizes of FRP tanks. Because of the versatility of FRP tanks, the user shall be responsible for determining the suitability of FRP tanks for the intended service. Pages: 30  
5th Edition | May 2022 | Effective Date: November 1, 2022  
Product Number: G12P05 | Price: $129.00

**Std 12R1**  
**Installation, Operation, Maintenance, Inspection, and Repair of Tanks in Production Service**  
(includes Addendum 1 dated June 2021)  
For use as a guide for new tank installations and maintenance of existing tanks, Std 12R1 contains recommendations for good practices in the collection of well or lease production; gauging; delivery to pipeline carriers for transportation; and other production storage and treatment operations. This recommended practice is intended primarily for application to tanks fabricated to Specs 12F, 12D, 12H; and 12P when employed in on-land production service, but its basic principles are applicable to atmospheric tanks of other dimensions and specifications when they are employed in similar oil and gas production, treating, and processing services. It is not applicable to refineries, petrochemical plants, marketing bulk stations, or pipeline storage facilities operated by carriers. Pages: 53  

**DRILLING, COMPLETION, AND FRACTURING FLUIDS**

**Spec 13A ◆**  
**Drilling Fluids Materials**  
(includes Addendum 1 dated April 2020 and Addendum 2 dated June 2022)  
Covers physical properties and test procedures for materials manufactured for use in oil- and gas-well drilling fluids. The materials covered are barite; hematite; bentonite; non-treated bentonite; attapulgite; sepiolite; technical grade, low-viscosity carboxymethyl cellulose (CMC-LVT); technical grade, high-viscosity carboxymethyl cellulose (CMC-HVT); starch; low-viscosity polyacrylic cellulose (PAC-LV); high-viscosity polyacrylic cellulose (PAC-HV); and drilling-grade xanthan gum. This specification is intended for the use of manufacturers, distributors, and end users of named products. Annex A (informative) contains information on the API Monogram Program and requirements for the approved use of the API Monogram by licensees. Pages: 120  
19th Edition | October 2019 | Effective Date: April 2020  
Product Number: G13A19 | Price: $205.00

**RP 13B-1**  
**Recommended Practice for Field Testing Water-Based Drilling Fluids**  
(includes Errata 1 dated May 2020 and Errata 2 dated December 2021)  
Provides standard procedures for determining the following characteristics of water-based drilling fluids:  
- drilling fluid density (mud weight);  
- viscosity and gel strength;  
- filtration;  
- water, oil, and solids contents;  
- sand content;  
- methylene blue capacity;  
- pH;  
- alkalinity and lime content;  
- chloride content;  
- total hardness as calcium;  
- low-gravity solids and weighting material concentrations.  
Annexes A through K provide additional test methods that may be used for:  
- chemical analysis for calcium, magnesium, calcium sulfate, sulfide, carbonate, and potassium;  
- determination of shear strength;  
- determination of resistivity;  
- removal of air;  
- drill-pipe corrosion monitoring;  
- sampling, inspection, and rejection;  
- rig-site sampling;  
- calibration and verification of glassware, thermometers, timers, viscometers, retort cup, and drilling fluid balances;  
- permeability plugging testing at high temperature and high pressure for two types of equipment;  
- sag testing. Pages: 132  

---

This publication is a new entry in this catalog.  
This publication is related to an API licensing, certification, or accreditation program.
RP 13B-2
Recommended Practice for Field Testing Oil-Based Drilling Fluids
(includes Errata 1 dated August 2014, Errata 2 dated March 2018, and Addendum 1 dated August 2019)
Provides standard procedures for determining the following characteristics of oil-based drilling fluids:
- drilling fluid density (mud weight);
- viscosity and gel strength;
- filtration;
- oil, water, and solids concentrations;
- alkalinity, chloride concentration, and calcium concentration;
- electrical stability;
- lime and calcium concentrations, calcium chloride, and sodium chloride concentrations;
- low-gravity solids and weighting material concentrations.
The annexes provide additional test methods or examples that can optionally be used for the determination of:
- shear strength (Annex A);
- oil and water concentrations from cuttings (Annex B);
- drilling fluid activity (Annex C);
- aniline point (Annex D);
- lime, salinity, and solids concentration (Annex E);
- sampling, inspection, and rejection (Annex F);
- rig-site sampling (Annex G);
- cuttings activity (Annex H);
- active sulfide (Annex I);
- calibration and verification of glassware, thermometers, viscometers, retort kit cups, and drilling fluid balances (Annex J);
- high-temperature/high-pressure filtration using the permeability-plugging apparatus (PPA) (Annex K);
- elastomer compatibility (Annex L);
- sand content of oil-based fluid (Annex M);
- identification and monitoring of weight-material sag (Annex N);
- oil-based drilling fluid test report form (Annex O).
5th Edition | April 2014 | Product Number: G13B205 | Price: $222.00

RP 13I
Laboratory Testing of Drilling Fluids
Provides procedures for the laboratory testing of the physical, chemical, and performance properties of both drilling fluid materials and drilling fluid. It is applicable to both water- and oil-based drilling fluids, as well as the base or "make-up" fluid. It is not applicable as a detailed manual on drilling fluid control procedures. Recommendations regarding agitation and testing temperature are presented because the agitation history and temperature have a profound effect on drilling fluid properties. Pages: 93
9th Edition | December 2020 | Product Number: G13J05 | Price: $288.00

RP 13J
Testing of Heavy Brines
Covers the physical properties, potential contaminants, and test procedures for heavy brine fluids manufactured for use in oil and gas well drilling, completion, fracturing, and workover fluids. RP 13J provides methods for assessing the performance and physical characteristics of heavy brines for use in field operations. It includes procedures for evaluating the density or specific gravity, the clarity or amount of particulate matter carried in the brines, the crystallization point or the temperature (both ambient and under pressure) at which the brines make the transition between liquid and solid, the pH, and iron contamination. It also contains a discussion of gas hydrate formation and mitigation, brine viscosity, corrosion testing, buffering capacity, and a standardized reporting form. RP 13J is intended for the use of manufacturers, service companies, and end users of heavy brines. Pages: 76
5th Edition | October 2014 | Product Number: G13J05 | Price: $141.00

RP 13K
Chemical Analysis of Barite
Provides a comprehensive, detailed description of the chemical analytical procedures for quantitatively determining the mineral and chemical constituents of barite. These procedures are quite elaborate and will normally be carried out in a well-equipped laboratory. Pages: 79
4th Edition | April 2022 | Product Number: G13K04 | Price: $130.00

RP 13L
Training and Qualification of Drilling Fluid Technologists
Seeks to formalize the specific knowledge base, professional skills, and application skills needed to ensure the competency and professionalism of individuals working in the drilling fluids industry. Drilling fluid technologists should use this recommended practice (RP) as an outline to self-determine any gaps in learning and seek to improve their skills. A company contracting the service of a drilling fluid technologist should use this RP as a checklist of knowledge that a technologist should be able to demonstrate proficiency in applying. Pages: 36
2nd Edition | November 2017 | Product Number: G13L02 | Price: $94.00

*These translated versions are provided for the convenience of our customers and are not officially endorsed by API. The translated versions shall neither replace nor supersede the English-language versions, which remain the official standards. API shall not be responsible for any discrepancies or interpretations of these translations. Translations may not include any addenda or errata to the document. Please check the English-language versions for any updates to the documents.
RP 13M/ISO 13503-1:2003
Recommended Practice for the Measurement of Viscous Properties of Completion Fluids
(RP 13M replaces RP 39)
Provides consistent methodology for determining the viscosity of completion fluids used in the petroleum and natural gas industries. For certain cases, methods are also provided to determine the rheological properties of a fluid. This edition of RP 13M is the identical national adoption of ISO 13503-1:2003. Pages: 21
1st Edition | July 2004 | Reaffirmed: September 2018
2-Year Extension: June 2015 | Product Number: GX13M01 | Price: $107.00

RP 13M/ISO 13503-1:2003 *
Recommended Practice for the Measurement of Viscous Properties of Completion Fluids—Russian
(RP 13M replaces RP 39)
1st Edition | July 2004 | Product Number: GX13M01R | Price: $107.00

Recommended Practice for Measuring Stimulation and Gravel-Pack Fluid Leakoff Under Static Conditions
Provides for consistent methodology to measure fluid loss of stimulation and gravel-pack fluid under static conditions. However, the procedure in this recommended practice excludes fluids that react with porous media. This edition of RP 13M-4 is the identical national adoption of ISO 13503-4:2006. Pages: 14
Product Number: GG13M41 | Price: $62.00

TR 13M-5
Procedure for Testing and Evaluating the Performance of Friction (Drag) Reducers in Aqueous-based Fluid Flowing in Straight, Smooth Circular Conduits
Provides a consistent methodology to test and evaluate the performance of friction (drag) reducers in straight, smooth circular conduits. This standard includes only smooth-walled tubing and excludes any rough-walled tubing.
Pages: 22
1st Edition | October 2018 | Product Number: G13M501 | Price: $89.00

RP 13M-6/ISO 13503-6:2012
Procedure for Measuring Leakoff of Completion Fluids Under Dynamic Conditions
Provides consistent methodology for measuring the fluid loss of completion fluids under dynamic conditions. This standard is applicable to all completion fluids except those that react with porous media.
This edition of RP 13M-6 is the modified national adoption of ISO 13503-6:2012. Pages: 23
1st Edition | May 2020 | Product Number: G13M601 | Price: $110.00

TR 13TR1
Stress Corrosion Cracking of Corrosion Resistant Alloys in Halide Brines Exposed to Acidic Production Gas
(includes Addendum 1 dated July 2022)
Evaluates the stress corrosion cracking (SCC) risks of a range of corrosion resistant alloys (CRAs) in various halide brine compositions for the case of exposure to acidic production gas (CO₂+H₂S). Also evaluated are SCC risks due to air exposure. However, the testing became focused on a group of martensitic stainless steels alloyed with Ni and Mo, which are collectively referred to as modified 13Cr martensitic stainless steel (SS) or alternatively in some publications as super (S13Cr) martensitic SSs. Most tests evaluated the as-received brine, excluding proprietary additives such as corrosion inhibitor or oxygen scavengers. For completeness and comparison, test results provided by member companies in the API program or in the publications are cited; these test protocols may be different from those in the API test protocols hence, where that occurs, significant differences are noted. Pages: 39

TR 13TR3
Size Measurement of Dry, Granular Drilling Fluid Particulates
Serves as a guide for selection of appropriate techniques to determine the particle size distribution (PSD) of relatively large, dry solid additives for drilling fluids, especially lost circulation materials (LCMs). Detailed procedures for the utilization of any specific PSD method are not included. The technician should refer to and be guided by the measurement equipment manufacturer's instructions.
The particulates range in size from approximately one micron to as much as several millimeters in diameter and are considered “granular” in shape, i.e. relatively isometric (of similar length, width, and height). The recommendations in this technical report generally are not applicable to the measurement of the PSD of non-isometric (high aspect ratio) materials, such as fibers or flakes.
Pages: 32
1st Edition | October 2018 | Product Number: G13TR31 | Price: $103.00

OFFSHORE SAFETY AND ANTIPOLLUTION

Std 2CCU
Offshore Cargo Carrying Units
Defines the design, material, manufacture, inspection, repair, maintenance, and marking requirements for offshore cargo carrying units (CCU) and lifting sets to include dry goods boxes, baskets, and other skids designed to move equipment and goods offshore with maximum gross weight up to 70,000 kg (154,323 lb). Pages: 57
1st Edition | August 2017 | Product Number: G2CCU01 | Price: $114.00

RP 14B
Design, Installation, Operation, Test, and Redress of Subsurface Safety Valve Systems
Establishes requirements and provides guidelines for subsurface safety valve (SSSV) system equipment. This includes requirements for SSSV system design, installation, operation, testing, redress, support activities, documentation, and failure reporting. SSSV system equipment addressed by this document includes control systems, control lines, SSSVs, and secondary tools as defined herein. SSSV types including surface controlled (SCSSV), sub-surface controlled (SCSSV), and sub-surface injection safety valves (SSISVs) are included. Requirements for testing of SSSVs including frequency and acceptance criteria are included. Alternate technology SSSV equipment and systems are included in these requirements.
This document is not applicable to design, qualification, or repair activities for SSSV. This document does not specify when a SSSV is required. Pages: 37
NOTE Spec 14A provides requirements for SSSV equipment design, qualification, and repair.
6th Edition | September 2015 | Product Number: G14B06 | Price: $137.00

*These translated versions are provided for the convenience of our customers and are not officially endorsed by API. The translated versions shall neither replace nor supersede the English-language versions, which remain the official standards. API shall not be responsible for any discrepancies or interpretations of these translations. Translations may not include any addenda or errata to the document. Please check the English-language versions for any updates to the documents.
RP 14C
Analysis, Design, Installation, and Testing of Safety Systems for Offshore Production Facilities
(includes Errata 1 dated May 2018)
Illustrates how system analysis methods can be used to determine safety requirements to protect common process components. This document also includes:
- a method to document and verify process safety system functions (i.e. SAFE chart);
- design guidance for ancillary systems such as pneumatic supply systems and liquid containment systems;
- a uniform method of identifying and symbolizing safety devices;
- procedures for testing common safety devices with recommendations for test data and acceptable test tolerances. Pages: 132
8th Edition | February 2017 | Product Number: G14C08 | Price: $249.00

RP 14E
Recommended Practice for Design and Installation of Offshore Production Platform Piping Systems
Recommends minimum requirements and guidelines for the design and installation of new piping systems on offshore production platforms. Includes general recommendations on design and application of pipe, valves, and fittings for typical processes; general information on installation, quality control, and items related to piping systems such as insulation; and specific recommendations for the design of particular piping systems. Pages: 61
Product Number: G07185 | Price: $161.00

RP 14E *
Recommended Practice for Design and Installation of Offshore Production Platform Piping Systems—Chinese
Chinese translation of RP 14E.
Product Number: 811-07185 CN940 | Price: $161.00

RP 14F
Recommended Practice for Design, Installation, and Maintenance of Electrical Systems for Fixed and Floating Offshore Petroleum Facilities for Unclassified and Class I, Division 1, and Division 2 Locations
Recommends minimum requirements and guidelines for the design, installation, and maintenance of electrical systems on fixed and floating petroleum facilities located offshore. For facilities classified as Zone 0, Zone 1, or Zone 2, reference RP 14FZ. These facilities include drilling, producing, and pipeline transportation facilities associated with oil and gas exploration and production.
This RP is not applicable to Mobile Offshore Drilling Units (MODUs) without production facilities. This document is intended to bring together in one place a brief description of basic desirable electrical practices for offshore electrical systems. The recommended practices contained herein recognize that special electrical considerations exist for offshore petroleum facilities. Pages: 189
6th Edition | October 2018 | Product Number: G14F06 | Price: $171.00

RP 14FZ
Recommended Practice for Design, Installation, and Maintenance of Electrical Systems for Fixed and Floating Offshore Petroleum Facilities for Unclassified and Class I, Zone 0, Zone 1, and Zone 2 Locations
Recommends minimum requirements and guidelines for the design, installation, and maintenance of electrical systems on fixed and floating petroleum facilities located offshore. For facilities classified as Division 1 or Division 2, reference RP 14F. These facilities include drilling, producing, and pipeline transportation facilities associated with oil and gas exploration and production. This recommended practice (RP) is not applicable to Mobile Offshore Drilling Units (MODUs) without production facilities. This document is intended to bring together in one place a brief description of basic desirable electrical practices for offshore electrical systems. The recommended practices contained herein recognize that special electrical considerations exist for offshore petroleum facilities. These include:
- inherent electrical shock possibility presented by the marine environment and steel decks;
- space limitations that require that equipment be installed in or near hazardous (classified) locations;
- corrosive marine environment;
- motion and buoyancy concerns associated with floating facilities.
Pages: 177
2nd Edition | May 2013 | Reaffirmed: April 2020
Product Number: G14FZ02 | Price: $303.00

RP 14G
Recommended Practice for Fire Prevention and Control on Fixed Open-Type Offshore Production Platforms
Presents recommendations for minimizing the likelihood of an accidental fire, and for designing, inspecting, and maintaining fire control systems. It emphasizes the need to train personnel in firefighting, to conduct routine drills, and to establish methods and procedures for safe evacuation. The fire control systems discussed are intended to provide an early response to incipient fires and prevent their growth. Applicable to fixed open-type offshore production platforms that are generally installed in moderate climates and that have sufficient natural ventilation to minimize the accumulation of vapors. Enclosed areas, such as quarters, buildings, and equipment enclosures, normally installed on this type platform, are addressed. Pages: 38
Product Number: G14G04 | Price: $135.00

RP 14J
Recommended Practice for Design and Hazards Analysis for Offshore Production Facilities
Provides useful procedures and guidelines for planning, designing, and arranging offshore production facilities and performing a hazards analysis on open-type offshore production facilities. Discusses several procedures that can be used to perform a hazards analysis, and presents minimum requirements for process safety information and hazards analysis that can be used for satisfying RP 75. Pages: 75
2nd Edition | May 2001 | Reaffirmed: September 2019
Product Number: G14J01 | Price: $128.00

Bull 91
Planning and Conducting Surface Preparation and Coating Operations for Oil and Natural Gas Drilling and Production Facilities in a Marine Environment
Worldwide, marine exploration, production, development, and decommissioning operations are conducted from a variety of structures. These installations must be inspected periodically and maintained in order to assure structural integrity and minimize pollution risks. Maintenance of an offshore structure, regardless of its classification, necessarily includes blasting and coating activities. The purpose of this publication is to establish practices and procedures that should be followed to minimize the discharge of spent blast abrasive, and paint overspray to the surrounding waters during these activities. Pages: 16
1st Edition | June 2007 | Product Number: G09101 | Price: $67.00

*These translated versions are provided for the convenience of our customers and are not officially endorsed by API. The translated versions shall neither replace nor supersedethe English-language versions, which remain the official standards. API shall not be responsible for any discrepancies or interpretations of these translations. Translations may not include any addenda or errata to the document. Please check the English-language versions for any updates to the documents.
Exploration and Production

To purchase individual API standards, visit apiwebstore.org

**FIBERGLASS AND PLASTIC PIPE**

**RP 15CLT**
Recommended Practice for Composite Lined Steel Tubular Goods

Provides guidelines for the design, manufacturing, qualification, and application of composite lined carbon steel downhole tubing in the handling and transport of multiphase fluids, hydrocarbon gases, hydrocarbon liquids, and water. The principles outlined in this RP also apply to line pipe applications. Composite lined tubing typically consists of a fiber reinforced polymer liner within the steel host, providing protection of that steel host from corrosive attack. Both API and premium connections can be employed, typically using corrosive barrier rings to maintain corrosion resistance between ends of adjacent liners. This document contains recommendations on material selection, product qualification, and definition of safety and design factors. Quality control tests, minimum performance requirements are included. The RP applies to composite lined carbon steel for systems up to 10 in. (250 mm) diameter, operating at pressures up to 10,000 psi (69 MPa) and maximum temperatures of 300 °F (150 °C). The principles described in this document can easily be extended to apply to products being developed by manufacturers for application outside this range. Pages: 13

1st Edition | September 2007 | Reaffirmed: October 2018
Product Number: G15CLT1 | Price: $90.00

**Spec 15HR ♦**
High-Pressure Fiberglass Line Pipe

(includes Errata 1 dated August 2016 and Errata 2 dated January 2021)

Formulated to provide for the availability of safe, dimensionally, and functionally inter-changeable high-pressure fiberglass line pipe with a pressure rating from 500 lbf/in.² to 5000 lbf/in.² (3.45 MPa to 34.5 MPa), inclusive, in 250 lbf/in.² (1.72 MPa) increments for pipes ≤ than NPS 12 in. and 100 lbf/in.² (0.69 MPa) increments for pipes > than NPS 12 in. This specification is limited to mechanical connections and the technical content provides requirements for performance, design, materials, tests and inspection, marking, handling, storing, and shipping. Critical components are items of equipment having requirements specified in this document. This specification is applicable to rigid pipe components made from thermosetting resins and reinforced with glass fibers. Typical thermosetting resins are epoxy, polyester, vinyl ester, and phenolic. Thermoplastic resins are excluded from the scope of this specification. Any internal liners applied shall be made also from thermosetting resins. Fiberglass line pipe for use in low-pressure systems are covered in Spec 15LR. This specification covers fiberglass pipe utilized for the production of oil and gas. Specific equipment covered by this specification is high-pressure line pipe and couplings, fittings, flanges, reducers, and adapters. Pages: 42

4th Edition | February 2016 | Effective Date: August 1, 2016
Reaffirmed: April 2021 | Product Number: G15HR4 | Price: $119.00

**Spec 15LE ♦**
Specification for Polyethylene Line Pipe (PE)

Covers polyethylene line pipe (PE) utilized for the production and transportation of oil, gas, mixed-phase fluids, and non-potable water. The piping is intended for use in new construction, insertion renewal, line extension, and repair of both aboveground and buried pipe applications. Pages: 35

5th Edition | September 2022 | Effective Date: March 1, 2023
Product Number: G15LE05 | Price: $110.00

**Spec 15LF**
Layflat Hose Assemblies for the Transport of Water in Oilfield Applications

Provides requirements for the manufacture and qualification of layflat hose assemblies in onshore oilfield water transfer applications. Also included are performance requirements for materials, hose, and couplings. These products consist of single or multiple layers of woven polymeric fibers with a polymeric material that is suitable for onshore oilfield water transfer service. The layflat hose assemblies addressed under this specification are capable of being spooled for storage, transport, and installation by both the original equipment manufacturer and the operator. Pages: 35

1st Edition | May 2021 | Product Number: G15LF1 | Price: $97.00

**Spec 15LR ♦**
Specification for Low Pressure Fiberglass Line Pipe

(includes Errata 1 dated June 2018 and Errata 2 dated April 2021)

Covers filament wound (FW) and centrifugally cast (CC) fiberglass line pipe and fittings for pipe in diameters up to and including 24 in. in diameter and up to and including 1000 psig cyclic operating pressures. In addition, at the manufacturer’s option, the pipe may also be rated for static operating pressures up to 1000 psig. It is recommended that the pipe and fittings be purchased by cyclic pressure rating. The standard pressure ratings range from 150 psig to 300 psig in 50 psig increments, and from 300 psig to 1000 psig in 100 psig increments, based on either cyclic pressure or static pressure. Pages: 25

7th Edition | August 2001 | Effective Date: February 1, 2002
Reaffirmed: October 2018 | Product Number: G15LR7 | Price: $105.00

**Spec 15LR ♦**
Specification for Low Pressure Fiberglass Line Pipe—Chinese

(includes Errata 1 dated June 2018 and Errata 2 dated April 2021)

Chinese translation of Spec 15LR.

7th Edition | August 2001 | Reaffirmed: October 2018
Product Number: G15LR7C | Price: $105.00

**Spec 15PX ♦**
Specification for Crosslinked Polyethylene (PEX) Line Pipe

Covers PEX line pipe used for the production and transportation of oil, gas, and nonpotable water. This specification does not cover pipe for chlorinated water service. The piping is intended for use in new construction, structural pressure-rated liner, line extension, and repair of both aboveground and buried-pipe applications. Equipment covered by this specification is listed as follows: PEX line pipe; fittings; and metallic flange couplers for field installations and PEX face flanges used as internal diameter adapters. Pages: 39

2nd Edition | February 2022 | Product Number: G15PX2 | Price: $108.00

*These translated versions are provided for the convenience of our customers and are not officially endorsed by API. The translated versions shall neither replace nor supersede the English-language versions, which remain the official standards. API shall not be responsible for any discrepancies or interpretations of these translations. Translations may not include any addenda or errata to the document. Please check the English-language versions for any updates to the documents.*
**Exploration and Production**

To purchase individual API standards, visit apiwebstore.org

**Spec 15S**
Spoolable Reinforced Plastic Line Pipe
Provides requirements for the manufacture and qualification of spoolable reinforced plastic line pipe in oilfield and energy applications, including transport of multiphase fluids, hydrocarbon gases, hydrocarbon liquids, oilfield production chemicals, and nonpotable water. Also included are performance requirements for materials, pipe, and fittings. Pages: 56
3rd Edition | April 2022 | Effective Date: October 2022
Product Number: G15S03 | Price: $143.00

**RP 15SA**
Integrity Management of Spoolable Reinforced Line Pipe
For integrity management of an existing API 15S asset including threat identification, identification of potential failure modes, risk assessment, testing requirements, initial and ongoing inspection practices, end-fitting and coupling inspection, potential mitigations, repair, and associated documentation. Pages: 28
1st Edition | February 2022 | Product Number: G15SA01 | Price: $75.00

**Spec 16C**
Choke and Kill Equipment
Defines the requirements for performance, design, materials, testing, inspection, welding, marking, handling, storing, and shipping of equipment repaired or remanufactured per this standard. Pages: 122
4th Edition | April 2017 | Product Number: G16C03 | Price: $186.00

**Spec 16D**
Control Systems for Drilling Well Control Equipment and Control Systems for Diverter Equipment
Establishes design standards for systems used to control blowout preventers (BOPs) and associated valves that control well pressure during drilling operations. The design standards applicable to subsystems and components do not include material selection and manufacturing process details but may serve as an aid to the purchaser. Also, diveters are not considered well control devices, their controls are often incorporated as part of the BOP control system and therefore are included in this specification. The requirements provided in this specification apply to the following control system categories: control systems for surface mounted BOP stacks; control systems for subsea BOP stacks (common elements); discrete hydraulic control systems for subsea BOP stacks; electro-hydraulic/multiplex control systems for subsea BOP stacks; control systems for diverter equipment; auxiliary equipment control systems and interfaces; emergency disconnect sequenced systems; backup systems; special deepwater/harsh environment features. Pages: 144
3rd Edition | November 2018 | Effective Date: May 1, 2019
Product Number: G16D03 | Price: $205.00

**Spec 16AR**
Standard for Repair and Remanufacture of Drill-Through Equipment (includes Errata 1 dated August 2017)
Specifies requirements for repair and remanufacture of drill-through equipment built under API 16A. This standard also applies to repair and remanufacture of drill-through equipment manufactured to API 6A requirements and produced prior to the existence of API 16A. This standard also covers the testing, inspection, welding, marking, certification, handling, storing, and shipping of equipment repaired or remanufactured per this standard. Pages: 104
1st Edition | April 2017 | Product Number: G16AR01 | Price: $170.00

**RP 15TL4**
Recommended Practice for Care and Use of Fiberglass Tubulars
Provides information on packing, transporting, handling, storing, inspecting, and installing fiberglass tubulars in oilfield usage. Trouble-free service and damage of layflat hose assemblies. This document covers the transportation of formation water, injection water, brackish water, fresh water, and saline. The scope of this document excludes the initial and final connections of the layflat hose to the source and receiving points. Pages: 36
3rd Edition | October 2022 | Product Number: G15TL403 | Price: $105.00

**RP 15WT**
Operations for Layflat Hose in Oilfield Water Applications
Provides guidelines and establishes recommended practices for the operation of layflat hose used for the transportation of water associated with onshore upstream oil and gas operations, to prevent damage of layflat hose and damage of layflat hose assemblies. This document covers the transportation of formation water, injection water, brackish water, fresh water, and saline. The scope of this document excludes the initial and final connections of the layflat hose to the source and receiving points. Pages: 36
1st Edition | December 2019
Product Number: G15WT1 | Price: $105.00
Exploration and Production

To purchase individual API standards, visit apiwebstore.org

Spec 16F
Specification for Marine Drilling Riser Equipment
(includes Errata 1 dated February 2019 and Addendum 1 dated January 2021)
Establishes standards of performance and quality for the design, manufacture, and fabrication of marine drilling riser equipment used in conjunction with a subsea blowout preventing (BOP) stack.
This specification applies to all riser system components that are in the primary load path during operation, running, and retrieval, including but not limited to riser couplings, riser main tube, riser adapters, riser external lines when used for load sharing, riser tensioner rings, telescopic joints, flex/ball joints, and special riser joints. Pages: 120
2nd Edition | November 2017 | Product Number: G16F02 | Price: $150.00

Spec 16F *
Specification for Marine Drilling Riser Equipment—Russian
(includes Errata 1 dated February 2019, Addendum 1 dated January 2021, and Addendum 2 dated December 2022)
Russian translation of Spec 16F.
2nd Edition | November 2017 | Product Number: G16F02R | Price: $150.00

Bull 16H
Automated Safety Instrumented Systems for Onshore Blowout Preventer Actuation
Provides a review of the equipment and interfaces to be considered for the automation of a blowout preventer to place the well in a safe state in an onshore environment. It also provides an overview of components that can be considered for future research into developing an automated well control actuation system. These technologies, once fully developed and implemented, can help automate and expand ways to mitigate unexpected events resulting in a loss of primary well control. Pages: 26
1st Edition | February 2022 | Product Number: G16H01 | Price: $75.00

RP 16Q
Design, Selection, Operation and Maintenance of Marine Drilling Riser Systems
Pertains to the design, selection, operation, and maintenance of marine riser systems for floating drilling operations. Its purpose is to serve as a reference for designers, for those who select system components, and for those who use and maintain this equipment. For the purposes of this standard, a marine drilling riser system includes the tensioner system and all equipment between the top connection of the upper flex/ball joint and the bottom connection of the lower flex/ball joint. It specifically excludes the diverter, LMRP BOP stack, and hydraulic connectors. Pages: 90
2nd Edition | April 2017 | Product Number: G16Q02 | Price: $132.00

RP 16Q *
Design, Selection, Operation and Maintenance of Marine Drilling Riser Systems—Russian
Russian translation of RP 16Q.
2nd Edition | April 2017 | Product Number: G16Q02R | Price: $132.00

Spec 16RCD
Specification for Rotating Control Devices
(includes Addendum 1 dated October 2022)
Provides for the availability of safe and functionally interchangeable rotating control devices (RCDs) utilized in air drilling, drilling operations for oil and gas, and in geothermal drilling operations. Technical content provides requirements for design, performance, materials, tests and inspection, welding, marking, handling, storing, and shipping. This specification does not apply to field use or field testing of RCDs. Critical components are those parts having requirements specified in this document. Pages: 57
3rd Edition | June 2022 | Effective Date: December 1, 2022
Product Number: G16RCD03 | Price: $168.00

RP 16ST
Coiled Tubing Well Control Equipment Systems
Addresses coiled tubing well control equipment assembly and operation as it relates to well control practices. This document covers well control equipment assembly and operations used in coiled tubing intervention and coiled tubing drilling/milling applications performed through: tree equipment constructed in accordance with API 6A or API 11IW or both; a surface flow head or surface test tree constructed in accordance with API 6A; a fracture stimulation wellhead assembly (with at least two gate valves installed for isolation); drill pipe or workstrings with connections manufactured in accordance with API 5CT, API 5DP or API 7-1, or a combination thereof. Pages: 131
2nd Edition | February 2021 | Product Number: G16ST02 | Price: $186.00

TR 16TR1
BOP Shear Ram Performance Test Protocol
(includes Errata 1 dated October 2018)
Outlines the standardized test protocol, including data and reporting requirements, for performing sealing and non-sealing blowout preventer (BOP) shear ram performance tests. This protocol determines the parameters that can support field system performance and confidence in successful shearing and sealing. This document is not intended to be used for qualifying BOP shear rams or as a factory acceptance test procedure. Qualification and factory acceptance testing of BOP shear rams is per API 16A. Pages: 30
1st Edition | July 2018 | Product Number: G16TR11 | Price: $105.00

Std 53
Well Control Equipment Systems for Drilling Wells
Provides requirements on the installation and testing of blowout prevention equipment systems on land and marine drilling rigs (barge, platform, bottom-supported, and floating). Blowout preventer equipment systems are comprised of a combination of various components. The following components are required for operation under varying rig and well conditions: blowout preventers (BOPs); choke and kill lines; choke manifolds; control systems; auxiliary equipment. The primary functions of these systems are to confine well fluids to the wellbore, provide means to add fluid to the wellbore, and allow controlled volumes to be withdrawn from the wellbore. Pages: 86
5th Edition | December 2018 | Product Number: G05305 | Price: $164.00

RP 59
Recommended Practice for Well Control Operations
Provides information that can serve as a voluntary industry guide for safe well control operations. This publication is designed to serve as a direct field aid in well control and as a technical source for teaching well control principles. This publication establishes recommended operations to retain pressure control of the well under pre-kick conditions and recommended practices to be utilized during a kick. It serves as a companion to RP 53 and RP 64. Pages: 92
2nd Edition | May 2006 | Reaffirmed: December 2018
Product Number: G59002 | Price: $133.00

*These translated versions are provided for the convenience of our customers and are not officially endorsed by API. The translated versions shall neither replace nor supersedethe English-language versions, which remain the official standards. API shall not be responsible for any discrepancies or interpretations of these translations. Translations may not include any addenda or errata to the document. Please check the English-language versions for any updates to the documents.
RP 59 *
Recommended Practice for Well Control Operations—Kazakh

Kazakh translation of RP 59.
2nd Edition | May 2006 | Reaffirmed: December 2018
Product Number: G59002K | Price: $133.00

RP 59 *
Recommended Practice for Well Control Operations—Russian

Russian translation of RP 59.
2nd Edition | May 2006 | Reaffirmed: December 2018
Product Number: G59002R | Price: $133.00

Std 64
Diverter Equipment Systems
(includes Errata 1 dated March 2018 and Addendum 1 dated December 2018)
Provides information on the design, manufacture, quality control, installation, maintenance, and testing of the diverter system, and associated components. The diverter system provides a flow control system to direct controlled or uncontrolled wellbore fluids away from the immediate drilling area for the safety of personnel and equipment. Pages: 69
3rd Edition | August 2017 | Product Number: G64003 | Price: $149.00

SUBSEA PRODUCTION SYSTEMS

RP 17A ■
Design and Operation of Subsea Production Systems—General Requirements and Recommendations
Provides general requirements and recommendations for the development and operation of subsea production/injection systems, from the concept development phase to decommissioning and abandonment. This document references other API 17-series documents, as well as various relevant industry documents. A complete subsea production/injection system comprises several subsystems necessary to produce hydrocarbons from one or more subsea wells and transfer them to a processing/host facility located offshore (fixed, floating, or subsea) or onshore, or to inject water/gas via subsea facilities and/or wells. Pages: 55
6th Edition | April 2002 | Product Number: G17A06 | Price: $108.00

RP 17B
Recommended Practice for Flexible Pipe
Provides guidelines for the design, analysis, manufacture, testing, installation, and operation of flexible pipes and flexible pipe systems for onshore, subsea, and marine applications. This recommended practice (RP) supplements Specs 17J and 17K, which specify minimum requirements for the design, material selection, manufacture, testing, marking, and packaging of unbonded and bonded flexible pipe, respectively. This RP applies to flexible pipe assemblies, consisting of segments of flexible pipe body with end fittings attached to both ends. Both bonded and unbonded pipe types are covered. In addition, this RP applies to flexible pipe systems, including ancillary components. The applications covered by this RP are sweet- and sour-service production, including export and injection applications. This RP applies to both static and dynamic flexible pipe systems used as flowlines, risers, and jumpers. This RP does cover, in general terms, the use of flexible pipes for offshore loading systems. This RP does not cover flexible pipes for use in choke and kill lines or umbilical and control lines. Pages: 268
5th Edition | May 2014 | Reaffirmed: March 2021
Product Number: G017B05 | Price: $249.00

Spec 17D ●
Specification for Subsea Wellhead and Tree Equipment
(includes Addendum 1 dated December 2022)
Provides specifications for subsea wellheads, mudline wellheads, drill-through mudline wellheads, and both vertical and horizontal subsea trees. It specifies the associated tooling necessary to handle, test, and install the equipment. It also specifies the areas of design, material, welding, quality control [including factory acceptance testing (FAT)], marking, storing, and shipping for individual equipment, subassemblies, and subsea tree assemblies. Pages: 256
3rd Edition | October 2021 | Effective Date: October 2022
Product Number: G17D03 | Price: $222.00

Spec 17E
Specification for Subsea Umbilicals
(includes Addendum 1 dated December 2017)
Specifies requirements and gives recommendations for the design, material selection, manufacture, design verification, testing, installation, and operation of subsea control systems, chemical injection, gas lift, utility and service umbilicals, and associated ancillary equipment for the petroleum and natural gas industries. This also applies to umbilicals containing electrical conductors, optical fibers, thermoplastic hoses, and metallic tubes, either alone or in combination, and applies to umbilicals that are for static or dynamic service, and with routings of surface-surface, surface-subsea, and subsea-subsea. Pages: 178

Spec 17E *
Specification for Subsea Umbilicals—Russian
(includes Addendum 1 dated December 2017)
Russian translation of Spec 17E.

Std 17F
Standard for Subsea Production Control Systems
(includes Errata 1 dated July 2018 and Errata 2 dated May 2019)
Applies to design, fabrication, testing, installation, and operation of subsea production control systems. Covers both static and dynamic subsea production systems for offshore applications. This standard is utilized to control subsea production of oil and gas and for subsea water and gas injection services. Where applicable, this standard may be used for equipment on multiple-well applications. This document establishes design standards for systems, subsystems, components, and operating fluids in order to provide for the safe and functional control of subsea production equipment. It contains various types of information related to subsea production control systems that includes: informative data that provide an overview of the architecture and general functionality of control systems for the purpose of introduction and information; basic prescriptive data that shall be adhered to by all types of control systems; selective prescriptive data that are control-system-type sensitive and shall be adhered to only when they are relevant; and optional data or requirements that need be adopted only when considered necessary either by the purchaser or the vendor.
Rework and repair of used equipment are beyond the scope of this standard. Pages: 239
4th Edition | November 2017 | Product Number: G017F04 | Price: $262.00

*These translated versions are provided for the convenience of our customers and are not officially endorsed by API. The translated versions shall neither replace nor supersede the English-language versions, which remain the official standards. API shall not be responsible for any discrepancies or interpretations of these translations. Translations may not include any addenda or errata to the document. Please check the English-language versions for any updates to the documents.
Exploration and Production

To purchase individual API standards, visit apiwebstore.org

Std 17G  Design and Manufacture of Subsea Well Intervention Equipment
Defines a minimum set of requirements for performance, design, materials, testing and inspection, hot forming, welding, marking, handling, storing, and shipping of new build subsea well intervention equipment (through BOP intervention riser system (TBIRS) and openwater intervention riser system (OWIRS)).

The requirements in this standard apply to equipment whose rated working pressure (RWP) is less than or equal to 103.4 MPa (15,000 psi) or whose rated temperature is less than or equal to 177 °C (350 °F). For equipment ratings that exceed these limits, see API 17TR8.

Structural design methods and criteria given in API 17G are limited to components manufactured from materials that ensure ductile failure modes (e.g., carbon steels, low-alloy steels, and corrosion-resistant alloys). Components manufactured from materials that may not ensure ductile failure modes (e.g., composite materials, titanium, and titanium alloys) are outside the scope of this standard.

The standard covers equipment that is connected to a fluid conduit tieback riser, either inside the marine riser (TBIRS) or open water (OWIRS). Intervention equipment, such as riserless light well intervention systems, downline connected equipment, and remotely operated vehicle (ROV) intervention equipment, are outside the scope of this standard.

Pages: 280


RP 17G1  Configuration and Operation for Subsea Well Intervention Systems
Provides guidance for the selection of a subsea well intervention system, defines minimum requirements of a subsea well intervention system for specific operation(s) and environments to ensure the selected system is fit for purpose. This RP applies to new and existing subsea well intervention systems irrespective of whether the equipment complies with the latest requirements of API 17G. All subsea well intervention systems are covered by this RP and the equipment typically included in (but not limited to) the system is described in the suite of API 17G intervention documents.

Pages: 82

1st Edition | July 2022 | Product Number: G17G01 | Price: $137.00

RP 17G3  Design of Subsea Well Intervention Systems Using Non-Ferrous Alloys
Provides design guidelines for the use of non-ferrous materials in subsea intervention systems and components.

Pages: 29

1st Edition | February 2021 | Product Number: G17G03 | Price: $93.00

RP 17G5  Subsea Intervention Workover Control Systems
Provides the requirements for the design, manufacture, and testing of intervention workover control system (IWOCs) equipment typically used in a thru-blowout preventer intervention riser system and an open-water intervention riser system.

Some requirements in this document are specific to the execution of end user-defined safety functions. This document defines “safety class control functions” used to operate safety class devices. This document provides guidance on the determination of safety class control functions based on the end user-provided safety functions.

Pages: 42

1st Edition | November 2019 | Product Number: G17G05 | Price: $86.00

RP 17H  Remotely Operated Tools and Interfaces on Subsea Production Systems
Provides functional requirements and guidelines for ROV/ROT/AUV interfaces in subsea production fields for the petroleum and natural gas industries. It is applicable to both the selection and use of ROV/ROT/AUV interfaces related to subsea production equipment and provides guidance on design as well as the operational requirements for maximizing the potential of standardized equipment and design principles. This recommended practice (RP) identifies the issues to be considered when designing for ROV/ROT/AUV operations to interact with (or near) subsea production systems. The framework and specifications set out enables the user (whether they may be on the ROV/ROT/AUV side or production facility side) to design the appropriate interface for a specific application. These interfaces include subsea docking, recharging, data transfer, data harvesting, and mechanical intervention.

Pages: 112

3rd Edition | July 2019 | Product Number: G17H03 | Price: $160.00

Spec 17J  Specification for Unbonded Flexible Pipe
Includes Errata 1 dated September 2016, Errata 2 dated May 2017, and Addendum 1 dated October 2017

Defines the technical requirements for safe, dimensionally and functionally interchangeable flexible pipes that are designed and manufactured to uniform standards and criteria. Minimum requirements are specified for the design, material selection, manufacture, testing, marking, and packaging of flexible pipes, with reference to existing codes and standards where applicable. See RP 17B for guidelines on the use of flexible pipes and ancillary components. This specification applies to unbonded flexible pipe assemblies, consisting of segments of flexible pipe body with end fittings attached to both ends. This specification does not cover flexible pipes of bonded structure. This specification does not apply to flexible pipe ancillary components. Guidelines for bend stiffeners and bend restrictors are given in Annex B. This specification does not apply to flexible pipes that include non-metallic tensile armour wires. Pipes of such construction are considered as prototype products subject to qualification testing. The applications addressed by this document are sweet and sour service production, including export and injection applications. Production products include oil, gas, water, and injection chemicals. This specification applies to both static and dynamic flexible pipes used as flowlines, risers, and jumpers. This specification does not apply to flexible pipes for use in choke-and-kill line applications.

Pages: 90

4th Edition | May 2014 | Effective Date: November 1, 2014
Reaffirmed: March 2021 | Product Number: G017J04 | Price: $146.00

Spec 17K  Specification for Bonded Flexible Pipe
Includes Errata 1 dated January 2011 and Errata 2 dated October 2017

Defines the technical requirements for safe, dimensionally and functionally interchangeable bonded flexible pipes that are designed and manufactured to uniform standards and criteria. Minimum requirements are specified for the design, material selection, manufacture, testing, marking, and packaging of bonded flexible pipes, with reference to existing codes and standards where applicable. This document applies to bonded flexible pipe assemblies, consisting of segments of flexible pipe body with end fittings attached to both ends. It does not cover flexible pipes of unbonded structure or to flexible pipe ancillary components. This document can be applied to flexible pipes that include non-metallic reinforcing layers, though no effort was made to address the specific and unique technological aspects of this product.

Pages: 96

3rd Edition | August 2017 | Reaffirmed: January 2022
Product Number: G17K03 | Price: $147.00

This publication is a new entry in this catalog.  ◆ This publication is related to an API licensing, certification, or accreditation program.
Spec 17L1
Specification for Ancillary Equipment for Flexible Pipes and Subsea Umbilicals

Defines the technical requirements for safe, dimensionally and functionally interchangeable ancillary equipment that is designed and manufactured to uniform standards and criteria. Minimum requirements are specified for the design, material selection, manufacture, testing, documentation, marking, and packaging of ancillary equipment used in flexible pipe systems and subsea umbilical systems, with reference to existing codes and standards where applicable. See API 17L2 for guidelines on the use of ancillary equipment. Pages: 326

2nd Edition | June 2021 | Product Number: G17L102 | Price: $203.00

RP 17L2
Recommended Practice for Ancillary Equipment for Flexible Pipes and Subsea Umbilicals

Provides guidelines for the design, materials selection, analysis, testing, manufacture, handling, transportation, installation, and integrity management of ancillary equipment for flexible pipes and umbilicals. It presents the current best practice for design and procurement of ancillary equipment, and gives guidance on the implementation of the specification for standard ancillary products. In addition, this document presents guidelines on the qualification of prototype products. Pages: 285

2nd Edition | June 2021 | Product Number: G17L202 | Price: $203.00

RP 17N
Recommended Practice on Subsea Production System Reliability, Technical Risk, and Integrity Management (includes Addendum 1 dated May 2018)

Provides a structured approach that organizations can adopt to manage uncertainty throughout the life of a project. This may range from the management of general project risk through to the identification and removal of potential failure modes in particular equipment. This recommended practice aims to provide operators, contractors, and suppliers with guidance in the application of reliability techniques to subsea projects within their scope of work and supply only. It is applicable to standard and nonstandard equipment, and all phases of projects, from feasibility studies to operation. It does not prescribe the use of any specific equipment or limit the use of any existing installed equipment or recommend any action, beyond good engineering practice, where current reliability is judged to be acceptable. It is also not intended to replace individual company processes, procedures, document nomenclature, or numbering; it is a guide. However, this recommended practice may be used to enhance existing processes, if deemed appropriate.

Most organizations will find much that is familiar and recognized as good practice. Some annex sections may only be of interest to a reliability specialist. The basic approach, however, is simple and consistent, and when applied correctly, has the potential to greatly reduce the financial risk of designing, manufacturing, installing, and operating subsea equipment.

Pages: 178

2nd Edition | June 2017 | Product Number: G17N02 | Price: $193.00

RP 17N *
Recommended Practice on Subsea Production System Reliability, Technical Risk, and Integrity Management—Russian (includes Addendum 1 dated May 2018)

Russian translation of RP 17N.

2nd Edition | June 2017 | Product Number: G17N02R | Price: $193.00

RP 17O
Recommended Practice for Subsea High Integrity Pressure Protection Systems (HIPPS)

Addresses the requirements for the use of high integrity pressure protection systems (HIPPS) for subsea applications. RP 14C, IEC 61508, and IEC 61511 specify the requirements for onshore, topsides, and subsea safety instrumented systems (SIS) and are applicable to HIPPS, which are designed to autonomously isolate downstream facilities from overpressure situations. This document integrates these requirements to address the specific needs of subsea production. These requirements cover the HIPPS pressure sensors, logic solver, shutdown valves, and ancillary devices including testing, communications, and monitoring subsystems. Pages: 45


RP 17P
Recommended Practice for Subsea Structures and Manifolds

Addresses specific requirements and recommendations for subsea structures and manifolds, within the frameworks set forth by recognized and accepted industry specifications and standards. As such, it does not supersede or eliminate any requirement imposed by any other industry specification.

This recommended practice (RP) covers subsea manifolds and templates used for pressure control in both subsea production of oil and gas, and subsea injection services. Equipment within the scope of this RP includes production and injection manifolds; modular and integrated single satellite and multirecipient systems; subsea processing and subsea boosting stations; flowline riser bases and export riser bases (FRB, ERB); pipeline end manifolds (PEM); pipeline end terminations (PLET); T- and Y-connections; subsea isolation valve structures (SSIV); subsea controls and distribution structures; and associated protection structures. Pages: 76

2nd Edition | January 2019 | Product Number: G17P02 | Price: $150.00

RP 17Q
Recommended Practice on Subsea Equipment Qualification

Provides suppliers, contractors, and operators with process-level guidance to qualify equipment intended for use in subsea applications. This document is intended to provide high-level guidance only, so that the petroleum and natural gas industry has a common set of principles to follow for equipment qualification. It is written to simplify the qualification process and to align associated expectations with individual organizations and within the industry. It is not intended to replace existing company processes or procedures. The application of this recommended practice is dependent on the stakeholder companies (qualifier and end user) accepting its use. Although developed for application to subsea equipment, the process described by the recommended practice can be applied to non-subsea equipment as well. Pages: 54

2nd Edition | May 2018 | Product Number: G17Q02 | Price: $145.00

RP 17R
Recommended Practice for Flowline Connectors and Jumpers

Addresses specific requirements and recommendations for subsea flowline connectors and jumpers within the frameworks set forth by recognized and accepted industry specifications and standards. As such, it does not supersede or eliminate any requirement imposed by any other industry specification. This RP covers subsea flowline connectors and jumpers used for pressure containment in both subsea production of oil and gas, and subsea injection services. Pages: 68

2nd Edition | December 2022 | Product Number: G17R02 | Price: $131.00
processes by which the critical material properties, both static and dynamic, systems:

barrier using a wellhead with penetrations is approximately 2.5 times that of a system without penetrations. These are most relevant to high temperature applications. Only thermoplastic materials are considered for the internal pressure sheath. Elastomeric materials, which are used in bonded flexible pipes, are not considered in this document. Pages: 47

TR 17TR1

Evaluation Standard for Internal Pressure Sheath Polymers for High Temperature Flexible Pipes

Defines the methodology and test procedures necessary for the evaluation of polymeric materials suitable for use as the internal pressure sheath of an unbonded flexible pipe in high temperature applications. It describes the processes by which the critical material properties, both static and dynamic, can be measured and evaluated against relevant performance criteria. This document relates primarily to the properties necessary for an internal pressure sheath required for oil and gas production. These are most relevant to high temperature applications. Only thermoplastic materials are considered for the internal pressure sheath. Elastomeric materials, which are used in bonded flexible pipes, are not considered in this document. Pages: 47

1st Edition | March 2003 | Product Number: G17TR11 | Price: $143.00

TR 17TR2

The Aging of PA-11 In Flexible Pipes

Provides comprehensive guidance on materials and pipe issues regarding the use and operation of PA-11 in flexible pipe applications and concentrates on the use of PA-11 in the internal sheath of flexible pipes. The collective goal of this document is to prevent failure of the internal pressure sheath, as a result of aging and associated loss of mechanical properties, by determining and disseminating the necessary scientific and practical information. Pages: 31

1st Edition | March 2003 | Product Number: G17TR11R | Price: $143.00

TR 17TR3

An Evaluation of the Risks and Benefits of Penetrations in Subsea Wellheads Below the BOP Stack

Provides an evaluation of the risks and benefits of allowing penetrations in subsea wellheads below the blowout preventer (BOP) stack so annuli other than the production tubing (commonly referred to as the "A" annulus) could be monitored. Current industry standards (Spec 17D and ISO 13686-4) for the design of subsea wellheads prohibit penetrations below the (BOP) stack. In contrast, U.S. regulations (30 CFR 250.517) require that all annuli be monitored for sustained casing pressure and that every occurrence of sustained casing pressure be reported immediately. The study concludes that the risks outweigh the benefits since the risk of maintaining the pressure barrier using a wellhead with penetrations is approximately 2.5 times that of a system without penetrations.

The scope of this study is limited to completed subsea wells in the Gulf of Mexico (GOM). The risks were evaluated using fault tree analysis for three systems:

• wellhead system without penetrations,
• wellhead system with one penetration, and
• wellhead system with two penetrations. Pages: 123

1st Edition | November 2004 | Product Number: G17TR31 | Price: $143.00

TR 17TR4

Subsea Equipment Pressure Ratings

The impact of operation in deep water on the pressure rating of equipment is a special concern. The objective of this document is to foster a better understanding of the effects of simultaneous internal and external pressures on the internal pressure rating of well control equipment. Pages: 12

2nd Edition | May 2016 | Product Number: G17TR402 | Price: $71.00

TR 17TR4 *

Subsea Equipment Pressure Ratings—Russian

Russian translation of TR 17TR4.

2nd Edition | May 2016 | Product Number: G17TR402R | Price: $71.00

TR 17TR5

Avoidance of Blockages in Subsea Production Control and Chemical Injection Systems

Addresses the avoidance of blockages in subsea production control and chemical injection systems (CSIs). It includes requirements and gives recommendations for the design and operation of subsea production systems (SPSs) with the aim of preventing blockages in control and production chemical fluid (PCF) conduits and associated connectors/fittings. In the context of design, this covers not only installed subsea hardware (trees, manifolds, etc.) and the connecting linkages (jumper arrangements, umbilical systems, etc.) but also the fluids to be conveyed, initially from the fluid manufacturers' facilities through to bunkering at the host facility and, ultimately, injection or usage at remote subsea locations.

The document also addresses the issues of topside equipment that provide the control and chemical injection (CI) services necessary for the operation and performance of a SPS. Pages: 44

1st Edition | March 2012 | Product Number: G17TR501 | Price: $107.00

TR 17TR6

Attributes of Production Chemicals in Subsea Production Systems

Identifies and specifies the essential attributes of production chemicals intended to be introduced to subsea oil and gas production systems. The document is intended for use by chemical suppliers to facilitate the provision of chemicals compatible with existing and intended subsea production systems (SPS) although it is envisaged that use of the document for specification purposes by the operators of such processes will assist in ensuring the completeness of requests to supply.

This document specifies parameters that address manufacture, storage, and transportation of the production chemical, as well as its deployment using the SPS chemical injection system. The document provides for two approaches, requiring that parameters be either:

• measured and reconciled with SPS design and operation, or
• meet, or exceed, acceptance criteria specified, either in this document or by manufacturers of production chemicals or equipment used to deliver production chemicals.

This document is intended to be applicable to all subsea developments, irrespective of whether the development is in shallow or deep water. Pages: 42

1st Edition | March 2012 | Product Number: G17TR601 | Price: $107.00

*These translated versions are provided for the convenience of our customers and are not officially endorsed by API. The translated versions shall neither replace nor supersede the English-language versions, which remain the official standards. API shall not be responsible for any discrepancies or interpretations of these translations. Translations may not include any addenda or errata to the document. Please check the English-language versions for any updates to the documents.
TR 17TR7
Verification and Validation of Subsea Connectors

Provides requirements and recommendations for the verification and validation of subsea connectors. It is intended to serve as a common reference for designers, manufactures, and users to improve the performance assessment of subsea connectors and to improve the reliability and integrity of subsea systems.

This technical report is applicable to subsea connectors along the vertical centerline of subsea hardware (i.e. tree, tubing head, tree cap, tree running tool, well control package connectors, and EDP connectors), the subsea wellhead, and the completion/workover riser. The methodology provided herein may also be used in other connector designs. Connectors outboard of the vertical centerline are addressed in API 17R.

1st Edition | April 2017 | Product Number: G17TR71 | Price: $93.00

TR 17TR8
High-Pressure High-Temperature Design Guidelines

Provides design guidelines for oil and gas subsea equipment utilized in high-pressure high-temperature (HPHT) environments. For the purpose of the technical report, HPHT environments are intended to be one or a combination of the following well conditions: 1) the completion of the well requires completion equipment or well control equipment assigned a pressure rating greater than 15,000 psia (15 ksi, 103.5 MPa) or a temperature rating greater than 350 °F (177 °C); 2) the maximum anticipated surface pressure including shut-in tubing pressure is greater than 15,000 psia (15 ksi, 103.5 MPa) on the seafloor for a well with a subsea wellhead or at the surface for a well with a surface wellhead; or 3) the flowing temperature is greater than 350 °F (177 °C) on the seafloor for a well with a subsea wellhead or at the surface for a well with a surface wellhead.

Pages: 28

TR 17TR9
Umbilical Termination Assembly (UTA) Selection and Sizing Recommendations

identifies and describes:
- technical, commercial, and installation risks associated with high-functionality umbilicals and umbilical terminations (resulting in large and heavy umbilical termination assemblies (UTAs)), especially with respect to installation;
- implications of decisions made early in the umbilical and subsea umbilical termination (SUT) planning, selection, and design phases, to ease the manufacturing, handling, and final umbilical/UTA installation;
- guidance on specification and sizing of umbilical terminations, including overall size, weight, and handling requirements.

This document acts as a reference guide during the early field development planning stage to ensure that due consideration is given to the implications of the size of UTAs and possible consequences during installation. It is intended to be used as a reference guide by end users and operators, UTA and umbilical manufactures, installers, and front-end engineering design (FEED) companies. The intention is that the document will enable the currently inherent installation difficulties to be addressed up front by the UTA designers, prior to commencing SUT design and functionality definition. It is also intended to be used as a reference document to enable reviews to be undertaken to ensure that installation risk has been properly considered as part of SUT design and operations reviews on a case-by-case basis.

Pages: 53

1st Edition | August 2017 | Product Number: G17TR91 | Price: $113.00

TR 17TR10
Subsea Umbilical Termination (SUT) Design Recommendations

Provides best practice technical guidance for subsea umbilical design (SUT) design, in order to aid in making informed choices during the design phase. This document was generated in response to the increasing difficulties in installation of high-functionality SUTs, due to their increasing size.

This document is intended to be used as a reference guide by operators, umbilical termination assembly (UTA) and umbilical specifiers, installers, and front-end engineering design (FEED) companies. It is also intended to be used as a reference document to enable reviews to be undertaken to ensure that installation risk has been properly considered as part of SUT design and operation reviews.

Additionally, the document has been designed to be educational such that persons new to the industry, or, less experienced persons within the industry, can understand the implications of UTA design on installation feasibility.

This document aims at capturing the primary aspects impacting on the overall dimensions and weight of the UTA, and highlighting the consequences of design choices.

This document excludes multibore hub connection-type (MHC) UTAs that can connect the umbilical directly to other subsea hardware. Although MHC UTAs are out of scope, many of the guidelines in this document would apply.

Pages: 66

1st Edition | December 2015 | Product Number: G17TR101 | Price: $113.00

TR 17TR11
Pressure Effects on Subsea Hardware During Flowline Pressure Testing in Deep Water

Provides guidance to the industry on allowable pressure loading of subsea hardware components that can occur during hydrotesting of subsea flowlines and risers and during pre-commissioning leak testing of these systems. There are potential problems with confusion arising from high hydrostatic pressure in deep water, partially due to the variety of applicable test specifications and partly from the inconsistent use of a variety of acronyms for pressure terminology.

Pages: 11

1st Edition | September 2015 | Product Number: G17TR111 | Price: $87.00

TR 17TR12
Consideration of External Pressure in the Design and Pressure Rating of Subsea Equipment

Addresses issues related to the effects of external pressure acting on subsea equipment installed in deepwater for containing or controlling wellbore fluids. External pressure at deepwater can significantly reduce the differential pressure acting on the wall of subsea equipment; therefore, this can improve its internal pressure containment capability. External pressure is typically ambient seawater pressure, but in some cases, external pressure may be due to the hydrostatic head of drilling mud, completion fluids, or other fluids contained within risers or other conduits that connect the subsea equipment to surface facilities.

This document provides guidance for subsea equipment designers/manufacturers to properly account for external pressure (or in some cases, differential pressure) when designing and validating subsea equipment. Additionally, this technical report provides guidance to equipment purchaser/end-user to appropriately select rated equipment for their subsea systems with consideration to the effects of external pressure in addition to internal pressure, including differential pressure across a closure mechanism, and other applied mechanical or structural loads under all potential operating scenarios and functionality criteria.

It is necessary that users of this technical report be aware of regulations from jurisdictional authority that may impose additional or different requirements to the consideration of external pressure or differential pressure in equipment designs.

Pages: 28

1st Edition | March 2015 | Product Number: G17TR121 | Price: $103.00
Exploration and Production

To purchase individual API standards, visit apiwebstore.org

TR 17TR13
General Overview of Subsea Production Systems

Subsea production systems can range in complexity from a single satellite well with a flowline linked to a fixed platform to several wells on a template producing and transferring via subsea processing facilities to a fixed or floating facility or directly to an onshore installation. The objectives of this document are to describe typical examples of the various subsystems and components that can be combined, in a variety of ways, to form complete subsea production systems; to describe the interfaces with typical downhole and topside equipment that are relevant to subsea production systems; and to provide some basic design guidance on various aspects of subsea production systems. Pages: 100

1st Edition | March 2016 | Product Number: G17TR131 | Price: $131.00

TR 17TR16
Subsea Hydrocarbon Production Leak Detection Systems Using Process Data

Provides considerations and recommendations for design, operation, maintenance, and training related to leak detection on multiphase subsea production gathering systems and gas injection systems. The scope is limited to methods using internal process sensors to detect leaks that are identifiable from process data. This report does not cover leak detection for umbilical systems, subsea trees (upstream of subsea choke), well downhole tubing, water injection systems, and export pipelines. Pages: 31

1st Edition | December 2022
Product Number: G17TR1601 | Price: $97.00

RP 17U
Recommended Practice for Wet and Dry Thermal Insulation of Subsea Flowlines and Equipment

Provides guidance for the performance, qualification, application, quality control, handling, and storage requirements of wet and dry thermal insulation for subsea applications in the petroleum and gas industries. This guideline also covers the inspection of the insulation, and the repair of insulation defects. For flowlines, the installation method is not defined and may be either S-lay, J-lay, or reel-lay. This guideline is intended to cover all three installation methods. This guideline also takes into consideration the design and structural handling of subsea trees, manifolds, pipeline end terminations (PLETs), flowline jumpers, etc., as it pertains to the placement of structure, sacrificial anodes, handling appurtenances, etc., to ensure the integrity of the insulation's construction.

This recommended practice is applicable to the following systems and components:
- flowlines and risers;
- christmas tree, valve block, and piping;
- manifold valves and pipework;
- PLET piping;
- jumpers (i.e. piping and bends);
- connectors and fittings;
- valves and chokes.

Pages: 24

1st Edition | February 2015 | Reaffirmed: July 2020
Product Number: G17U01 | Price: $81.00

RP 17V
Recommended Practice for Analysis, Design, Installation, and Testing of Safety Systems for Subsea Applications

Presents recommendations for designing, installing, and testing a process safety system for subsea applications. The basic concepts of subsea safety systems are discussed and protection methods and requirements of the system are outlined. For the purposes of this document, "subsea system" includes all process components from the wellhead (and surface controlled subsurface safety valve [SCSSV]) to upstream of the boarding shutdown valve. For gas injection, water injection, and gas lift systems, the shutdown valve is within the scope of this document.

This document is a companion document to API 14C, which provides guidance for topsides safety systems on offshore production facilities. Some sections of this document refer to API 14C for safety system methodology and processes. This recommended practice illustrates how system analysis methods can be used to determine safety requirements to protect any process component. Actual analyses of the principal components are developed in such a manner that the requirements determined will be applicable whenever the component is used in the process. The safety requirements of the individual process components may then be integrated into a complete subsea safety system. The analysis procedures include a method to document and verify system integrity. The uniform method of identifying and symbolizing safety devices is presented in API 14C and adopted in this recommended practice. Pages: 63

1st Edition | February 2015 | Reaffirmed: June 2020
Product Number: G17V01 | Price: $152.00

RP 17V *
Recommended Practice for Analysis, Design, Installation, and Testing of Safety Systems for Subsea Applications—Russian

(includes Errata 1 dated July 2015)

Russian translation of RP 17V.

1st Edition | February 2015 | Product Number: G17V01R | Price: $152.00

RP 17W
Recommended Practice for Subsea Capping Stacks

Contains subsea capping stack recommended practices for designing, building, and using, as well as maintaining and testing during storage. This document focuses on recommended design parameters for subsea capping stacks; guidelines for subsea capping stack operations; and guidelines for storing, preserving, maintaining, and testing a subsea capping stack. Pages: 69

2nd Edition | March 2021 | Product Number: G17W02 | Price: $136.00

RP 17X
Recommended Practice for Subsea Pump Module Systems

Provides guidance for the design, manufacture, installation, and operation of subsea pumps, including rotary displacement and rotodynamic types for single phase, and multi-phase services. The recommended practice applies to all subsea pump modules placed at or above the mud line. This document describes subsea pump modules that are either directly designed or "marinized" for use in a offshore/marine environment. Potential applications include offshore use near subsea wells to boost production and enhance oil recovery (EOR) from partially depleted oil fields, or to boost flowline pressures to flow at higher rates or greater distances or when flowing subsea wells up to a surface facility. Pages: 80

1st Edition | February 2021 | Product Number: G17X01 | Price: $104.00

RP 17Y
Recommended Practice for Design, Testing, and Qualification of Subsea Chemical Injection Delivery Systems

Covers the design, specification, testing, qualification, installation, commissioning, and operation of subsea chemical injection delivery systems (excluding workover and subsurface equipment). It covers subsea chemical injection delivery systems from the chemical storage tank located on a host facility (onshore or offshore) to injection points subsea with a holistic approach. It discusses interfaces between topsides, subsea, and subsurface scopes, as well as between engineering, mechanical equipment, and controls. Pages: 62

1st Edition | April 2022 | Product Number: G17Y01 | Price: $104.00

*These translated versions are provided for the convenience of our customers and are not officially endorsed by API. The translated versions shall neither replace nor supersede the English-language versions, which remain the official standards. API shall not be responsible for any discrepancies or interpretations of these translations. Translations may not include any addenda or errata to the document. Please check the English-language versions for any updates to the documents.
**Exploration and Production**

To purchase individual API standards, visit apiwebstore.org

---

**COMPLETION EQUIPMENT**

**Spec 11D1**

Packers and Bridge Plugs  
(includes Addendum 1 dated April 2022)

Provides requirements and guidelines for packers and bridge plugs as defined herein for use in the petroleum and natural gas industry. This specification provides requirements for the functional specification and technical specification, including design, design verification and validation, materials, documentation and data control, repair, shipment, and storage. Pages: 82


**Spec 14A**

Specification for Subsurface Safety Valve Equipment  
(includes Errata 1 dated July 2015 and Addendum 1 dated June 2017)

Provides the requirements for subsurface safety valves (SSSVs), and the secondary tools as defined herein necessary to operate the features included within them, including all components that establish tolerances and/or clearances that may affect performance or interchangeability of the SSSV components. It includes repair operations and the interface connections to control conduits and/or other equipment, but does not cover the connections to the primary well conduit. Pages: 140

Reaffirmed: July 2020 | Product Number: G14A12 | Price: $244.00

**Spec 14L**

Lock Mandrels and Landing Nipples

Provides the requirements for lock mandrels and landing nipples within the production/injection conduit for the installation of flow control or other equipment used in the petroleum and natural gas industries. It includes the interface connections to the flow control or other equipment, but does not cover the connections to the well conduit. Pages: 59

3rd Edition | June 2020 | Product Number: G14L03 | Price: $143.00

**Spec 19AC/ISO 14998:2013**

Specification for Completion Accessories

Provides requirements and guidelines for completion accessories, as defined herein, for use in the petroleum and natural gas industry. This international standard provides requirements for the functional specification and technical specifications, including design, design verification and validation, materials, documentation and data control, quality requirements, redress, repair, shipment, and storage. This international standard covers the pressure-containing, nonpressure-containing, load-bearing, disconnect/reconnect, tubing-movement, and opening-a-port functionalities of completion accessories. Products covered under another API or international specification are not included. Also not included are other products such as liner/tubing hangers, downhole well test tools, inflow control devices, surface-controlled downhole chokes, downhole artificial lift equipment, control lines and fittings, and all functionalities relating to electronics or fiber optics. This international standard does not cover the connections to the well conduit. Installation, application, and operation of these products are outside the scope of this international standard.

This edition of Spec 19AC is the modified national adoption of ISO 14998:2013. Pages: 63

1st Edition | September 2016 | Reaffirmed: February 2022  
Product Number: G19AC01 | Price: $121.00

**RP 19B**

Evaluation of Well Perforators

Describes standard procedures for evaluating the performance of perforating equipment so that representations of this performance may be made to the industry under a standard practice. The purpose of this recommended practice is to specify the materials and methods used to evaluate objectively the performance of perforating systems or perforators. Pages: 78

3rd Edition | July 2021 | Product Number: G019B3 | Price: $153.00

**Std 19C**

Measurement of and Specifications for Proppants Used in Hydraulic Fracturing and Gravel-Packing Operations

Provides standard testing procedures for evaluating proppants used in hydraulic fracturing and gravel-packing operations. The objective of this standard is to provide a consistent methodology for testing performed on hydraulic fracturing and/or gravel-packing proppants. These procedures have been developed to improve the quality of proppants delivered to the well site. They are for use in evaluating certain physical properties used in hydraulic fracturing and gravel-packing operations. Pages: 57

2nd Edition | August 2018 | Product Number: G19C02 | Price: $122.00

**Std 19C**

Measurement of and Specifications for Proppants Used in Hydraulic Fracturing and Gravel-Packing Operations—Russian

Russian translation of Std 19C.

2nd Edition | August 2018 | Product Number: G19C02R | Price: $122.00

**Spec 19CI**

Downhole Chemical Injection Devices and Related Equipment

Provides requirements for chemical injection devices intended for use in the worldwide petroleum and natural gas industry. This includes requirements for specifying, selecting, design verification, validation testing, manufacturing, quality control, testing, and preparation for shipping of chemical injection devices. These requirements include in-line debris screen systems, single-use shearable/fragmentable devices, and information on performance testing and calibration procedures. The installation and retrieval of chemical injection devices and systems is outside the scope of this document (see API 19G2 and API 19G3). Pages: 118

1st Edition | June 2019 | Product Number: G19CI01 | Price: $162.00

**RP 19D**

Measuring Conductivity of Proppants

Provides recommended testing procedures for evaluating proppants used in hydraulic fracturing and gravel-packing operations. The objective of the document is to provide consistent methodology for testing procedures used to measure performance of hydraulic-fracturing and/or gravel-packing proppants. The testing procedures in this document are not designed to provide values of proppant conductivity under downhole reservoir conditions. Long-term test data have shown that time, elevated temperatures, fracturing fluid residues, cyclic stress loading, embedment, formation fines and other factors further reduce fracture proppant pack conductivity. Pages: 45

2nd Edition | November 2021 | Product Number: G19D02 | Price: $128.00

---

*These translated versions are provided for the convenience of our customers and are not officially endorsed by API. The translated versions shall neither replace nor supersede the English-language versions, which remain the official standards. API shall not be responsible for any discrepancies or interpretations of these translations. Translations may not include any addenda or errata to the document. Please check the English-language versions for any updates to the documents.*
**Spec 19G1**
Side-Pocket Mandrels

Provides requirements for side-pocket mandrels used in the petroleum and natural gas industry. It covers specifying, selecting, designing, manufacturing, quality control, testing, and preparation for shipping of side-pocket mandrels.

This specification addresses standard side-pocket mandrel designs, as well as high-pressure and/or high-temperature (HPHT) equipment rated greater than 103.43 MPa (15,000 psi) and/or greater than 177 °C (350 °F) wellbore conditions as proffered by API 1PER15K-1. Pages: 62

**2nd Edition | September 2020**
Product Number: GX19G22 | Price: $185.00

**Spec 19G2**
Flow-Control Devices for Side-Pocket Mandrels

Provides requirements for subsurface flow-control devices used in side-pocket mandrels (hereafter called flow-control devices) intended for use in the worldwide petroleum and natural gas industry. This includes requirements for specifying, selecting, designing, manufacturing, quality-control, testing, and preparation for shipping of flow-control devices. Additionally, it includes information regarding performance testing and calibration procedures.

The installation and retrieval of flow-control devices is outside the scope of Spec 19G2. Additionally, Spec 19G2 is not applicable to flow-control devices used in center-set mandrels or with tubing-retrievable applications.

Spec 19G2 does not include requirements for side-pocket mandrels, running, pulling, and kick-over tools, and latches that might or might not be covered in other API/ISO specifications. Reconditioning of used flow-control devices is outside of the scope of Spec 19G2. Pages: 116

**2nd Edition | September 2020**
Product Number: GX19G22 | Price: $185.00

**Spec 19G3/ISO 17078-3:2009**
Running Tools, Pulling Tools and Kick-Over Tools and Latches for Side-Pocket Mandrels

Provides requirements and guidelines for running tools, pulling tools, kick-over tools, and latches used for the installation and retrieval of flow control and other devices to be installed in side-pocket mandrels for use in the petroleum and natural gas industries. This includes requirements for specifying, selecting, designing, manufacturing, quality control, testing, and preparation for shipping of these tools and latches. Additionally, it includes information regarding performance testing and calibration procedures.

The processes of installation, retrieval, maintenance, and reconditioning of used running, pulling, and kick-over tools and latches are outside the scope of Spec 19G3. Center-set and tubing retrievable mandrel applications are not covered.

This edition of Spec 19G3 is the identical national adoption of ISO 17078-3:2009. Pages: 43

**1st Edition | June 2011**
Product Number: G19G301
Reaffirmed: September 2022 | Price: $157.00

**RP 19GLHB**
Gas Lift Handbook

Provides information on the following topics related to gas lift equipment: the basic principles of gas lift; gas lift equipment selection; how various types of gas lift equipment work; and how a gas lift system should be designed. Information is also included on monitoring, adjusting, regulating, and troubleshooting gas lift equipment. It is intended to familiarize operating personnel with the use of gas lift as an artificial lift system. Pages: 285

**1st Edition | June 2020**
Product Number: G19GLHB01 | Price: $167.00

**Spec 19ICD**
Inflow Control Devices

Provides requirements and guidelines for inflow control devices (ICDs) for both production and injection, as defined herein, for use in the petroleum and natural gas industry. This specification provides requirements for the functional specification and technical specification, including design, design verification and validation, materials, documentation and data control, and quality requirements. Products covered by any other API specification, such as sand screens and sliding sleeves, are not included. Also not included are externally controlled downhole devices including interval control valves (ICVs). This specification does not cover the connections to the well conduit, the effects of corrosion, or ICDs designated for use in thermal recovery applications. Installation, application, and operation of these products are outside the scope of this specification. Pages: 58

**1st Edition | May 2020**
Product Number: G19ICD01 | Price: $100.00

**Spec 19LH**
Liner Hanger Equipment

Provides requirements for conventional and expandable liner systems, including liner hangers, liner packers, liner hanger packers, tie-back/polished-bore receptacles (TBR/PBRs), seal assemblies, setting adaptors/sleeves, and running/setting tools as defined herein for use in the oil and natural gas industry. This specification provides minimum requirements for the functional specification and technical specification, including design, design verification and validation, materials, quality control, documentation and data control, repair, shipment, and storage.

Products covered by this specification apply only to applications within a conduit. Installation and field maintenance are outside the scope of this specification. Pages: 99

**1st Edition | June 2019**
Product Number: G19LH01 | Price: $120.00

**Spec 19OH**
Openhole Isolation Equipment

Covers requirements and guidelines for openhole isolation equipment and bridge plugs as defined herein. Openhole isolation equipment includes swellable packers, inflatable packers, expandable packers, and openhole packers that are designed for use in the petroleum and natural gas industries. This specification provides requirements for design verification, design validation, manufacturing, quality, shipping, handling, storage, and related supporting topics.

Requirements for the end connections to the well conduit are not included in this specification. Also not covered are downhole anchoring devices (see API 11D1); cup-style packers; and requirements for the application, installation, and use of openhole isolation equipment. Equipment and technology covered by other API specifications and standards are exempted from this specification, such as:

- production packers,
- liner hanger systems,
- service tools,
- test tool packers.

Repairs, remanufacturing, and redress are excluded from this specification. Pages: 45

**1st Edition | January 2018**
Product Number: G19OH01 | Price: $118.00
Operations; however, the operational requirements of performing these activities. This document covers the downhole tools used to perform these formation fluid data. Downhole well test tools are also used in operations of to safely acquire dynamic rates, formation pressure/temperature, and installation, control and monitoring conduits, and surface control systems. A equipment and accessories, pup joints external to well test tool assemblies, safety valves (TSSVs), slip joints, jars, work string tester valves, sampler carriers, well testing packers, safety joints, well testing safety valves, testing surface safety valves (TSSVs), slip joints, jars, work string tester valves, sampler carriers, gauge carriers, drain valves, related equipment, and tool end connections. This edition of Spec 19SS is the modified national adoption of ISO 17824:2009. Pages: 79

1st Edition | July 2018 | Product Number: G19SS01 | Price: $174.00

Spec 19V
Subsurface Completion Isolation (Barrier) Valves and Related Equipment
Provides the requirements for subsurface completion isolation (barrier) valves (SCIVs) and related equipment as they are defined herein for use in the petroleum and natural gas industries. Included are the requirements for design, design validation grades, quality levels, manufacturing, functional evaluation, repair, redress, handling, and storage. SCIVs provide a means of isolating the formation or creating a blockage in the tubular to facilitate the performance of pre- and/or post-production/injection operational activities in the well.

Additional requirements for HPHT products are included in Annex I. Pages: 81

2nd Edition | May 2019 | Effective Date: November 2019
Product Number: G19V02 | Price: $185.00

SUPPLY CHAIN MANAGEMENT

Spec 20A
Carbon Steel, Alloy Steel, Stainless Steel, and Nickel Base Alloy Castings for Use in the Petroleum and Natural Gas Industry
Provides the requirements for foundry qualification, production, design, marking, and documentation of carbon steel, alloy steel, stainless steel, and nickel-base alloy castings used in the petroleum and natural gas industries when referenced by an applicable API product standard or otherwise specified as a requirement for compliance.

This specification applies to castings used in the manufacture of pressure containing, pressure-controlling, and primary load-bearing components. Castings manufactured in accordance with this API standard may be produced using any industry standard casting method. This specification provides manufacturers with a fixed methodology to examine a qualification casting and to compare the results of that examination to a defined set of acceptance criteria. The results of the qualification testing by material grouping are then used to establish a baseline Casting Specification Level (CSL) for subsequently produced castings.

This specification also provides manufacturers with a fixed production testing methodology to determine if subsequently produced castings conform to the minimum requirements for the intended CSL. The intent is that the production castings meet the minimum CSL requirements established during qualification testing by material grouping and/or the minimum CSL specified by the purchaser. Pages: 39

2nd Edition | August 2017 | Product Number: G20A02 | Price: $94.00

Spec 20A *
Carbon Steel, Alloy Steel, Stainless Steel, and Nickel Base Alloy Castings for Use in the Petroleum and Natural Gas Industry—Chinese
Chinese translation of Spec 20A.

2nd Edition | August 2017 | Product Number: G20A02 | Price: $94.00

*These translated versions are provided for the convenience of our customers and are not officially endorsed by API. The translated versions shall neither replace nor supersede the English-language versions, which remain the official standards. API shall not be responsible for any discrepancies or interpretations of these translations. Translations may not include any addenda or errata to the document. Please check the English-language versions for any updates to the documents.

This publication is a new entry in this catalog.
This publication is related to an API licensing, certification, or accreditation program.
Spec 20B ◆
Open Die Shaped Forgings for Use in the Petroleum and Natural Gas Industry

Specifies requirements for the qualification and production of open die shaped forgings for use in API service components in the petroleum and natural gas industries when referenced by an applicable equipment standard or otherwise specified as a requirement for compliance.

This API standard is applicable to equipment used in the oil and natural gas industries where service conditions warrant the use of individually shaped open die forgings, including rolled rings. Examples include pressure containing or load bearing components. Forged bar, rolled bar, and forgings from which multiple parts are removed are beyond the scope of this specification.

This API standard establishes requirements for four forging specification levels (FSL). These four FSL designations define different levels of forged product technical, quality and qualification requirements. Pages: 26

2nd Edition | November 2020 | Product Number: G20BO2 | Price: $102.00

Spec 20C ◆
Closed Die Forgings for Use in the Petroleum and Natural Gas Industry

Specifies requirements and gives recommendations for the design, qualification, and production of closed-die forgings for use in API service components in the petroleum and natural gas industries when referenced by an applicable equipment standard or otherwise specified as a requirement for compliance. Spec 20C is applicable to equipment used in the oil and natural gas industries where service conditions warrant the use of closed die forgings. Examples include pressure containing or load-bearing components. This standard establishes requirements for four forging specification levels (FSL). These FSL designations define different levels of forged product technical, quality and qualification requirements. Pages: 35

3rd Edition | April 2020 | Product Number: G20CO3 | Price: $97.00

Std 20D
Qualification of Nondestructive Examination Services for Equipment Used in the Petroleum and Natural Gas Industry

Specifies requirements for the application of nondestructive examination (NDE) methods as well as the development and qualification procedures used in the manufacturing, servicing, and/or service of equipment for the petroleum and natural gas industries. This is applicable to suppliers providing NDE services for equipment used in the oil and natural gas industries. The requirements of this standard apply to magnetic particle, liquid penetrant, radiography, and ultrasonic methods of NDE. Pages: 30

2nd Edition | August 2019 | Product Number: G20D02 | Price: $101.00

Spec 20E◆
Alloy and Carbon Steel Bolting for Use in the Petroleum and Natural Gas Industries

(includes Addendum 1 dated September 2018, Addendum 2 dated March 2019, and Errata 1 dated November 2021)

Specifies requirements for the qualification, production, and documentation of alloy and carbon steel bolting used in the petroleum and natural gas industries. This standard applies when referenced by an applicable API equipment standard or otherwise specified as a requirement for compliance. This standard establishes requirements for three bolting specification levels (BSL). These three BSL designations define different levels of technical, quality and qualification requirements. BSL-1, BSL-2, and BSL-3. The BSLs are numbered in increasing levels of requirements in order to reflect increasing technical, quality, and qualification criteria. This standard applies to pressure containing, pressure controlling, overlay, and structural welds. Pages: 23

2nd Edition | February 2017 | Product Number: G20E02 | Price: $93.00

Spec 20F◆
Corrosion-Resistant Bolting for Use in the Petroleum and Natural Gas Industries

(includes Errata 1 dated November 2020 and Addendum 1 dated November 2021)

Specifies requirements for the qualification, production, and documentation of corrosion-resistant bolting used in the petroleum and natural gas industries. This standard applies when referenced by an applicable API equipment standard or otherwise specified as a requirement for compliance.

This standard establishes requirements for two bolting specification levels (BSLs). These two BSL designations define different levels of technical, quality, and qualification requirements: BSL-2 and BSL-3. The BSLs are numbered in increasing levels of requirements in order to reflect increasing technical, quality, and qualification criteria. BSL-2 and BSL-3 are intended to be comparable to BSL-2 and BSL-3 as found in API 20E. BSL-1 is omitted from this standard. Pages: 32

2nd Edition | April 2018 | Product Number: G20F02 | Price: $94.00

Std 20G
Welding Services for Equipment Used in the Petroleum and Natural Gas Industry

Specifies requirements for the qualification of suppliers of welding services used in the manufacture of equipment for the petroleum and natural gas industry. The requirements of this standard apply to welding operations performed in a welding facility or in the field. Included are pressure containing, pressure controlling, overlay, and structural welds. Pages: 37

1st Edition | January 2020 | Product Number: G20G01 | Price: $86.00

Std 20H
Heat Treatment Services—Batch Type for Equipment Used in the Petroleum and Natural Gas Industry

Specifies requirements for the qualification of suppliers of heat treatment services used in the manufacture of equipment for the petroleum and natural gas industries.

This standard is applicable to suppliers providing heat treatment services where API product standards require such services or otherwise specified as a requirement for conformance. The requirements of this standard apply to batch heat treatment operations that establish or affect the final mechanical properties and include stress relief operations. This standard applies to carbon steel, low-alloy steel, stainless steel, and nickel-base alloys. Case hardening, induction hardening, and flame hardening are not covered by this standard.

This standard establishes the requirements for three heat treatment specification levels (HSLs). These HSL designations define different levels of heat treatment technical, quality, and qualification requirements. Pages: 26

2nd Edition | April 2020 | Product Number: G20H02 | Price: $78.00

This publication is a new entry in this catalog.◆ This publication is related to an API licensing, certification, or accreditation program.
**Std 20U**  
Qualification of Distributors of Metallic Materials for Use in the Petroleum and Natural Gas Industries

Specifies requirements for the qualification of distributors of metallic materials used in the petroleum and natural gas industries. This standard is applicable to distributors of metallic bar, plate, and tubular products where API product standards require such services or are otherwise specified as a requirement for conformance. Pages: 31  
2nd Edition | April 2022 | Product Number: G20U02 | Price: $103.00

**Std 20L**  
Qualification of Polymeric Seal Manufacturers for Use in the Petroleum and Natural Gas Industries

Specifies requirements for the qualification of manufacturers of polymeric seals used in the petroleum and natural gas industries. This standard is applicable to the manufacturers of polymeric seals where API product standards require such services or are otherwise specified as a requirement for compliance. This standard does not consider entities that solely perform assembly of outside manufactured parts as a polymeric seal manufacturer. Pages: 28  
1st Edition | March 2018 | Product Number: G20L01 | Price: $71.00

**Std 20M**  
Qualification of Suppliers of Machining Services for Use in the Petroleum and Natural Gas Industries

Specifies requirements for the qualification of suppliers of machining services where API product standards require such services or are otherwise specified as a requirement for compliance. Compliance with this standard is not required to demonstrate compliance with any other API standard or specification. This API standard establishes the requirements for three machining qualification levels (MQL 1, MQL 2, and MQL 3). These three MQL designations define different levels of quality and qualification requirements. These MQLs are numbered in increasing levels of requirements in order to reflect increasing quality and qualification criteria. Final assembly, component testing (e.g., nondestructive examination, pressure testing) or a broker of machining services are outside the scope of this standard. This standard applies when specified by the customer or voluntarily followed by the machining services supplier. Pages: 27  
1st Edition | October 2017 | Product Number: G20M01 | Price: $78.00

**Std 20N**  
Heat Treatment Services—Continuous Line for Equipment Used in the Petroleum and Natural Gas Industry

Specifies requirements for the qualification of suppliers of continuous line heat treatment services used in the manufacture of equipment for the petroleum and natural gas industries. This standard is applicable to suppliers providing heat treatment services where API product standards specify this standard as a requirement for conformance. The requirements of this standard apply to continuous and semi-continuous heat treatment operations that can establish or affect the final mechanical properties. For batch type heat treatment, refer to API 20H. This standard is applicable to products in tubular, bar, plate, forgings, castings, and upset forged forms. Heat treat that imparts surface hardening or case hardening is outside the scope of this document. Pages: 27  
1st Edition | August 2019 | Product Number: G20N01 | Price: $81.00

**Std 20S**  
Additively Manufactured Metallic Components for Use in the Petroleum and Natural Gas Industries

Specifies requirements for qualification of the manufacturing process, production, marking, and documentation of additively manufactured metallic components used in the petroleum and natural gas industries when referenced by an applicable API equipment standard or otherwise specified as a requirement for conformance. This standard applies to additively manufactured metallic components produced by powder bed fusion (PBF), directed energy deposition (DED), and binder jetting (BJT) processes. This standard establishes requirements for three additive manufacturing specification levels (AMSL). These three AMSL designations—AMSL 1, AMSL 2, and AMSL 3—define increasing levels of additive manufacturing technical, quality, and qualification requirements. Pages: 47  
1st Edition | October 2021 | Product Number: G20S01 | Price: $86.00

**Std 20T**  
Additively Manufactured Polymer-Based Components for Use in the Petroleum and Natural Gas Industries

Specifies requirements for qualification of the manufacturing process, production, marking, and documentation of additively manufactured polymer-based components used in the petroleum and natural gas industries when referenced by an applicable API equipment standard or otherwise specified as a requirement for conformance. This standard applies to additively manufactured polymer-based components (including composites) produced by material extrusion (also referred to as fused filament fabrication (FFF) or fused deposition modeling (FDM) and fused granulate fabrication (FGF)) and powder bed fusion [also referred to as selective laser sintering (SLS) or multi jet fusion (MUF)]. Additive manufacturing provides the natural gas and oil industry significant efficiency and productivity improvements, cuts lead times and supply chain stress, streamlines transportation and logistics, and can reduce emissions because additive manufacturing takes place near the point of use. Pages: 39  
1st Edition | August 2022 | Product Number: G20T01 | Price: $86.00

**TR 21TR1**  
Materials Selection for Bolting  
(includes Addendum 1 dated April 2020, Addendum 2 dated June 2020, and Addendum 3 dated May 2022)

Provides guidance for the selection of materials and manufacturing processes for low-alloy steel bolting manufactured in accordance with API 20E and nickel-based and stainless alloys manufactured in accordance with 20E. Table 2 and Table 3 are provided as guidance for materials selection of fasteners. Pages: 37  
1st Edition | August 2019 | Product Number: G21TR101 | Price: $94.00

**TR 21TR2**  
S-N Fatigue Design Guidelines and Test Data for Low-Alloy Steel Bolts

New API-backed research on the fatigue life of bolts used in underwater natural gas and oil infrastructure—including critical blowout prevention equipment—resulted in the publication of this technical report, a key advancement in industry’s continued efforts to protect workers and the environment from potential problems associated with bolting fatigue in subsea structures. The test program detailed in this technical report was developed to obtain bolting material fatigue data required to perform design verification analysis of fatigue-sensitive bolts to assure accurate design life estimation. The bolting fatigue testing program provided S-N fatigue curves for three alternating stress ranges in air and saltwater with cathodic protection (CP) and for bolt sizes of 1 in., 2 in. (Grade L7), and 3 in. (Grade L43). S-N curves are used to determine the number of cycles (N) required to test a product to failure at a given stress (S). The results of these S-N fatigue tests allow the bolting design to be assessed for this type of fatigue through structural analysis using the nominal root area stresses in the bolt, avoiding the need to define stress and load concentrations in the bolt root radius of engaged threads. Pages: 32  
1st Edition | March 2022 | Product Number: G21TR201 | Price: $94.00
and restoration operations. Gas compression for transmission purposes or access roads and well locations and includes reclamation, abandonment, document. Operational coverage begins with the design and construction of handling facilities. Offshore and arctic areas are beyond the scope of this document include all production facilities, including produced water and associated gas compression facilities. This publication begins with initial plant planning, permitting, and construction and ends with plant closure and site restoration procedures. General guidelines are provided to be used at gas plant locations to develop site-specific environmental programs. Pages: 60

Product Number: G50003 | Price: $154.00

RP 50
Natural Gas Processing Plant Practices for Protection of the Environment
Assists gas plant operators in understanding their environmental responsibilities. It is intended to be used primarily by environmental, engineering, and operations personnel and by management involved in building, maintaining, modifying, and operating gas processing plants. Operations within the scope of this standard include natural gas processing and associated gas compression facilities. This publication begins with initial plant planning, permitting, and construction and ends with plant closure and site restoration procedures. General guidelines are provided to be used at gas plant locations to develop site-specific environmental programs. Pages: 23

Product Number: G31A01 | Price: $105.00

RP 31A
Standard Form for Hardcopy Presentation of Downhole Log Data
Provides an improved standard format for hardcopy presentation of downhole well log data. Standardizing the log form and data presentation allows the user to more easily combine a broad range of log data in order to interpret well status and performance. Pages: 18

Product Number: G31A01 | Price: $105.00

RP 45
Recommended Practice for Analysis of Oilfield Waters
Provides analysis methods for the determination of dissolved and dispersed components in oilfield waters (produced water, injected water, aqueous workover fluids, and stimulation fluids). Also includes the applications of oilfield water analyses; the proper collection, preservation, and labeling of field samples; a description of the various analytical methods available, including information regarding interferences, precision, accuracy, and detection limits; as well as the appropriate reporting formats for analytical results. Pages: 60

Product Number: G45003 | Price: $154.00

RP 51
Onshore Oil and Gas Production Practices for Protection of the Environment
Provides environmentally sound practices to promote protection of the environment in domestic onshore oil and gas production operations. Production facilities, including produced water handling facilities, are covered. Coverage begins with design and construction of access roads and well locations and carries through to abandonment and site restoration activities. Pages: 17

3rd Edition | March 2001 | Reaffirmed: January 2013
Product Number: G50002 | Price: $118.00

RP 51R
Environmental Protection for Onshore Oil and Gas Production Operations and Leases
Provides environmentally sound practices, including reclamation guidelines, for domestic onshore oil and gas production operations. It is intended to be applicable to contractors as well as operators. Facilities within the scope of this document include all production facilities, including produced water handling facilities. Offshore and arctic areas are beyond the scope of this document. Operational coverage begins with the design and construction of access roads and well locations and includes reclamation, abandonment, and restoration operations. Gas compression for transmission purposes or production operations, such as gas lift, pressure maintenance, or enhanced oil recovery (EOR), is included. Annex A provides guidance for a company to consider as a “good neighbor.” Pages: 35

Product Number: G51R01 | Price: $82.00
You may download a PDF of this document from https://www.api.org/oil-and-natural-gas/wells-to-consumer/exploration-and-production/hydraulic-fracturing/rp-51r-environmental-protection

RP 52
Land Drilling Practices for Protection of the Environment
Provides guidelines to promote the protection of the environment in land drilling operations. Pages: 40

2nd Edition | July 1995 | Reaffirmed: September 2010
Product Number: G52002 | Price: $124.00

RP 68
Recommended Practice for Oil and Gas Well Servicing and Workover Operations Involving Hydrogen Sulfide
Addresses personnel training, personnel protective equipment, contingency planning, and emergency procedures. Also included are classification of locations, materials and equipment, operations, rig practices, special operations, offshore operations, characteristics of hydrogen sulfide and sulfur dioxide, and evaluation and selection of hydrogen sulfide monitoring equipment. Pages: 54

Product Number: G68001 | Price: $82.00

RP 90-1
Annular Casing Pressure Management for Offshore Wells
(formerly RP 90)
Covers the management of annular casing pressure in existing offshore wells to maintain integrity and manage risk. It covers a range of casing annuli pressures including thermal casing pressure, sustained casing pressure (SCP), and operator-imposed pressure. This document also addresses monitoring, diagnostic testing, establishing maximum allowable wellhead operating pressure (MAWOP), and documentation of annular casing pressure for the various types of wells that occur offshore. Included is a discussion of risk assessment methodologies that can be used for the evaluation of individual well situations where the annular casing pressure is not within the MAWOP thresholds. This document includes information regarding annular casing pressure that is applicable to various offshore well types to include fixed platform wells, subsea wells, hybrid wells, and mudline suspension wells. Pages: 85

2nd Edition | August 2021 | Product Number: G90002 | Price: $227.00

RP 90-2
Annular Casing Pressure Management for Onshore Wells
Serves as a guide to monitor and manage annular casing pressure (ACP) in onshore wells, including production, injection, observation/monitoring, and storage wells. This document applies to wells that exhibit thermally induced, operator-imposed, or sustained ACP. It includes criteria for establishing diagnostic thresholds (DTs), monitoring, diagnostic testing, and documentation of ACP for onshore wells. Also included is a discussion of risk management considerations that can be used for the evaluation of individual well situations where the annular casing pressure falls outside the established diagnostic thresholds.

This document recognizes that an ACP outside of the established DTs can result in a risk to well integrity. The level of risk presented by ACP depends on many factors, including the design of the well, the performance of barrier systems within the well, the source of the annular casing pressure, and whether there is an indication of annular flow exists. This document provides guidelines in which a broad range of casing annuli that exhibit annular casing pressure can be managed while maintaining well integrity. Pages: 60

1st Edition | April 2016 | Product Number: G90201 | Price: $197.00

* This publication is a new entry in this catalog.  ◆ This publication is related to an API licensing, certification, or accreditation program.
Exploration and Production

To purchase individual API standards, visit apiwebstore.org

Bull 92L
Drilling Ahead Safely with Lost Circulation in the Gulf of Mexico

Identifies items that should be considered to safely address lost circulation challenges when the equivalent circulating density (ECD) exceeds the fracture gradient. It addresses drilling margins and drilling ahead with mud losses, which are not addressed in Std 65-2. It provides guidance when lost circulation is experienced with either surface or subsea stack operations (excluding diverter operations). These practices may apply to other Outer Continental Shelf (OCS) environments such as offshore California and Florida.

Lost circulation during drilling operations, in the form of both seepage and fracture losses, is a common occurrence in the Gulf of Mexico and other OCS environments. Through extensive practical experience, operators and drilling contractors have learned that with proper information, planning, and execution, lost circulation can be safely managed to allow well construction goals to be met. The methods used to repair or manage lost circulation are based on well location, geology, pore and fracture pressures, drilling depth, well design, hydraulics, mud properties, and available contingencies. Pages: 14

1st Edition | August 2015 | Product Number: G92L01 | Price: $76.00

RP 92M
Managed Pressure Drilling Operations with Surface Back-Pressure

Provides information for planning, installation, testing, and operation of wells drilled with surface backpressure managed pressure drilling (MPD). This document applies only to drilling rigs with surface blowout preventers (BOPs). This document considers situations where the total drilling operation is performed balanced or overbalanced, including both hydraulically overbalanced (no supplemental surface pressure needed to control inflow) and hydraulically underbalanced (supplemental surface pressure needed to control inflow) systems. For underbalanced operations, refer to API 92U. This document does not cover MPD operations with subsea BOP stacks. Pages: 33

1st Edition | September 2017 | Product Number: G92M01 | Price: $107.00

RP 92P
Managed Pressure Drilling Operations—Pressurized Mud Cap Drilling with a Subsea Blowout Preventer

Addresses recommended practices for pressurized mud cap drilling (PMCD) from a floating rig with a subsea BOP stack. When massive lost circulation conditions are encountered, PMCD can be implemented to allow well construction operations to continue. Although this document only addresses PMCD, most of the equipment described may also be used for the surface back-pressure (SBP) method of managed pressure drilling. However, much of the equipment used for SBP is not required for PMCD and is beyond the scope of this document. Pages: 67

1st Edition | June 2019 | Product Number: G92P01 | Price: $117.00

RP 92S
Managed Pressure Drilling Operations—Surface Back-Pressure with a Subsea Blowout Preventer

Provides information for planning, installation, testing, and operation of wells drilled with surface back-pressure (SBP) managed pressure drilling (MPD). This document applies only to drilling rigs with subsea blowout preventers (BOPs). This document considers situations where the total drilling operation is performed balanced or overbalanced, including both hydraulically overbalanced (no supplemental surface pressure needed to control inflow) and hydraulically underbalanced (supplemental surface pressure needed to control inflow) systems. Pages: 64

1st Edition | September 2018 | Product Number: G92S01 | Price: $132.00

RP 92U
Underbalanced Drilling Operations (includes Addendum 1 dated November 2015)

Provides information that can serve as a guide for planning, installation, operation, and testing of underbalanced drilling equipment systems on land and offshore drilling rigs [barge, platform, bottom-supported, and floating with surface blowout preventers (BOP) installed] thereby ensuring consideration of personnel safety, public safety, integrity of the underbalanced drilling (UBD) equipment, and preservation of the environment for onshore and offshore UBD operations (including tripping of drill string). Pages: 72

1st Edition | November 2008 | Reaffirmed: April 2013 | Product Number: G92U01 | Price: $114.00

RP 96
Deepwater Well Design and Construction

Provides engineers a reference for deepwater (DW) well design as well as drilling and completion operations. This recommended practice (RP) will also be useful to support internal reviews, internal approvals, contractor engagements, and regulatory approvals.

The scope of this RP is to discuss DW drilling and completion activities performed on wells that are constructed using subsea blowout preventers (BOPs) with a subsea wellhead. This document addresses the following.

• Identifies the appropriate barrier and load case considerations to maintain well control during DW well operations (drilling, suspension, completion, production, and abandonment).

• Supplements barrier documentation in Std 65-2 with a more detailed description of barriers and discussion of the philosophy, number, type, testing, and management required to maintain well control. This document also supplements the barrier documentation in RP 90 in regard to annular pressure buildup. Abandonment barrier requirements are described for use when designing the well.

• Discusses load assumptions, resistance assumptions, and methodologies commonly used to achieve well designs with high reliability. The load case discussion includes less obvious events that can arise when unexpected circumstances are combined.

• Describes the risk assessment and mitigation practices commonly implemented during DW casing and equipment installation operations.

The purpose of this document is to enhance safety and minimize the likelihood of loss of well control or damage to the environment. These practices are generally intended to apply to subsea wells drilled with subsea BOPs in any water depth. Some of the descriptions of rig hardware and operations, such as remotely operated vehicles, are less relevant in shallower water depths [e.g., less than 500 ft (152 m)]. In these shallower water depths the operator may substitute alternative hardware or operations that maintain safety and system reliability.

The following aspects of DW well design and construction are outside the scope of this document.

• Detailed casing design load case definitions (does not include specific casing designs or design factors). Individual companies combine differing seventies of loads and resistances or differing calculation methods to achieve designs with similar high levels of reliability.

• Wells drilled and/or completed with a surface BOP and high pressure riser from a floating production system; however, considerations for wells predrilled with floating rigs to be completed to a floating production system are included.

• Well control procedures (refer to RP 59 for well control information).

• Managed pressure drilling operations (including dual gradient drilling).

• Production operations and fluids handling downstream of the tree (subsea facilities/subsea architecture and surface facilities/oil and gas processing).

• Intervention operations.

• Quality assurance programs. Pages: 158

1st Edition | March 2013 | Product Number: G9601 | Price: $189.00
Bull 97
Well Construction Interface Document Guidelines
Contains the structure and contents of a well control interface document (WCID) that links the drilling contractor's safety case with the lease operator's safety management system. It includes well-specific information such as the basis of design, the well execution plan, and critical well activity risk assessment. This document exhibits how management of change and risk assessment processes will apply during well construction activities and assures personnel competency. A WCID also aligns all parties to assure their health, safety, and environment (HSE) standards are not compromised and all applicable regulatory requirements are met while undertaking shared activities. A WCID will assign or delineate specific responsibilities for the lease operator's personnel as well as provide a vehicle for the drilling contractor to intervene in the case that unsafe acts are identified. Pages: 18
1st Edition | December 2013 | Product Number: G09701 | Price: $71.00

RP 97L
Onshore Well Construction Interface Document
Provides guidance on information that is to be shared regarding onshore well construction and rig-specific operating guidelines. It is intended to align the lease operator's and drilling contractor's safety and environmental management systems (SEMS). The purpose of the well construction interface document (WCID) is to enhance the health and safety of the workers and protect the environment by facilitating communication between the lease operator and drilling contractor regarding well construction work (drilling, suspension, completion, testing, and abandonment). Pages: 24
1st Edition | December 2020 | Product Number: G97L01 | Price: $75.00

RP 98
Personal Protective Equipment Selection for Oil Spill Responders
Provides general information and guidance for the development of oil spill responder Personal Protective Equipment (PPE) control measures. Although an extensive amount of information has been developed on the topic of PPE for emergency responders, this document focuses on the PPE selection process as well as its technical evaluation based on the hazards present.

The purpose of this recommended practice is to assist users in developing effective PPE control measures for oil spill responses using a systematic approach. This recommended practice is intended for any company, organization, or agency that oversees or responds to oil spills. It is not a comprehensive "how-to" guide to selecting PPE for every type of situation that may be encountered; rather, it is a guidance document that discusses how proper PPE selection may be a useful control measure for responders when engineering and administrative controls may not be feasible or effective in reducing exposure to acceptable levels. Pages: 79
1st Edition | August 2013 | Product Number: G09801 | Price: $141.00

RP 99
Flash Fire Risk Assessment for the Upstream Oil and Gas Industry
Provides guidance for the upstream oil and gas industry on hazard identification and risk assessment exercises to assess and mitigate the risk of human injury caused by exposure to a flash fire. The scope of this document is limited to personnel exposed to the risk of hydrocarbon based flash fires in the upstream Exploration and Production (E&P) sector of the oil and gas industry. In general, this group includes oil and gas production, drilling, well bore (well servicing) operations, and gas processing prior to interstate pipeline transportation. Pages: 30
1st Edition | April 2014 | Product Number: G09901 | Price: $87.00

RP 100-1
Hydraulic Fracturing—Well Integrity and Fracture Containment
Contains recommended practices for onshore well construction and fracture stimulation design and execution as it relates to well integrity and fracture containment. These practices cover the design and installation of well equipment that protects and isolates ground water aquifers, delivery, and execution of the hydraulic fracture treatment and contains and isolates the produced fluids. This document also addresses the design and execution of hydraulic fracturing treatments to contain the resulting fracture within a prescribed geologic interval. Fracture containment combines those parameters that are existing, those that can be established at installation, and those that can be controlled during execution. Pages: 29
1st Edition | October 2015 | Reaffirmed: August 2020 | Product Number: G100101 | Price: $98.00

RP 100-2
Managing Environmental Aspects Associated with Exploration and Production Operations Including Hydraulic Fracturing
Provides recommended practices applicable to the planning and operation of wells, and hydraulically fractured wells. Topics covered include recommendations for managing environmental aspects during planning; site selection; logistics; mobilization, rig-up, and demobilization; and stimulation operations. Also, this document includes guidance for managing environmental aspects during well construction; however, guidance for well construction and fracture stimulation design and execution for onshore wells that can be hydraulically fractured are described in RP 100-1. This document provides recommendations for the following topics:
- baseline groundwater sampling;
- source water management;
- material selection;
- transportation of materials and equipment;
- storage and management of fluids and chemicals;
- management of solid and liquid wastes;
- air emissions. Pages: 53
1st Edition | August 2015 | Reaffirmed: August 2020 | Product Number: G100201 | Price: $98.00

Bull 100-3
Community Engagement Guidelines
These guidelines outline what local communities and other key stakeholders can expect from operators. Oil and gas operators acknowledge the challenges associated with industry activities, which can include challenges important to a community. Principles of integrity, transparency, and consideration for community concerns underpin responsible operations. Conscientious operators are committed to helping communities achieve positive and long-lasting benefits.

Both local stakeholders and operators can use this guidance. It is designed to acknowledge challenges and impacts that occur during the industry's presence in a given region. It provides flexible and adaptable strategies, recognizing that application will vary from operator to operator and community to community. Many operators already apply similar guidelines or protocols within their operations. These suggested guidelines are typical and reasonable and generally apply under normal operating circumstances. The use of these guidelines is at each individual operator's discretion.

Operators recognize that stakeholders within the community can have different interests, issues and levels of concern. Some of these interests can be in direct conflict with one another. Working together with stakeholders to seek mutually agreeable solutions is an important aspect of community engagement. Operators can have different approaches to addressing the concerns and issues. These guidelines are intended primarily to support onshore oil and gas projects in the United States for shale developments; however, they can be adapted to any oil and gas projects in the United States.

This document provides non-technical guidance only, and practices included herein cannot be applicable in all regions and/or circumstances. This document does not constitute legal advice regarding compliance with legal or contractual requirements or risk mitigation. It is not intended to be all-inclusive. The operator is responsible for determining compliance with applicable legal and regulatory requirements.
1st Edition | July 2014 | Product Number: G100301 | Price: $66.00
DRILLING AND PRODUCTION OPERATIONS:

Gas Lift
(Book 6 in the Vocational Training Series)
Familiarizes field personnel with basic gas lift principles; operating procedures for adjusting, regulating, operating, and troubleshooting gas lift equipment; and well conditions. Covers conventional practices and concepts. Illustrated with drawings of typical gas lift installations and related equipment, as well as actual charts illustrating operation of and problems encountered in gas lifted wells. Pages: 143
Product Number: GVT063 | Price: $170.00

Introduction to Oil and Gas Production
(Book 1 in the Vocational Training Series)
Serves as a primer for oil and gas operations. It covers the origins and accumulation of oil and gas, the well, well treatment and wellhead, artificial lift, well testing, separation, treatment and storage, gauging and metering, production, offshore production and structures, corrosion, enhanced recovery, production personnel, tools and equipment, pipe, valves and fittings, reports and records, state and federal regulations, environmental, health, and safety concerns, economic considerations, and future trends. Pages: 120
Product Number: GVT015 | Price: $170.00

Subsurface Salt Water Injection and Disposal
(Book 3 in the Vocational Training Series)
A handbook for the planning, installation, operation, and maintenance of subsurface disposal systems. Design criteria and formulas are given for gathering systems, treating plants, and injection facilities. Alternative equipment and methods are discussed and illustrated. Economic considerations are presented. Pages: 47
Product Number: GVT033 | Price: $105.00

Wireline Operations and Procedures
(Book 5 in the Vocational Training Series)
A handbook outlining to operators of oil and gas wells what applications are possible with wireline tools and equipment. Also a guide for field personnel. Surface equipment, service tools (standard and special), and subsurface equipment (both permanent and removable) are described and illustrated. Their various applications are included. Also presented is a general discussion of special problems that wireline operations and procedures may serve to eliminate, minimize, or control, and methods by which this may be accomplished. Pages: 60
Product Number: GVT053 | Price: $132.00

RP T-1
Creating Orientation Programs for Personnel Going Offshore
Serves as a guide to develop orientation materials for personnel and visitors prior to their first trip offshore. The scope and applicability of this document concludes after check-in at the offshore facility and receipt of the facility-specific orientation. Pages: 18
5th Edition | November 2016 | Product Number: GT1005 | Price: $71.00

RP T-2
Recommended Practice for Qualification Programs for Offshore Production Personnel Who Work with Safety Devices
Provides guidelines for the qualification of personnel engaged in installing, inspecting, testing, and routinely maintaining surface and subsurface devices that are used to insure safety and to prevent pollution during the production of oil and gas on offshore platforms. The guidelines provide expected candidate performance levels, instructional content, and recommendations for testing. The guidelines are divided into instructional and testing phases. Pages: 3
2nd Edition | December 2001 | Reaffirmed: January 2013
Product Number: GT2002 | Price: $65.00

RP T-4
Training of Offshore Personnel in Nonoperating Emergencies
Represents an industry guide for the training of workers who work offshore. It presents recommendations for training these personnel in handling nonoperating emergencies, such as fires, transportation emergencies, platform abandonment procedures, use of survival crafts, and water survival guidelines. Pages: 3
2nd Edition | October 1995 | Reaffirmed: June 2010
Product Number: GT4002 | Price: $65.00

RP T-6
Recommended Practice for Training and Qualification of Personnel in Well Control Equipment and Techniques for Wireline Operations on Offshore Locations
Provides criteria for the qualification of wireline personnel in well control equipment operations and techniques. Although it does include recommendations for training wireline personnel on general rig well control equipment and theory, it should be noted that the main focus for training should be those operations using a lubricator as the primary well control mechanism. Wireline personnel classifications to which this RP is applicable are the Helper/Assistant and Operator/Supervisor. Pages: 2
1st Edition | October 2002 | Reaffirmed: January 2013
Product Number: GT0601 | Price: $65.00

RP T-7
Training of Personnel in Rescue of Persons in Water
Applies to personnel who work offshore. It represents an industry guide for training personnel in techniques for rescuing persons from the water and using survival devices. It broadly identifies rescue devices, describes their operations, and presents recommendations for training personnel. Training recommendations are designed to develop personnel rescue proficiency while minimizing an individual’s exposure to injury or loss of life. Pages: 8
Product Number: GT7002 | Price: $62.00

RP T-8
Fundamental Safety Training for Offshore Personnel
Provides guidance on the components of an effective training system related to offshore health, safety, and environment (HSE). A common safety training matrix is provided that outlines the fundamental recommended HSE training for offshore personnel. This matrix can be used in conjunction with other applicable recommended training and company-specific requirements. Pages: 24

COMMUNITY ENGAGEMENT

Community Matters: Community Outreach Guidance Manual for Exploration and Production Facilities
This manual provides a model community outreach program to help oil and natural gas industry E&P facilities improve their ties to their local communities. Community Matters offers a step-by-step guide for implementing a community outreach program and provides information on how to tailor outreach efforts to meet the needs of the facility and local community. Pages: 111
1st Edition | November 2000 | Product Number: G13660 | Price: $89.00

This publication is related to an API licensing, certification, or accreditation program.
Exploration and Production

To purchase individual API standards, visit apiwebstore.org

Bull 100-3
Community Engagement Guidelines

These guidelines outline what local communities and other key stakeholders can expect from operators. Oil and gas operators acknowledge the challenges associated with industry activities, which can include challenges important to a community. Principles of integrity, transparency and consideration for community concerns underpin responsible operations. Conscientious operators are committed to helping communities achieve positive and long-lasting benefits.

Both local stakeholders and operators can use this guidance. It is designed to acknowledge challenges and impacts that occur during the industry’s presence in a given region. It provides flexible and adaptable strategies, recognizing that application will vary from operator to operator and community to community. Many operators already apply similar guidelines or processes within their operations. These suggested guidelines are typical and reasonable and generally apply under normal operating circumstances. The use of these guidelines is at each individual operator’s discretion.

Operators recognize that stakeholders within the community can have different interests, issues and levels of concern. Some of these interests can be in direct conflict with one another. Working together with stakeholders to seek mutually agreeable solutions is an important aspect of community engagement. Operators can have different approaches to addressing the concerns and issues.

These guidelines are intended primarily to support onshore oil and gas projects in the United States for shale developments; however, they can be adapted to any oil and gas projects in the United States.

This document provides non-technical guidance only, and practices included herein cannot be applicable in all regions and/or circumstances. This document does not constitute legal advice regarding compliance with legal or contractual requirements or risk mitigation. It is not intended to be all-inclusive. The operator is responsible for determining compliance with applicable legal and regulatory requirements.

1st Edition | July 2014 | Product Number: G100301 | Price: $66.00
You may download a PDF of this document from https://www.api.org/apiwebstore.org

HEALTH, ENVIRONMENT, AND SAFETY: EXPLORATION AND PRODUCTION SAFETY STANDARDS

RP 49 *
Recommended Practice for Drilling and Well Servicing Operations Involving Hydrogen Sulfide

Provides recommendations that apply to oil and gas well drilling and servicing operations involving hydrogen sulfide. These operations include well drilling, completion, servicing, workover, downhole maintenance, and plug and abandonment procedures conducted with hydrogen sulfide present in the fluids being handled. Coverage of this publication is applicable to operations confined to the original wellbore or original total depth and applies to the selection of materials for installation or use in the well and in the well drilling or servicing operation(s). The presence of hydrogen sulfide in these operations also presents the possibility of exposure to sulfur dioxide from the combustion of hydrogen sulfide. Pages: 29

3rd Edition | May 2001 | Reaffirmed: January 2013
Product Number: G49003 | Price: $96.00

RP 49 *
Recommended Practice for Drilling and Well Servicing Operations Involving Hydrogen Sulfide—Kazakh

Kazakh translation of RP 49.

3rd Edition | May 2001 | Reaffirmed: January 2013
Product Number: G4903K | Price: $96.00

*These translated versions are provided for the convenience of our customers and are not officially endorsed by API. The translated versions shall neither replace nor supersedethe English-language versions, which remain the official standards. API shall not be responsible for any discrepancies or interpretations of these translations. Translations may not include any addenda or errata to the document. Please check the English-language versions for any updates to the documents.
While some chemicals intended for various nonexplosive applications can prove explosive when misused (such as lithium batteries), it is not the intent of this RP to address these materials. Pages: 85

3rd Edition | October 2019 | Product Number: G06703 | Price: $121.00

**RP 74**
Recommended Practice for Occupational Safety for Onshore Oil and Gas Production Operation

Recommends practices and procedures for promoting and maintaining safe working conditions for personnel engaged in onshore oil and gas production operations, including special services. Pages: 23

1st Edition | October 2001 | Reaffirmed: January 2013
Product Number: G74001 | Price: $67.00

**RP 75**
Safety and Environmental Management System for Offshore Operations and Assets

Provides companies engaged in offshore operations with a framework for the establishment, implementation, and maintenance of a Safety and Environmental Management System (SEMS) to manage and reduce risks associated with safety and the environment to prevent incidents and events. This recommended practice applies, in part or whole, to companies engaged in offshore operations, from lease evaluation through decommissioning.

This document is not intended to be prescriptive or limiting on the expectations of each SEMS element; rather, it allows flexibility appropriate to the size, scope, and risk of a Company's assets and operations. It is advised that this document be used as a tool to help systematically manage other aspects of operations, such as security and health. Pages: 34


**Bull 75L**
Guidance Document for the Development of a Safety and Environmental Management System for Onshore Oil and Natural Gas Production Operations and Associated Activities

Provides general information and guidance for the development of a safety and environmental management system (SEMS) for onshore oil and natural gas operations, including drilling, production, and well services activities. Although there is an extensive amount of information that has been developed on the topic of safety and environmental management systems, this document focuses on this industry sector to help foster continuous improvement in our industry's safety and environmental performance. It is recognized that many onshore oil and natural gas companies have effective SEMS in place; however, the intent of this document is to provide an additional tool that can assist these and especially other operators in taking the next step toward implementing a complete system at a pace that complements their business plan. For those who already have a mature SEMS in place, this document can be used for continuous improvement of the system. Pages: 12

1st Edition | November 2007 | Product Number: G75L01 | Price: $37.00

**RP 76**
Contractor Safety Management for Oil and Gas Drilling and Production Operations

Intended to assist operators, contractors, and subcontractors (third parties) in the implementation of a contractor safety program and improve the overall safety performance while preserving the independent contractor relationship. It is intended for the Upstream Segment of the petroleum industry; however, since the operator requirements and the contracted work are diverse, this publication may not be applicable to all operations at each company or to all contract work performed in those operations. Many oil and gas exploration and production companies contract for equipment and personnel services for a wide range of activities, including drilling production, well servicing, equipment repair, maintenance, and construction. Certain activities of contractors have the potential to take place either contractor and/or operator personnel and/or equipment at risk. It is important that operations are carried out in a safe manner. Operators and contractors need to provide safe work places and to protect the safety of their work forces and the general public. When they work together to improve safety, both benefit. Pages: 60

2nd Edition | November 2007 | Reaffirmed: January 2013
Product Number: G07602 | Price: $62.00

**RP 77**
Risk-Based Approach for Managing Hydrocarbon Vapor Exposure During Tank Gauging, Sampling, and Maintenance of Onshore Production Facilities

Covers recommended risk assessment and risk management practices to reduce the potential for acute worker hydrocarbon exposures and related atmospheric risks (i.e. potential oxygen deficiency). Specifically, this recommended practice is limited to onshore production tanks (including flowback tanks) during gauging and sampling, open-top tank sampling, and select tank maintenance activities involving removal or opening of tank appurtenances. While the tools and practices recommended in this document can be useful in other operations, this recommended practice does not specifically apply to downstream, refining, or offshore tank applications. Pages: 30

1st Edition | June 2018 | Product Number: G07701 | Price: $93.00

**Bull D16**
Suggested Procedure for Development of a Spill Prevention Control and Countermeasure Plan

Assists the petroleum industry in understanding the SPCC regulation in light of the latest rule (40 CFR Part 112) and to offer guidance for developing SPCC Plans wherever they are needed. Included is a template for developing SPCC plans (i.e. onshore excluding production; onshore oil production, oil drilling or worker; or offshore oil drilling, production, or worker) in accordance with the regulation and guidance, instruction, and clarification for completing each section of the template. The purpose of this rulemaking was to establish procedures, methods, and equipment to prevent and contain discharges of oil from non-transportation-related onshore and offshore facilities, thus preventing pollution of navigable waters of the United States. The development of this bulletin was commissioned by API and performed by O’Brien’s Response Management Inc. The purchase of D16 includes; Bulletin D16, the Plan Template, and a CD-ROM with the Microsoft® Word version of the Plan Template.

5th Edition | April 2011 | Product Number: GD1605
Price: $279.00 | Template Only: Price: $103.00

**HEALTH, ENVIRONMENT, AND SAFETY: GENERAL**

**Achieving Common Sense Environmental Regulation: Oil and Gas Exploration & Production**

 Discusses proposals to achieve a balanced approach to environmental regulation of the oil and gas exploration and production industry that protects the environment as well or better than the current system and does the job more efficiently. Pages: 36

May 1996 | Product Number: G13715 | Price: Free*

**Exploration and Production: Protecting the Environment**

 Discusses work the E&P industry does to protect the environment while exploring for and producing oil and natural gas. Describes a number of innovative and socially responsible actions taken by exploration and production companies to minimize impacts to air, water, land, and wildlife. This document is only available in a PDF format. Pages: 24

September 1997 | Product Number: G13650 | Price: Free*
Although plans prepared or modified using this RP can be used to replace those prepared or modified by a government agency, Pages: 54

This RP is intended to provide plan developers and writers with information and guidance for effective and functional Oil Spill Response Plans that fulfill the expectations of plan holders, responders, regulators, response officials, and the Emergency Planning and Community Right-to-Know Act (CERCLA), and the Emergency Planning and Community Right-to-Know Act (EPCRA). Also covers the reporting of what most in the industry consider “emergency” releases, which are unplanned and typically are not covered under a permit issued by a government agency. Pages: 106

Preparation of Response Plans for Oil Spills from Offshore Facilities
Provides information and guidance for the development of Oil Spill Response Plans for the offshore U.S. oil and gas exploration, production, and transportation (pipeline) industry. The general plan concepts, layout, and content recommended in this document are also applicable to other types of coastal/marine assets, both in the U.S. and international locations.
This RP is intended to provide plan developers and writers with information and guidance for effective and functional Oil Spill Response Plans that fulfill the expectations of plan holders, responders, regulators, response officials, stakeholders, and the general public. This RP may be informative for any company, organization, or public agency that oversees or responds to oil spills. Although plans prepared or modified using this RP can be used to replace existing response plans required by regulation, the RP is not intended to be a regulatory compliance guideline or to supersede current regulations. Pages: 140

Technologies to Reduce Oil and Grease Content of Well Treatment, Well Completion, and Workover Fluids for Overboard Disposal
Technologies to reduce oil and grease content of well treatment, well completion, and workover fluids for overboard disposal. Pages: 54

Management of Naturally Occurring Radioactive Materials (NORM) in Oil and Gas Production
Naturally occurring radioactive materials (NORM) are present in oil and gas operations at some locations and can deposit in well tubulars, surface piping, vessels, pumps, and other producing and processing equipment. The purpose of this document is to inform oil and gas operators of the possible presence of NORM and to provide relevant information on protecting workers, the public, and the environment. The objective of this document is to provide general information to users so that they have an understanding of the fundamental radiation issues associated with the management of NORM. Issues where the advice of a professional health physicist, industrial hygienist, or other technical expert may be useful are identified and guidance provided. Readers are advised to contact their state regulatory office and work very closely with that office on all NORM issues. Pages: 50

A Naturally Occurring Radioactive Material (NORM) Disposal Cost Study
Details the reported quantities of NORM that have accumulated over the years and the annual rate of NORM production for 1993 from U.S. oil and gas condensate production. The document also determines the 1992 cost of available NORM disposal options and the annual costs of complying with existing and proposed NORM regulations. Pages: 59

A National Survey on Naturally Occurring Radioactive Material (NORM) in Petroleum Production Equipment
A National Survey on Naturally Occurring Radioactive Material (NORM) in Petroleum Production Equipment defines the general occurrence of NORM in the United States based on statistical analysis of gamma measurements taken external to certain petroleum producing and gas processing equipment. Pages: 265

Methods for Measuring Naturally Occurring Radioactive Materials (NORM) in Petroleum Production Equipment
The use and capabilities of common field-survey equipment are characterized for measuring NORM in sludges and scales accumulated in oil and gas production equipment. A correlation between radium concentrations in accumulated scales and sludges and measured external radiation is presented. Pages: 85

Management and Disposal Alternatives for Naturally Occurring Radioactive Material (NORM) Wastes in Oil Production and Gas Plant Equipment
Presents radiological analyses of disposal alternatives that will protect against elevated radiation exposures and facilitate cost-effective precautions that are proportionate to any hazards posed by the NORM. Four waste forms and 12 waste disposal alternatives were analyzed. Pages: 65
Exploration and Production

To purchase individual API standards, visit apiwebstore.org

Publ 7104
Proceedings of the 1995 API and GRI Naturally Occurring Radioactive Material (NORM) Conference

A compilation of 17 papers presented at the 1995 API/GRI NORM Conference. Subjects include measurement and survey; regulatory issues and activities; management and disposal; and scale prediction and control.

Pages: 225
October 1997 | Product Number: G71041 | Price: $124.00

Publ 7105
Probabilistic Estimates of Dose and Indoor Radon Concentrations Attributable to Remediated Oilfield Naturally Occurring Radioactive Material (NORM)

Evaluates the concentration limit of 30 pCi/g Ra-226 in pipe scale and sludge left near the surface of remediated oilfield sites and returned to unrestricted public use. Includes an extensive bibliography of NORM research. Pages: 97

October 1997 | Product Number: G71051 | Price: $124.00

HEALTH, ENVIRONMENT, AND SAFETY:
WASTE

Guidelines for Commercial Exploration and Production Waste Management Facilities

Provides guidelines for the design and operations of commercial E&P waste management facilities to allow operators to identify areas where their facility could have impacts on the surrounding community and environment, and gives options for preventing/reducing those impacts. The guidelines are not meant to supersede any applicable local, state, or federal requirements.

Pages: 80

Protecting Livestock: Answers to Frequently Asked Questions about Livestock Exposure to Crude Oil in Oilfield Operations

Describes ways livestock might be significantly exposed to petroleum hydrocarbons via a conceptual site model and outlines how to make a screening level determination of whether or not livestock are at risk from the exposure.

2006 | Product Number: I0PL06 | For a free copy, please visit http://www.api.org/~/media/Files/EHS/Environmental_Performance/LIVESTOCK_EXPOSURE_BROCHURE_FINAL.pdf

API E5
Environmental Guidance Document: Waste Management in Exploration and Production Operations

Includes recommendations for the environmentally sound management of solid waste resulting from the exploration and production of oil and gas. Guidance is provided for the management of drilling fluids, produced waters, and other wastes associated with the operation of gas plants, field facilities, drilling, and workover. Pages: 84

2nd Edition | February 1997 | Product Number: GE5002 | Price: $136.00

SECURITY

RP 70
Security for Offshore Oil and Natural Gas Operations

Intended to assist the offshore oil and natural gas drilling and producing operators and contractors in assessing security needs during the performance of oil and natural gas operations. It includes information on security awareness, conducting security vulnerability assessments when warranted, and developing security plans for offshore facilities. Pages: 16

1st Edition | March 2003 | Reaffirmed: September 2010
Product Number: G07001 | Price: $62.00

RP 70I
Security for Worldwide Offshore Oil and Natural Gas Operations

Intended to assist the offshore oil and natural gas drilling and producing operators and contractors in assessing security needs during the performance of oil and natural gas operations worldwide. Pages: 14

1st Edition | April 2004 | Reaffirmed: January 2012
Product Number: G70I03 | Price: $67.00