API Specification

5L

45th Edition, December 2012

Specification for Line Pipe

National Adoption of ISO 3183:2007—Petroleum and natural gas industries—Steel pipe for pipeline transportation systems

The following information is contained in Section 7 of API Specification 5L, 45th Edition

7 Information to be supplied by the purchaser

7.1 General information

The purchase order shall include the following information:

a) quantity (e.g. total mass or total length of pipe);
b) PSL (1 or 2);
c) type of pipe (see Table 2);
d) reference to API 5L;
e) steel grade (see 6.1, H.4.1.1, or J.4.1.1, whichever is applicable);
f) outside diameter and wall thickness (see 9.11.1.2);
g) length and type of length (random or approximate) (see 9.11.1.3, 9.11.3.3 and Table 12);
h) confirmation of applicability of individual annexes.

7.2 Additional information

The purchase order shall indicate which of the following provisions apply for the specific order item:

a) Items that are subject to mandatory agreement, if applicable:
   1) pipe designation for intermediate grades [see Table 1, footnote a)],
   2) chemical composition for intermediate grades (see 9.2.1 and 9.2.2),
   3) chemical composition for pipe with $t > 25{,}0$ mm (0.984 in) (see 9.2.3),
   4) carbon equivalent limits for PSL 2 pipe in Grade L415N or X60N (see Table 5),
   5) carbon equivalent limits for PSL 2 pipe in Grade L555Q or X80Q, L625Q or X90Q, and L690Q or X100Q (see Table 5),
   6) carbon equivalent limits for PSL 2 SMLS pipe with $t > 20{,}0$ mm (0.787 in) [see Table 5, footnote a)],
   7) diameter and out-of-roundness tolerances for pipe with $D > 1\,422$ mm (56.000 in) (see Table 10),
   8) diameter and out-of-roundness tolerances for the ends of SMLS pipe with $t > 25{,}0$ mm (0.984 in) [see Table 10, footnote b)],
   9) standard applicable to jointer welds (see A.1.2);
b) Items that apply as prescribed, unless otherwise agreed:

1) range of sizing ratio for cold-expanded pipe (see 8.9.2),
2) equation for sizing ratio (see 8.9.3),
3) chemical composition limits for PSL 1 pipe [see Table 4, footnotes c), e) and f)],
4) chemical composition limits for PSL 2 pipe [see Table 5, footnotes c), e), f), g), h), i), k), and l)],
5) yield/tensile ratio for grades L625Q or X90Q, L690 or X100 and L830 or X120 [see Table 7, footnotes g and h or Table J.2, footnotes h and i],
6) estimation and reporting of Charpy shear area (see 9.8.2.3),
7) tolerances for random length pipe [see 9.11.3.3 a)],
8) type of thread compound (see 9.12.2.4),
9) type of end face (see 9.12.5.1 or 9.12.5.2),
10) International Standard applicable to Charpy testing (see 10.2.3.3, 10.2.4.3, D.2.3.4.2 and D.2.3.4.3),
11) product analysis method (see 10.2.4.1),
12) alternate method for diameter measurement for D ≥ 508 mm (20.000 in) (see 10.2.8.1),
13) jointer welding type (see A.1.1),
14) offset of longitudinal pipe weld seams at jointer welds (see A.2.4),
15) repairs in cold-expanded pipe (see C.4.2),
16) alternate IQI type (see E.4.3.1);

c) Items that apply, if agreed:
1) delivery condition (see 6.2 and Table 1),
2) supply of quenched and tempered PSL 1 Grade L245 or B SMLS pipe (see Table 1),
3) supply of intermediate grades [see Table 2, footnote a)],
4) supply of double-seam SAWL pipe [see Table 2, footnote c)],
5) alternative to specified seam heat treatment for PSL 1 pipe (see 8.8.1),
6) supply of SAWH pipe with coil/plate end welds at the pipe ends (see 8.10.3),
7) supply of jointers (see 8.11),
8) CVN impact test temperature lower than 0 °C (32 °F) (see 9.8.2.1, 9.8.2.2 and 9.8.3),
9) CVN impact test of the pipe body of PSL 2 welded pipe with $D < 508$ mm (20.000 in) for shear fracture area (see 9.8.2.2 and Table 18),
10) CVN impact test of the longitudinal seam weld of PSL 2 HFW pipe (see 9.8.3 and Table 18),

11) DWT test of the pipe body of PSL 2 welded pipe with $D \geq 508$ mm (20.000 in) (see 9.9.1 and Table 18),
12) DWT test temperature lower than 0 °C (32 °F) (see 9.9.1),
13) fraction jointers comprising 2 or 3 pieces for 12 m (40 ft) nominal or 24 m (80 ft) nominal, respectively [see 9.11.3.3.c), d), and e)],
14) power-tight make-up of couplings (see 9.12.2.3 and 10.2.6.1),
15) special bevel configuration (see 9.12.5.3),
16) removal of outside weld bead at pipe ends of SAW or COW pipe [see 9.13.2.2 e)],
17) weldability data or tests for PSL 2 pipe (see 9.15),
18) type of inspection document for PSL 1 pipe (see 10.1.2.1),
19) manufacturing information for PSL 1 pipe (see 10.1.2.2),
20) alternative type of inspection document for PSL 2 pipe (see 10.1.3.1),
21) use of transverse test pieces for tensile tests of SMLS pipe, not cold-expanded [see Table 20, footnote c)],
22) use of the ring expansion test for transverse yield strength determinations [see 10.2.3.2, Table 19 note c), and Table 20 note d)],
23) use of an alternative to macrographic examination (see 10.2.5.2),
24) hardness test during production of EW and LW pipe (see 10.2.5.3),
25) specific condition to be used for hydrostatic tests for threaded and coupled pipe (see 10.2.6.1),
26) alternate hydrotest pressure (see Table 26),
27) use of minimum permissible wall thickness to determine hydrostatic test pressure (see 10.2.6.7),
28) specific method to be used for determining pipe diameter (see 10.2.8.1),
29) use of inside diameter measurements to determine diameter and out-of-roundness for expanded pipe with $D \geq 219{,}1$ mm (8.625 in) and for non-expanded pipe [see 10.2.8.3 and Table 10, footnote c)],
30) specific method to be used for determining other pipe dimensions (see 10.2.8.7),
31) paint-stencilled markings for couplings (see 11.1.2),
32) additional markings specified by the purchaser (see 11.1.4),
33) specific surface or location for pipe markings [see 11.2.2 b) and 11.2.6 b)],

34) die-stamping or vibro-etching of pipe (see 11.2.3),
35) alternative location for marking the pipe (see 11.2.4),
36) alternative format for pipe length marking locations (see 11.2.6 a),
37) colour identification for pipe (see 11.2.7),
38) multiple grade marking (see 11.4.1),
39) temporary external coating (see 12.1.2),
40) special coating (see 12.1.3),
41) lining (see 12.1.4),
42) manufacturing procedure qualification for PSL 2 pipe, in which case Annex B shall apply (see B.2),
43) radiographic inspection of SAW seam or coil/plate end weld (see Table E.1),
44) non-destructive inspection of PSL 1 SMLS pipe (see E.3.1.2),
45) NDT of EW seam welds after hydrotest [see E.3.1.3 b)],
46) ultrasonic inspection of welded pipe for laminar imperfections at pipe ends (see E.3.2.3),
47) ultrasonic inspection of SMLS pipe for laminar imperfections at pipe ends (see E.3.3.2),
48) radiographic inspection in accordance with Clause E.4,
49) use of both holes and notches in ultrasonic reference standard (see Table E.7),
50) alternative re-inspection technique for COW seams (see E.5.5.5),
51) ultrasonic inspection for laminar imperfections in the pipe body of EW, SAW or COW pipe (see E.8),
52) ultrasonic inspection for laminar imperfections along the coil/plate edges or the weld seam of EW, SAW or COW pipe (see E.9),
53) supply of welded couplings on pipe with $D \geq 355{,}6$ mm (14.000 in) (see F.1.4),
54) application of Annex G to PSL 2 pipe where purchaser shall specify the toughness test temperature, the minimum energy for each test and the minimum average energy value required for the order (see G.2),
55) PSL 2 pipe for sour service, in which case, Annex H shall apply (see H.2),
56) TFL pipe, in which case Annex I shall apply (see I.2),
57) pipe for offshore service, in which case Annex J shall apply (see J.2),
58) any other additional or more stringent requirements.