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## Errata 1

### Text Corrections

*Section 3.1.10, Corrections shall be made as indicated within the red box:*

**NOTE** The main difference between coupling material and coupling stock is that coupling material has no mandatory NDE inspection requirements (see 10.15); see Section 9 for mandatory NDE requirements for finished couplings.

*Section 3.1.19, Corrections shall be made as indicated within the red box:*

**NOTE** See Table C.42 ~~or~~ Table E.42.

*Section 3.2, Corrections shall be made as indicated within the red boxes:*

$A_{\text{f}}$

$E_{\text{f}}$

$G_{\text{v}}$

$D$

$d$

$k$

$S_{\text{c}}$

$t$

$W$

$W_{\text{c}}$

$YS_{\text{max}}$

$YS_{\text{min}}$

*Section 4.3, Corrections shall be made as indicated within the red box:*

### 4.3 Dual Referencing

In the interests of worldwide application of this **standard**, the API Subcommittee on Tubular Goods (SC5) has decided, after detailed technical analysis, that certain documents listed in Section 2 and prepared by API SC5 or other technical committees are interchangeable in the context of the relevant requirement with the relevant document prepared by the International Organization for Standardization (ISO) or the American Society for Testing and Materials (ASTM). These latter documents are cited in the running text following the API reference and preceded by

*Section 6.2.1, Corrections shall be made as indicated within the red box:*

For the purposes of this standard, in addition to the terms and definitions given in Section 3, the terms and definitions given in ASTM A941 for heat treatment operations also apply.

*Section 7.5.1, Corrections shall be made as indicated within the red box:*

#### **7.5.1 Grades H40, J55, and K55**

*Section 7.10.1, Corrections shall be made as indicated within the red box:*

For each size, mass, chemical composition, and austenitize-and-quench combination, a through-wall hardness test shall be made on products after quenching and prior to tempering for each production run to characterize the hardening response. These tests shall be made on the body of products or, in the case of upset products or accessory material, shall be made in the upset or design area of greatest wall thickness. Mean hardness numbers shall equal or exceed the hardness corresponding to a minimum of 90% martensite, as determined by Equation (2):

*Section 10.5.4, Corrections shall be made as indicated within the red box:*

#### **10.5.4 Test Method for Grades H40, J55, K55, N80 (All Types), R95, and L80 (Type 1)**

*Section 10.7.8, Corrections shall be made as indicated within the red box:*

#### **10.7.8 Replacement of a Reject Length—All Grades**

If the results of a test do not meet the requirements of 7.4 to 7.6, as applicable, and do not qualify for retesting in accordance with 10.7.7, then an additional three test specimens shall be removed from each of three additional lengths from the lot. If all the additional lengths tested conform to the requirements, then the lot shall be qualified except for the length that was initially rejected. If one or more of the additional lengths tested fail to conform to the specified requirements, the manufacturer may elect to test individually the remaining lengths in the lot or reheat-treat and test the lot as a new lot.

*Section 10.15.9, Corrections shall be made as indicated within the red boxes:*

#### **10.15.9 Full-body, Full-length NDE of Casing and Tubing-grades C90, T95, C110, and Q125**

All pipe shall be ultrasonically inspected for the detection of both longitudinal and transverse imperfections on the outside and inside surfaces to acceptance level L2 in accordance with ISO 10893-10 or ASTM E213 (longitudinal) and ISO 10893-10 or ASTM E213 (transverse).

*Section 10.15.10, Third paragraph, Corrections shall be made as indicated within the red box:*

For Grades H40, J55, K55, N80 (all types), R95, and L80 (all types), the weld seam shall be inspected for the detection of longitudinal imperfections by one or more of the following methods:

*Section 10.15.11, Corrections shall be made as indicated within the red boxes:*

#### **10.15.11 NDE of Coupling Stock (Except Grade C110) Accessory Material (Except Grade C110) and Pup Joints (All Grades)**

*Section 10.15.11.1, Corrections shall be made as indicated within the red box:*

**10.15.11.1** When NDE is required for coupling stock or accessory material, except Grade C110, according to Table C.42 or Table E.42, the inspection shall be for the detection of longitudinal and transverse imperfections on the outside surface to acceptance level L2 by one or more of the following methods:

Section 10.15.12.1, Corrections shall be made as indicated within the red box:

#### 10.15.12.1 General

All coupling stock and accessory material shall be inspected for the detection of longitudinal and transverse imperfections on the outside surface to acceptance level L2 by one or more of the following methods:

Section G.3.2, Corrections shall be made as indicated within the red box:

#### G.3.2 Wall Thickness

The USC values for wall thickness were converted to SI values using Equation (G.3):

$$t_m = 25.4 \times t \quad (G.3)$$

Section G.10.3, Corrections shall be made as indicated within the red boxes:

#### G.10.3 Critical Stress Intensity Factor ( $K_{I,SSC}$ ) for SSC Requirements

The critical stress intensity factor  $K_{I,SSC}$  expressed in USC may be converted to SI values using Equation (G.35):

$$K_{I,SSCm} = 1.099 \times K_{I,SSC} \quad (G.35)$$

where

$K_{I,SSCm}$  is the critical stress intensity factor for SSC, expressed in megapascals–square root of meters (MPa·√m);

$K_{I,SSC}$  is the critical stress intensity factor for SSC, expressed in kilopounds–square root of inches (ksi·√in.).

The converted SI values for critical stress intensity factor  $K_{I,SSCm}$  for SSC may be rounded to the nearest 0.1 megapascals–square root of meters (MPa·√m).

The converted USC values for critical stress intensity factor  $K_{I,SSC}$  for SSC may be rounded to the nearest 0.1 kilopounds–square root of inches (ksi·√in.).

Section H.3.2, Corrections shall be made as indicated within the red box:

#### H.3.2 Grades R95 and P110 (6.3.1, 6.3.3)

Gag press straightening or hot rotary straightening [400 °C (750 °F)] minimum at end of rotary straightening unless a higher minimum temperature is specified in the purchase agreement] is acceptable. If hot rotary straightening is not possible, the pipe may be cold-rotary straightened provided it is then stress-relieved at 510 °C (950 °F) or higher.

Section J.7.1, item h), Corrections shall be made as indicated within the red box:

h) NDE for longitudinal and transverse, internal and external defects to acceptance level L2 [H.18.1.3].

*Section K.6.5.1 through K.6.5.6, Corrections shall be made as indicated within the red boxes:*

**K.6.5.1 SR 11.5.1—Non-weld Area Inspection**

The pipe body shall be inspected in the same manner as the seamless product as specified in Section 10.

**K.6.5.2 SR 11.5.2—Non-destructive Examination of Weld Seam**

The weld seam of pipe (except upset ends) furnished to this standard shall be inspected non-destructively full-length (100 %) by ultrasonic methods. The inspection shall be performed after all heat treatment and any subsequent rotary straightening operation. Pipe upsets shall be inspected as specified in 10.15.14.

**K.6.5.3 SR 11.5.3—Equipment**

Any equipment utilizing the ultrasonic principles capable of continuous and uninterrupted inspection of the weld seam shall be used. The equipment shall be checked with an applicable reference standard as described in K.6.5.4 (SR 11.5.4) at least once every working shift to demonstrate the effectiveness of the inspection equipment and procedures. The equipment shall be adjusted to produce well-defined indications when the reference standard is scanned by the inspection unit in a manner simulating the inspection of the product, and shall be capable of inspecting 1.6 mm ( $1/16$  in.) on either side of the weld line for the entire wall thickness.

**K.6.5.4 SR 11.5.4—Reference Standards**

**K.6.5.5 SR 11.5.5—Rejection Limits**

Any imperfection that produces a signal greater than or equal to the signal received from the reference standard shall be considered a defect unless it can be demonstrated by the manufacturer that the imperfection does not exceed the provisions of K.6.5.6 (SR 11.5.6).

**K.6.5.6 SR 11.5.6—Disposition**

*Section K.7.2, Third paragraph; Corrections shall be made as indicated within the red box:*

By agreement between purchaser and manufacturer, a factor  $F$  of 3.090 may be used in lieu of the values given in Table C.51 (SR 12.1) or Table E.51 (SR 12.1) provided the standard deviation of the new lot of material is consistent with past experience.

*Section K.9.6.5, Corrections shall be made as indicated within the red box:*

**K.9.6.5 SR 16.6.5—Sub-size Test Temperature Reduction—Grades H40, J55, and K55 Only**

A test temperature reduction may be required when sub-size test specimens are used. The test temperature reduction depends on the thickness of the pipe and the size of the impact test specimen.

The test temperature reduction specified in Table C.57 (SR 16.7) or Table E.57 (SR 16.7) shall be used when applicable.

*Bibliography, Item 12: Corrections shall be made as indicated within the red box:*

[12] NACE MR0175/ISO 15156-1, *Petroleum and natural gas industries—Materials for use in H<sub>2</sub>S—containing environments in oil and gas production—Part 1: General principles for selection of cracking-resistant materials*

## Figure Corrections

Figure D.14: The figure shall be updated as indicated within the red boxes:

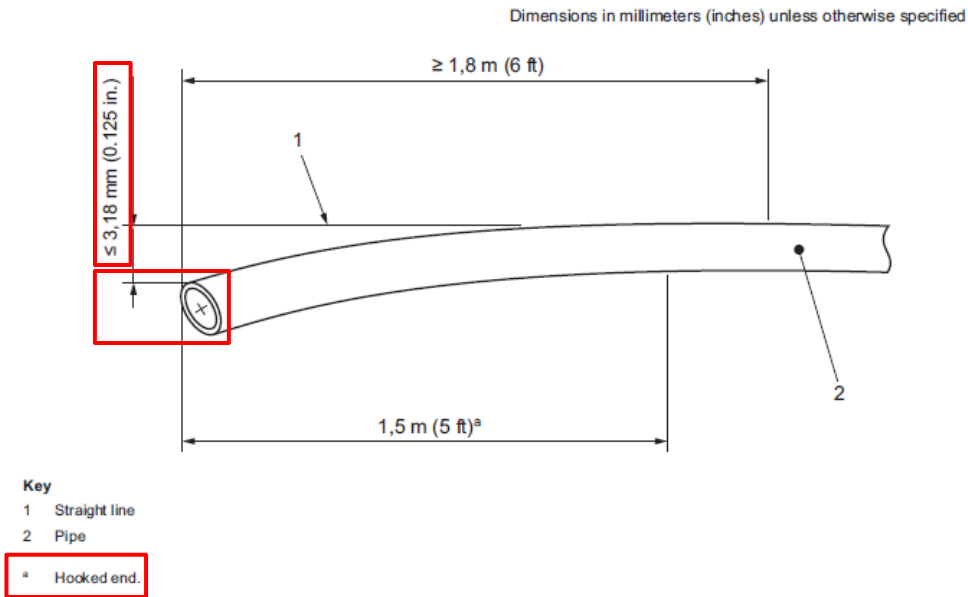


Figure D.14—Measuring End Straightness

Figure D.17: The figure shall be updated as indicated within the red box:

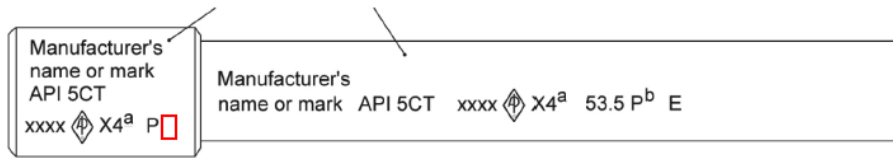
9 5/8	244.48	47.6 (1.875)	4.78 (0.188)	243.92 (9.603)	244.55 (9.628)	2.54 (0.100)	3.96 (0.156)
10 3/4	273.05	44.5 (1.750)	4.78 (0.188)	272.67 (10.735)	273.30 (10.760)	2.54 (0.100)	3.96 (0.156)
11 3/4	298.45	47.6 (1.875)	4.78 (0.188)	297.89 (11.728)	298.53 (11.753)	2.54 (0.100)	3.96 (0.156)
13 3/8	339.72	57.2 (2.250)	4.78 (0.188)	338.56 (13.329)	339.19 (13.354)	2.54 (0.100)	3.96 (0.156)
16	406.40	69.9 (2.750)	4.78 (0.188)	404.44 (15.923)	405.08 (15.948)	2.54 (0.100)	3.96 (0.156)
18 5/8	473.08	69.9 (2.750)	4.78 (0.188)	471.12 (18.548)	471.75 (18.573)	2.54 (0.100)	3.96 (0.156)
20	508.00	69.9 (2.750)	4.78 (0.188)	506.04 (19.923)	506.68 (19.948)	2.54 (0.100)	3.96 (0.156)

Figure D.22: The figure title shall be revised as indicated within the red boxes:

Figure D.22—Examples of Marking Requirements and Sequence for Manufacturers and Threaders using the API Monogram (Annexes A and F), Section 11, and Table C.48 or E.48

- a) EXAMPLE 1**—Tubing Label 1: 2 7/8, Label 2: 6.5, Grade N80 Type 1, electric weld, external upset, threaded (by the manufacturer) pin-by-pin without couplings. January 20XX.
- b) EXAMPLE 2**—Tubing Label 1: 2 7/8, Label 2: 8.7, Grade L80 Type 1, seamless, external upset, plain-end. Additional requirements include hydrostatic testing to 94.5 MPa (13,700 psi) and inspection to SR 2. January 20XX.
- c) EXAMPLE 3**—Casing Label 1: 7, Label 2: 35, Grade C90 Type 1, seamless, plain-end, serial number 201. Supplementary requirement 16 (SR 16) for test at -10 °C (+14 °F). The pipe was pressure tested to 69 MPa (10,000 psi). February 20XX.
- d) EXAMPLE 4** <sup>e</sup> —Tubing coupling for Label 2 7/8, Grade J55, normalized upset (or non-upset) tubing, only visual inspection required. April 20XX.

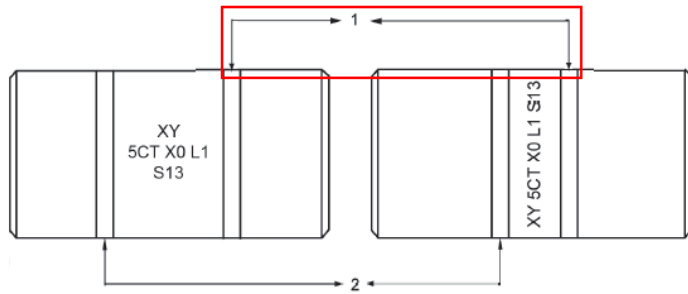
Figure D.22 (continued): The figure title shall be revised as indicated within the red boxes:



**Stamp Marking—Optional** [within approximately 0.3 m (1 ft) from the coupling]

**e) EXAMPLE 5<sup>e</sup>**—Buttress casing with coupling; Label 1: 9 5/8, Label 2: 53.5, Grade P110, electric weld; supplementary requirements are SR 11 and SR 16 for test at -18 °C (0 °F) and 215.9 mm (8.500 in.) drift test. Coupling is tin-plated. December 20XX.

Figure D.29: The figure shall be updated as indicated within the red box:



## Table Corrections

Table 3: Corrections shall be made as indicated within the red box:

Table 3—Purchaser/Manufacturer Agreement (Casing)

Requirement	Reference
Upset—Grade C110	6.1
Cold rotary straightening—Grade Q125	6.3.6
Statistical tensile testing	7.2.4, K.11 (SR 38)
Statistical impact testing	7.3.8, K.7 (SR 12)
Impact of non-heat-treated product	7.5.1, K.9 (SR 16)
Alternative hardenability requirement for products with a wall thickness of 30 mm (1.181 in.) or larger	7.10.2

Table 7: Corrections shall be made as indicated within the red boxes:

Requirement	Reference
Standard <span style="border: 1px solid red; display: inline-block; width: 40px; height: 15px;"></span>	API 5CT

Table 9: The title shall be revised as indicated within the red box:

Table 9—Full-size Test Specimen Minimum Absorbed Energy Requirements (Couplings) for Grades N80 [All Types], R95, L80 [All Types], C90, T95, P110, and Q125)

Table 10: Values shall be updated as indicated within the red boxes:

Transverse Requirement $C_v$	Longitudinal Requirement $C_v$
$YS_{min} \times (0.00118t + 0.01259)$ or 14 J, whichever is greater (Table C.18)	$YS_{min} \times (0.00236t + 0.02518)$ or 27 J, whichever is greater (Table C.19)
$YS_{min} \times (0.00118t + 0.01259)$ or 20 J, whichever is greater (Table C.18)	$YS_{min} \times (0.00236t + 0.02518)$ or 41 J, whichever is greater (Table C.19)
$YS_{min} \times (0.152t + 0.064)$ or 10 ft-lb, whichever is greater (Table E.18)	$YS_{min} \times (0.304t + 0.128)$ or 20 ft-lb, whichever is greater (Table E.19)
$YS_{min} \times (0.152t + 0.064)$ or 15 ft-lb, whichever is greater (Table E.18)	$YS_{min} \times (0.304t + 0.128)$ or 30 ft-lb, whichever is greater (Table E.19)

Table 11: Corrections shall be made as indicated within the red box:

Unit System and Grade
SI units, joules Grades C110 and Q125
USC units, foot-pounds Grades C110 and Q125

Table 14: Values shall be updated as indicated within the red boxes:

Table 14—Dimension Tolerances (Upset Integral Tubing)

Label 1	Tolerances behind $m_{eu}$ or $L_0$
$\leq 3 \frac{1}{2}$ <input type="checkbox"/>	$\begin{matrix} +2.38 \\ -0.79 \end{matrix}$ mm ( $\begin{matrix} +3/32 \\ -1/32 \end{matrix}$ in.) <input type="checkbox"/>

Table 15: Values shall be updated as indicated within the red boxes:

Table 15—Dimension Tolerances (External Upset Tubing)

Label 1	Tolerances
$\geq 2 \frac{3}{8}$ to $\leq 3 \frac{1}{2}$ <input type="checkbox"/>	$\begin{matrix} +2.38 \\ -0.79 \end{matrix}$ mm ( $\begin{matrix} +3/32 \\ -1/32 \end{matrix}$ in.) <input type="checkbox"/>
$> 3 \frac{1}{2}$ to $\leq 4$ <input type="checkbox"/>	$\begin{matrix} +2.38 \\ -0.79 \end{matrix}$ mm ( $\begin{matrix} +7/64 \\ -1/32 \end{matrix}$ in.) <input type="checkbox"/>



Table C.1: The text and values shall be made as indicated within the red boxes:

Labels <sup>a</sup>		Outside Diameter	Nominal Linear Mass <sup>b,c</sup> T&C	Wall Thickness	Type of End-finish <sup>d</sup>							
1	2	D mm	kg/m	t mm	H40	J55 K55	L80 R95	N80 Type 1, Q	C90 T95	C110	P110	Q125
1	2	3	4	5	6	7	8	9	10	11	12	13
4 1/2	9.50	114.30	14.38	5.21	PS	PS	—	—	—	—	—	—
4 1/2	10.50	114.30	15.73	5.69	—	PSB	—	—	—	—	—	—
4 1/2	11.60	114.30	17.38	6.35	—	PSLB	PLB	PLB	PLB	P	PLB	—
4 1/2	13.50	114.30	19.87	7.37	—	—	PLB	PLB	PLB	P	PLB	—
4 1/2	15.10	114.30	22.69	8.56	—	—	—	—	—	—	PLB	PLB
5	11.50	127.00	17.19	5.59	—	PS	—	—	—	—	—	—
5	13.00	127.00	19.69	6.43	—	PSLB	—	—	—	—	—	—
5	15.00	127.00	22.69	7.52	—	PSLB	PLB	PLB	PLB	P	PLB	PLB
5	18.00	127.00	27.19	9.19	—	—	PLB	PLB	PLB	P	PLB	PLB
5	21.40	127.00	32.13	11.10	—	—	PLB	PLB	PLB	P	PLB	PLB
5	23.20	127.00	34.76	12.14	—	—	PLB	PLB	PLB	P	PLB	PLB
5	24.10	127.00	36.15	12.70	—	—	PLB	PLB	PLB	P	PLB	PLB
5 1/2	14.00	139.70	20.91	6.20	PS	PS	—	—	—	—	—	—
5 1/2	15.50	139.70	23.48	6.98	—	PSLB	—	—	—	—	—	—
5 1/2	17.00	139.70	25.72	7.72	—	PSLB	PLB	PLB	PLB	P	PLB	—
5 1/2	20.00	139.70	30.05	9.17	—	—	PLB	PLB	PLB	P	PLB	—
5 1/2	23.00	139.70	34.05	10.54	—	—	PLB	PLB	PLB	P	PLB	PLB
5 1/2	26.80	139.70	40.15	12.70	—	—	—	—	P	P	—	—
5 1/2	29.70	139.70	44.47	14.27	—	—	—	—	P	P	—	—
5 1/2	32.60	139.70	48.74	15.88	—	—	—	—	P	P	—	—
5 1/2	35.30	139.70	52.80	17.45	—	—	—	—	P	P	—	—
5 1/2	38.00	139.70	56.82	19.05	—	—	—	—	P	P	—	—
5 1/2	40.50	139.70	60.64	20.62	—	—	—	—	P	P	—	—
5 1/2	43.10	139.70	64.41	22.22	—	—	—	—	P	P	—	—
6 5/8	20.00	168.28	29.76	7.32	PS	PSLB	—	—	—	—	—	—
6 5/8	24.00	168.28	35.72	8.94	—	PSLB	PLB	PLB	PLB	P	PLB	—
6 5/8	28.00	168.28	41.67	10.59	—	—	PLB	PLB	PLB	P	PLB	—
6 5/8	32.00	168.28	47.62	12.06	—	—	PLB	PLB	PLB	P	PLB	PLB

Table C.4: Values shall be updated as indicated within the red boxes:

Table C.4—Chemical Composition, Mass Fraction (%)

Grade	Type	C		Mn		Mo		Cr		Ni	Cu	P	S	Si
		min	max	min	max	min	max	min	max	max	max	max	max	max
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
H40	—	—	—	—	—	—	—	—	—	—	—	0.030	0.030	—
J55	—	—	—	—	—	—	—	—	—	—	—	0.030	0.030	—
K55	—	—	—	—	—	—	—	—	—	—	—	0.030	0.030	—
N80	1	—	—	—	—	—	—	—	—	—	—	0.030	0.030	—
N80	Q	—	—	—	—	—	—	—	—	—	—	0.030	0.030	—
R95	—	—	0.45 <sup>c</sup>	—	1.90	—	—	—	—	—	—	0.030	0.030	0.45
L80	1	—	0.43 <sup>a</sup>	—	1.90	—	—	—	—	0.25	0.35	0.030	0.030	0.45
L80	9Cr	—	0.15	0.30	0.60	0.90	1.10	8.00	10.0	0.50	0.25	0.020	0.010	1.00
L80	13Cr	0.15	0.22	0.25	1.00	—	—	12.0	14.0	0.50	0.25	0.020	0.010	1.00
C90	1	—	0.35	—	1.20	0.25 <sup>b</sup>	0.85	—	1.50	0.99	—	0.020	0.010	—
T95	1	—	0.35	—	1.20	0.25 <sup>b</sup>	0.85	0.40	1.50	0.99	—	0.020	0.010	—
C110	—	—	0.35	—	1.20	0.25	1.00	0.40	1.50	0.99	—	0.020	0.005	—

Table C.5: The text shall be updated as indicated within the red boxes:

Table C.5—Tensile and Hardness Requirements

Grade	Type	Total Elongation Under Load %	Yield Strength MPa		Tensile Strength min MPa	Hardness <sup>a,0</sup> max		Specified Wall Thickness mm	Allowable Hardness Variation <sup>b</sup> HRC
			min	max		HRC	HBW		
1	2	3	4	5	6	7	8	9	10
H40	—	0.5	278	552	414	—	—	—	—
J55	—	0.5	379	552	517	—	—	—	—
K55	—	0.5	379	552	655	—	—	—	—
N80	1	0.5	552	758	689	—	—	—	—
N80	Q	0.5	552	758	689	—	—	—	—
R95	—	0.5	655	758	724	—	—	—	—
L80	1	0.5	552	655	655	23.0	241	—	—
L80	9Cr	0.5	552	655	655	23.0	241	—	—
L80	13Cr	0.5	552	655	655	23.0	241	—	—
C90	1	0.5	621	724	689	25.4	255	≤12.70	3.0
								12.71 to 19.04	4.0
								19.05 to 25.39	5.0
								≥ 25.40	6.0
T95	1	0.5	655	758	724	25.4	255	≤12.70	3.0
								12.71 to 19.04	4.0
								19.05 to 25.39	5.0
								≥ 25.40	6.0
C110	—	0.7	758	828	793	30.0	286	≤12.70	3.0
								12.71 to 19.04	4.0
								19.05 to 25.39	5.0
								≥ 25.40	6.0
P110	—	0.6	758	965	862	—	—	—	—
Q125	1	0.65	862	1034	931	b	—	≤12.70	3.0
								12.71 to 19.04	4.0
								≥19.05	5.0

<sup>a</sup> In case of dispute, laboratory Rockwell C hardness testing shall be used as the referee method.

<sup>b</sup> No hardness limits are specified, but the maximum variation is restricted as a manufacturing control in accordance with 7.8 and 7.9.

<sup>c</sup> For through-wall hardness tests of Grades L80 (all types), C90, T95 and C110, the requirements stated in HRC scale are for maximum mean hardness number.

Table C.6: Values shall be updated as indicated within the red boxes:

Table C.6—Elongation Table

Tensile Test Specimen				Minimum Elongation in 50.8 mm							
				%							
				Grade							
				H40	J55	K55 L80	N80 C90	R95 T95	C110	P110	Q125
Specimen Area mm <sup>2</sup>	Specified Wall Thickness mm			Specified Minimum Tensile Strength MPa							
	Specimen Width 19 mm	Specimen Width 25 mm	Specimen Width 38 mm	414	517	655	689	724	793	862	931
1	2	3	4	5	6	7	8	9	10	11	12
490	≥ 25.53	≥ 19.41	≥ 12.77	30	24	20	19	18	16	15	14
480	25.00–25.52	19.00–19.40	12.51–12.76	29	24	19	19	18	16	15	14
470	24.48–24.99	18.61–18.99	12.24–12.50	29	24	19	19	18	16	15	14
460	23.95–24.47	18.20–18.60	11.98–12.23	29	24	19	18	18	16	15	14
450	23.43–23.94	17.81–18.19	11.72–11.97	29	24	19	18	18	16	15	14
440	22.90–23.42	17.40–17.80	11.45–11.71	29	24	19	18	18	16	15	14
430	22.37–22.89	17.01–17.39	11.19–11.44	29	24	19	18	17	16	15	14
420	21.85–22.36	16.60–17.00	10.93–11.18	29	23	19	18	17	16	15	14
410	21.32–21.84	16.21–16.59	10.66–10.92	29	23	19	18	17	16	15	14
400	20.79–21.31	15.80–16.20	10.40–10.65	28	23	19	18	17	16	15	14
390	20.27–20.78	15.41–15.79	10.14–10.39	28	23	19	18	17	16	15	14
380	19.74–20.26	15.00–15.40	9.87–10.13	28	23	19	18	17	16	15	14
370	19.22–19.73	14.61–14.99	9.61–9.86	28	23	19	18	17	16	14	13
360	18.69–19.21	14.20–14.60	9.35–9.60	28	23	18	18	17	16	14	13
350	18.16–18.68	13.81–14.19	9.08–9.34	28	23	18	17	17	15	14	13
340	17.64–18.15	13.40–13.80	8.82–9.07	28	23	18	17	17	15	14	13
330	17.11–17.63	13.01–13.39	8.56–8.81	27	22	18	17	17	15	14	13
320	16.58–17.10	12.60–13.00	8.29–8.55	27	22	18	17	16	15	14	13
310	16.06–16.57	12.21–12.59	8.03–8.28	27	22	18	17	16	15	14	13
300	15.53–16.05	11.80–12.20	7.77–8.02	27	22	18	17	16	15	14	13
290	15.01–15.52	11.41–11.79	7.51–7.76	27	22	18	17	16	15	14	13
280	14.48–15.00	11.00–11.40	7.24–7.50	26	22	18	17	16	15	14	13
270	13.95–14.47	10.61–10.99	6.98–7.23	26	22	17	17	16	15	14	13
260	13.43–13.94	10.20–10.60	6.72–6.97	26	21	17	16	16	15	13	13
250	12.90–13.42	9.81–10.19	6.45–6.71	26	21	17	16	16	14	13	12
240	12.37–12.89	9.40–9.80	6.19–6.44	26	21	17	16	16	14	13	12
230	11.85–12.36	9.01–9.39	5.93–6.18	25	21	17	16	15	14	13	12
220	11.32–11.84	8.60–9.00	5.66–5.92	25	21	17	16	15	14	13	12
210	10.79–11.31	8.21–8.59	5.40–5.65	25	20	17	16	15	14	13	12
200	10.27–10.78	7.80–8.20	5.14–5.39	25	20	16	16	15	14	13	12
190	9.74–10.26	7.41–7.79	4.87–5.13	24	20	16	15	15	14	13	12
180	9.22–9.73	7.00–7.40	4.61–4.86	24	20	16	15	15	13	13	12
170	8.69–9.21	6.61–6.99	4.35–4.60	24	20	16	15	14	13	12	12

Table C.7: The title shall be revised as indicated in red box:

Table C.7—Critical Thickness for Couplings with API Threads

Dimensions in millimeters

Label 1	Critical Thickness for Couplings						
	NU	EU	Special Clearance		BC	LC	SC
			EU	BC			

Table C.13: Corrections shall be made as indicated in the red boxes:

Table C.13—Charpy Impact Test Specimen Requirements for Couplings, Coupling Stock, Coupling Material, Coupling Blanks, and Accessory Material for Grades N80 (All Types), R95, and T95

Label 1	API Connection Type and CVN Specimen Orientation, Size, and Energy						
	NU	EU	Special-clearance <sup>b</sup>		BC	LC	SC
			EU	BC			
1	2	3	4	5	6	7	8
1.050	<sup>a</sup>	L-5-22	—	—	—	—	—
1.315	L-5-22	L-7-32	—	—	—	—	—
1.680	L-5-22	L-5-22	—	—	—	—	—
1.900	L-5-22	L-7-32	—	—	—	—	—
2 <sup>3</sup> / <sub>8</sub>	L-7-32	L-7-32	L-7-32	—	—	—	—
2 <sup>7</sup> / <sub>8</sub>	L-10-40	L-10-40	L-10-40	—	—	—	—
3 <sup>1</sup> / <sub>2</sub>	T-5-11	T-5-11	T-5-11	—	—	—	—
4	T-7-18	T-7-18	—	—	—	—	—
4 <sup>1</sup> / <sub>2</sub>	T-7-18	T-7-21	—	L-7-32	T-7-18	T-7-18	—
5	—	—	—	T-5-11	T-10-20	T-10-20	—
5 <sup>1</sup> / <sub>2</sub>	—	—	—	T-5-11	T-10-20	T-10-20	—
6 <sup>5</sup> / <sub>8</sub>	—	—	—	T-10-20	T-10-20	T-10-21	—
7	—	—	—	T-7-18	T-10-21	T-10-21	—
7 <sup>5</sup> / <sub>8</sub>	—	—	—	T-10-20	T-10-22	T-10-23	—
8 <sup>5</sup> / <sub>8</sub>	—	—	—	T-10-20	T-10-23	T-10-24	—
9 <sup>5</sup> / <sub>8</sub>	—	—	—	T-10-20	T-10-23	T-10-24	—
10 <sup>3</sup> / <sub>4</sub>	—	—	—	T-10-20	T-10-23	—	T-10-24
11 <sup>3</sup> / <sub>4</sub>	—	—	—	—	T-10-23	—	T-10-24
13 <sup>3</sup> / <sub>8</sub>	—	—	—	—	T-10-23	—	T-10-24
16	—	—	—	—	—	—	—
18 <sup>5</sup> / <sub>8</sub>	—	—	—	—	—	—	—
20	—	—	—	—	—	—	—

NOTE In this table, the specimen orientation (T or L) is followed by the minimum specimen size (10, 7, or 5) which is followed by the minimum absorbed energy requirement (joules) according to the following code. The absorbed energy requirement is adjusted for the test specimen size indicated. Orientation and specimen size is calculated on coupling material/stock wall and not coupling critical thickness.

T is the transverse specimen orientation (see Figure D.11).

L is the longitudinal specimen orientation (see Figure D.11).

10 = full-size (i.e. 10 mm × 10 mm)

7 = <sup>3</sup>/<sub>4</sub>-size (i.e. 10 mm × 7.5 mm)

5 = <sup>1</sup>/<sub>2</sub>-size (i.e. 10 mm × 5 mm)

<sup>a</sup> Not thick enough to test.

<sup>b</sup> The information in this table assumes that special clearance couplings are machined from regular coupling blanks.

Table C.18: The text shall be moved down one row as indicated in red box:

Table C.18—Transverse Charpy Absorbed Energy Requirements for Pipe

Maximum Specified Wall Thickness <sup>a</sup> mm						Minimum Transverse Absorbed Energy J
N80, L80	C90	R95, T95	C110	P110	Q125	
1	2	3	4	5	6	7
11.59	9.11	8.09	—	—	—	14
13.12	10.48	9.38	—	—	—	15
14.66	11.84	10.67	—	—	—	16
16.19	13.21	11.97	—	—	—	17
17.73	14.57	13.26	—	—	—	18
19.26	15.94	14.56	—	—	—	19
20.80	17.30	15.85	10.31	12.24	6.13	20
22.33	18.67	17.14	11.33	13.36	6.95	21
23.87	20.03	18.44	12.35	14.48	7.77	22
25.40	21.40	19.73	13.38	15.60	8.59	23
—	22.76	21.02	14.40	16.72	9.41	24
—	—	—	15.42	17.83	10.23	25
—	—	—	16.45	18.95	11.04	26
—	—	—	17.47	20.07	11.86	27
—	—	—	18.50	21.19	12.68	28
—	—	—	19.52	22.31	13.50	29
—	—	—	20.54	23.43	14.32	30
—	—	—	21.57	24.54	15.14	31
—	—	—	22.59	25.66	15.96	32
—	—	—	23.61	—	16.78	33

Table C.23: Corrections shall be made as indicated within the red boxes:

Table C.23—Dimensions and Masses for Standard Casing and for Casing Threaded with API Round Thread and Buttress Thread

Labels <sup>a</sup>		Outside Diameter	Nominal Linear Mass T & C <sup>b,c</sup>	Wall Thick- ness	Inside Diameter	Drift Diameter	Calculated Mass <sup>c</sup>				
							Plain- end	<i>e<sub>m</sub></i> , Mass Gain or Loss Due to End Finishing <sup>d</sup> kg			
								Round Thread		Buttress Thread	
		<i>D</i> mm	kg/m	<i>t</i> mm	<i>d</i> mm	mm	<sup>f</sup> <i>w<sub>pe</sub></i> kg/m	Short	Long	RC	SCC
1	2	3	4	5	6	7	8	9	10	11	12

<sup>f</sup> Based on 758 MPa minimum yield strength or greater.

<sup>g</sup> Based on 379 MPa minimum yield strength.

Table C.26: Values shall be updated as indicated within the red box:

1.900	2.40	48.26	3.57	—	38.89	38.89	6.35	53.59	50.80	25.40	49.86	0.79
1.900	2.76	48.26	4.11	—	38.89	38.89	6.35	53.59	50.80	25.40	49.86	0.79
2.063	3.25	52.40	4.84	53.19	42.47	42.47	6.35	59.06	53.98	25.40	54.76	0.79

Table C.27: Corrections shall be made as indicated within the red boxes:

Table C.27—Range Lengths

Dimensions in meters

	Range 1	Range 2	Range 3
<b>CASING (PE/T and C/SF)</b>			
Total range length, inclusive	4.88 to 7.62	7.62 to 10.36	10.36 to 14.63
Permissible variation, max <sup>a</sup>	1.83	1.52	1.83
<b>TUBING AND CASING USED AS TUBING (PE/T and C/SF)</b>			
Total range length, inclusive	6.10 to 7.32 <sup>b</sup>	8.53 to 9.75 <sup>c</sup>	11.58 to 12.80 <sup>d</sup>
Permissible variation, max <sup>a</sup>	0.61	0.61	0.61
<b>INTEGRAL TUBING CONNECTIONS (including IJ/PE and IJ/SF)</b>			
Total range length, inclusive	6.10 to 7.92 <sup>e</sup>	8.53 to 10.36	11.58 to 13.72
Permissible variation, max <sup>a</sup>	0.61	0.61	0.61
<b>PUP JOINTS</b>			
Lengths: 0.61; 0.91; 1.22; 1.83; 2.44; 3.05 and 3.66 <sup>e</sup>			
Tolerance: ±0.076			
<sup>a</sup> Length variation applies to rail car shipment to the point of use and does not apply to order items of less than 18,144 kg of pipe.			
<sup>b</sup> By agreement between purchaser and manufacturer, the maximum length may be increased to 8.57 m.			
<sup>c</sup> By agreement between purchaser and manufacturer, the maximum length may be increased to 10.76 m.			
<sup>d</sup> By agreement between purchaser and manufacturer, the maximum length may be increased to 13.72 m.			
<sup>e</sup> 0.61 m pup joints may be furnished up to 0.91 m long by agreement between purchaser and manufacturer, and lengths other than those listed may be furnished by agreement between purchaser and manufacturer.			

Table C.28: Corrections shall be made as indicated within the red boxes:

Table C.28—Standard Drift Size

Dimensions in millimeters

Product and Label 1	Standard Drift Mandrel Size min	
	Length	Diameter
Casing		
< 9 5/8	152	d – 3.18
≥ 9 5/8 to ≤ 13 3/8	305	d – 3.97
> 13 3/8	305	d – 4.76

Table C.33: Values shall be updated as indicated within the red boxes:

Table C.33—API Buttress Thread Casing Coupling—Dimensions, Tolerances, and Masses

Label 1	Size <sup>a</sup>	Outside Diameter		Minimum Length $N_L$	Diameter of Counterbore $Q$	Width of Bearing Face $b$	Mass kg	
	Outside Diameter $D$	Regular $W^{b,c}$	Special Clearance $W_c^d$				Regular	Special Clearance
	mm	mm	mm					
1	2	3	4	5	6	7	8	9
4 1/2	114.30	133.35	123.82	225.42	117.86	6.35	6.89	3.48
5	127.00	147.32	136.52	231.78	130.56	7.14	8.38	4.00
5 1/2	139.70	160.02	149.22	234.95	143.26	7.14	9.30	4.47

Table C.34: Values shall be updated as indicated within the red box:

Table C.34—API Non-upset Tubing Coupling—Dimensions, Tolerances, and Masses

Label 1	Size <sup>a</sup>	Outside Diameter $W^{b,c}$	Minimum Length $N_L$	Diameter of Recess $Q$	Width of Bearing Face $b$	Maximum Bearing Face Diameter, Special Bevel $B_f$	Mass kg
	Outside Diameter $D$						
	mm						
1	2	3	4	5	6	7	8
1.050	26.67	33.35	80.96	28.27	1.59	30.00	0.23
1.315	33.40	42.16	82.55	35.00	2.38	37.80	0.38
1.660	42.16	52.17	88.90	43.76	3.18	47.17	0.59
1.900	48.26	55.88	95.25	49.86	1.59	52.07	0.56
2 3/8	60.32	73.02	107.95	61.93	4.76	66.68	1.28
2 7/8	73.02	88.90	130.18	74.63	4.76	80.98	2.34
3 1/2	88.90	107.95	142.88	90.50	4.76	98.42	3.71
4	101.60	120.65	146.05	103.20	4.76	111.12	4.35
4 1/2	114.30	132.08	155.58	115.90	4.76	123.19	4.89

Table C.36: Corrections shall be made as indicated within the red box:

Casing <sup>a</sup>	< 6 5/8	0.89	0.76	0.76
	≥ 6 5/8 to ≤ 7 5/8	1.14	1.02	0.89
	≥ 7 5/8	1.52	1.02	0.89

<sup>a</sup> Includes casing used as tubing.

Table C.38: Corrections shall be made as indicated within the red boxes:

C90 and T95	Coupling stock and coupling material	Coupling stock and coupling material for pipe Label 1: All sizes	1 <sup>b</sup>	1	—
		Coupling blank	Label 1: < 9 5/8: 50 <sup>c</sup> Label 1: ≥ 9 5/8: 30 <sup>c</sup>	1	—
	Hot forging	Coupling blank	Label 1: < 9 5/8: 50 <sup>c</sup> Label 1: ≥ 9 5/8: 30 <sup>c</sup>	1	—
C110 and Q125	Coupling stock and coupling material	Coupling stock and coupling material for pipe Label 1: All sizes	1 <sup>b</sup>	1	—
		Coupling blank	Label 1: < 9 5/8: 50 <sup>c</sup> Label 1: ≥ 9 5/8: 30 <sup>c</sup>	1	—

Table C.39: Corrections shall be made as indicated within the red boxes:

Table C.39—Frequency of Tensile Testing—Pup Joints and Accessory Material

Grade	Material and Heat Treatment Conditions <sup>a</sup>		Maximum Number of Pieces in a Lot	Number of Tests	
				per Lot	per Heat
1	2	3	4	5	6
H40, J55, K55, N80 (all types)	Full-length standard tubing or casing from one or more heats		Label 1: < 6 5/8: 400 Label 1: ≥ 6 5/8: 200	1	1
P110	Full-length standard tubing or casing from one or more heats		Label 1: < 6 5/8: 200 Label 1: ≥ 6 5/8: 100	1	1
H40, J55, K55, N80 (all types)	Thick-wall mechanical tube or bar stock from a single heat		Label 1: ≥ 4 1/2: 200 Label 1: > 4 1/2: 100	1	1
	Heat-treated in individual lengths or hot forgings	Batch heat treatment	100 pup joints or 400 accessory material	1	—
Heat-treated in sequential loads or continuous heat treatment		In accordance with 10.2.3	1	—	
R95, L80 Type 1	Full-length standard tubing or casing from one or more heats		Label 1: < 4 1/2: 200 Label 1: ≥ 4 1/2: 100	2 <sup>a, b</sup>	2 <sup>a, b</sup>
	Thick-wall mechanical tube or bar stock from a single heat		Label 1: < 4 1/2: 200 Label 1: ≥ 4 1/2: 100	2 <sup>a, b</sup>	2 <sup>a, b</sup>
	Heat-treated in individual lengths or hot forgings	Batch heat treatment	100 pup joints or 400 accessory material	2 <sup>b</sup>	—
		Heat-treated in sequential loads or continuous heat treatment	In accordance with 10.2.3	2 <sup>b</sup>	—



Table C.40: Corrections shall be made as indicated within the red box:

Table C.40—Frequency of Hardness Testing

Grade	Material		Number of Tests per Lot	Maximum Number of Pieces in a Lot	Type of Test	Location
1	2		3	4	5	6
Grade L80	Pipe, coupling stock, coupling material	Label 1: $\leq 4 \frac{1}{2}$	2 <sup>a</sup>	200 <sup>b, c</sup>	Through-wall, 1 quadrant	Body tensile test
		Label 1: $> 4 \frac{1}{2}$	2 <sup>a</sup>	100 <sup>b, c</sup>	Through-wall, 1 quadrant	Body tensile test
	Coupling blanks or hot forgings		2 <sup>a</sup>	Heat-treat lot or 400 coupling blanks <sup>b, c</sup>	Through-wall, 1 quadrant	Coupling blank tensile test
	Pup joints and accessory material (heat-treated in individual lengths)	Batch heat treatment (method a, 10.2.3)	2 <sup>a</sup>	100 pup joints or 400 accessory material <sup>b, c</sup>	Through-wall, 1 quadrant	Pup joint or accessory tensile test
		Heat-treated in sequential loads (method b, 10.2.3)	2 <sup>a</sup>	Lot (see 10.2) <sup>b, c</sup>	Through-wall, 1 quadrant	Pup joint or accessory tensile test
		Continuous heat treatment (method c, 10.2.3)	2 <sup>a</sup>	Lot (see 10.2) <sup>b, c</sup>	Through-wall, 1 quadrant	Pup joint or accessory tensile test

Table C.43: Corrections shall be made as indicated within the red boxes:

Table C.43—Acceptance (Inspection) Levels

Material	Grade	External Imperfections		Internal Imperfections	
		Longitudinal	Transverse	Longitudinal	Transverse
1	2	3	4	5	6
Pipe body <sup>a</sup>	N80 Type 1	L3	—	L3	—
	N80Q, L80, R95	L4	—	L4	—
	P110 to K.9 (SR 16)	L4	L4	L4	L4
	P110	L2	L2	L2	L2
	P110 to K.9 (SR 16) and K.9 (SR 2)	L2	L2	L2	L2

Table C.48: Corrections shall be made as indicated within the red boxes:

8	Reduced alternative impact test temperature, if applicable. Fill in specified test temperature for full-size specimens, including $\pm$ symbol and °C	«...»C	P	P	P	P	
9	Heat treatment, if applicable: — J55 or K55 normalised	Z	P	P	P	P	P
	— J55 or K55 normalised and tempered	N&T	P	P	P	P	P
11	Supplementary requirements, if applicable: — K.2 (SR 1)	S1	P		P		
	— K.3 (SR 2)	S2	P		P		
	— K.4 (SR 9) (fill in type)	S9Q«...»				P	
	— K.8 (SR 13)	S13		D or P		P	
	— K.9 (SR 16) (fill in minimum full-size energy absorption requirement, in joules, and test temperature including $\pm$ symbol and °C)	S16«...»C	P			P	
	— K.10 (SR 22)	S22	P	D	P	D	
	— Annex H (PSL)	L2 or L3	P	P	P	P	P

Table E.1: Corrections shall be made as indicated within the red boxes:

Table E.1—API Casing List (sizes, masses, wall thickness, grade, and applicable end-finish)

Labels <sup>a</sup>		Outside Diameter	Nominal Linear Mass <sup>b,c</sup> T&C	Wall Thickness	Type of End-finish <sup>d</sup>							
1	2	D in.	lb/ft	r in.	H40	J55 K55	L80 R95	N80 Type 1, Q	C90 T95	C110	P110	Q125
9 5/8	32.30	9.625	32.30	0.312	PS	—	—	—	—	—	—	—
9 5/8	36.00	9.625	36.00	0.352	PS	PSLB	—	—	—	—	—	—
9 5/8	40.00	9.625	40.00	0.395	—	PSLB	PLB	PLB	PLB	P	—	—
9 5/8	43.50	9.625	43.50	0.435	—	—	PLB	PLB	PLB	P	PLB	—
9 5/8	47.00	9.625	47.00	0.472	—	—	PLB	PLB	PLB	P	PLB	PLB
9 5/8	53.50	9.625	53.50	0.545	—	—	PLB	PLB	PLB	P	PLB	PLB
9 5/8	58.40	9.625	58.40	0.595	—	—	PLB	PLB	PLB	P	PLB	PLB
9 5/8	59.40	9.625	59.40	0.609	—	—	—	—	P	P	—	—
9 5/8	64.90	9.625	64.90	0.672	—	—	—	—	P	P	—	—
9 5/8	70.30	9.625	70.30	0.734	—	—	—	—	P	P	—	—
9 5/8	75.60	9.625	75.60	0.797	—	—	—	—	P	P	—	—

Table E.4: Values shall be updated as indicated within the red box:

Table E.4—Chemical Composition, Mass Fraction (%)

Grade	Type	C		Mn		Mo		Cr		Ni	Cu	P	S	Si
		min	max	min	max	min	max	min	max	max	max	max	max	max
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
H40	—	—	—	—	—	—	—	—	—	—	—	0.030	0.030	—
J55	—	—	—	—	—	—	—	—	—	—	—	0.030	0.030	—
K55	—	—	—	—	—	—	—	—	—	—	—	0.030	0.030	—

Table E.5: Values shall be updated as indicated within the red boxes:

Table E.5—Tensile and Hardness Requirements

Grade	Type	Total Elongation Under Load %	Yield Strength ksi		Tensile Strength min ksi	Hardness <sup>a,c</sup> max		Specified Wall Thickness in.	Allowable Hardness Variation <sup>b</sup> HRC
			min	max		HRC	HBW		
1	2	3	4	5	6	7	8	9	10
H40	—	0.5	40	80	60	—	—	—	—
J55	—	0.5	55	80	75	—	—	—	—
K55	—	0.5	55	80	95	—	—	—	—
N80	1	0.5	80	110	100	—	—	—	—
N80	Q	0.5	80	110	100	—	—	—	—
R95	—	0.5	95	110	105	—	—	—	—
L80	1	0.5	80	95	95	23.0	241	—	—
L80	9Cr	0.5	80	95	95	23.0	241	—	—
L80	13Cr	0.5	80	95	95	23.0	241	—	—
C90	1	0.5	90	105	100	25.4	255	≤ 0.500 0.501 to 0.749 0.750 to 0.999 ≥ 1.000	3.0 4.0 5.0 6.0



Table E.10: Corrections shall be made as indicated within the red boxes:

Label 1	API Connection Type and CVN Specimen Orientation, Size, Energy, and Temperature Reduction						
	NU	EU	Special Clearance <sup>b</sup>		BC	LC	SC
			EU	BC			
1	2	3	4	5	6	7	8
1.050	a	L-5-11-A	—	—	—	—	—
1.315	L-5-11 A	L-7-16-A	—	—	—	—	—
1.660	L-5-11-B	L-5-11-B	—	—	—	—	—
1.900	L-5-11-A	L-7-16-B	—	—	—	—	—
2 3/8	L-7-16-A	L-7-16-A	L-7-16-A	—	—	—	—
2 7/8	L-10-20-A	L-10-20-A	L-10-20-A	—	—	—	—
3 1/2	T-5-8-E	T-5-8-E	T-5-8-D	—	—	—	—
4	T-7-12-B	T-7-12-B	—	—	—	—	—
4 1/2	T-7-12-B	T-7-12-B	—	L-7-16-A	T-7-12-A	T-7-12-A	T-7-12-A
5	—	—	—	T-5-8-C	T-7-12-D	T-10-15- <b>D</b>	T-7-12- <b>D</b>
5 1/2	—	—	—	T-5-8-C	T-7-12-D	T-10-15- <b>D</b>	T-10-15- <b>D</b>
6 5/8	—	—	—	T-10-15-A	T-10-15-A	T-10-15-A	T-10-15-A
7	—	—	—	T-7-12-A	T-10-15-A	T-10-15-A	T-10-15- <b>B</b>
7 5/8	—	—	—	T-10-15-A	T-10-15-A	T-10-15-A	T-10-15-A
8 5/8	—	—	—	T-10-15-A	T-10-15-A	T-10-15-A	T-10-15-A
9 5/8	—	—	—	T-10-15-A	T-10-15-A	T-10-15-A	T-10-15-A
10 3/4	—	—	—	T-10-15-A	T-10-15-A	—	T-10-15-A
11 3/4	—	—	—	—	T-10-15-A	—	T-10-15-A
13 3/8	—	—	—	—	T-10-15-A	—	T-10-15-A
16	—	—	—	—	T-10-15-A	—	T-10-15-A
18 5/8	—	—	—	—	T-10-15-A	—	T-10-15-A
20	—	—	—	—	T-10-15-A	T-10-15-A	T-10-15-A

Table E.13: Corrections shall be made as indicated within the red boxes:

Table E.13—Charpy Impact Test Specimen Requirements for Couplings, Coupling Stock, Coupling Material, Coupling Blanks, and Accessory Material for Grades N80 Type 1, N80Q, R95, and T95

Label 1	API Connection Type and CVN Specimen Orientation, Size, and Energy						
	NU	EU	Special Clearance <sup>b</sup>		BC	LC	SC
			<b>EU</b>	<b>BC</b>			
1	2	3	4	5	6	7	8
1.050	a	L-5-16	—	—	—	—	—

Table E.23: Values shall be updated as indicated within the red box:

Table E.23—Dimensions and Masses for Standard Casing and for Casing Threaded with API Round Thread and Buttress Thread

Labels <sup>a</sup>	Outside Diameter	Nominal Linear Mass T & C <sup>b,c</sup>	Wall Thickness	Inside Diameter	Drift Diameter	Calculated Mass <sup>c</sup>				
						Plain-end	$e_m$ , Mass Gain or Loss Due to End Finishing <sup>d</sup>			
							Round Thread		Buttress Thread	
	$D$ in.	lb/ft	$t$ in.	$d$ in.	in.	$w_{pe}$ lb/ft	Short	Long	RC	SCC

Table E.27: Corrections and values shall be made as indicated within the red boxes:

Table E.27—Range Lengths

Dimensions in feet

	Range 1	Range 2	Range 3
<b>CASING (PE/T and C/SF)</b>			
Total range length, inclusive	16.0 to 25.0	25.0 to 34.0	34.0 to 48.0
Permissible variation, max <sup>a</sup>	6.0	5.0	6.0
<b>TUBING AND CASING USED AS TUBING (PE/T and C/SF)</b>			
Total range length, inclusive	20.0 to 24.0 <sup>b</sup>	28.0 to 32.0 <sup>c</sup>	38.0 to 42.0 <sup>d</sup>
Permissible variation, max <sup>a</sup>	2.0	2.0	2.0

Table E.28: Corrections and values shall be made as indicated within the red boxes:

**Table E.28—Standard Drift Size**

Dimensions in inches

Product and Label 1	Standard Drift Mandrel Size min	
	Length	Diameter
Casing		
< 9 5/8	6	d – 1/8
≥ 9 5/8 to ≤ 13 3/8	12	d – 5/32
> 13 3/8	12	d – 3/16
Tubing <sup>a, b</sup>		
≤ 2 7/8	42	d – 3/32
> 2 7/8 to ≤ 8 5/8	42	d – 1/8
> 8 5/8 to < 10 3/4	42	d – 5/32
<sup>a</sup> Integral-joint tubing shall be tested before upsetting with a drift mandrel as shown, and shall also be drift-tested at the pin end, after upsetting, with a cylindrical drift mandrel 42 in. in length and $d_{in} - 0.015$ in diameter (see Table E.26, Column 6 for $d_{in}$ ).		
<sup>b</sup> Casing sizes larger than Label 1: 4 1/2 but smaller than Label 1: 10 3/4 specified by the purchaser to be used in tubing service shall be marked as specified in Section 11.		

Table E.33: Values shall be updated as indicated within the red box:

**Table E.33—API Buttress Thread Casing Coupling—Dimensions, Tolerances, and Masses**

Label 1	Size <sup>a</sup>	Outside Diameter		Minimum Length $N_L$	Diameter of Counterbore $Q$	Width of Bearing Face $b$	Mass lb	
	Outside Diameter $D$	Regular $W^{b, c}$	Special Clearance <sup>d</sup> $W_c$				Regular	Special Clearance
	in.	in.	in.					
1	2	3	4	5	6	7	8	9
4 1/2	4.500	5.250	4.875	8 7/8	4.640	1/4	15.19	7.68
5	5.000	5.800	5.375	9 1/8	5.140	9/32	18.46	8.82
5 1/2	5.500	6.300	5.875	9 1/4	5.640	9/32	20.50	9.85
6 5/8	6.625	7.390	7.000	9 5/8	6.765	1/4	24.49	12.46
7	7.000	7.875	7.375	10	7.140	5/16	30.82	13.84
7 5/8	7.625	8.500	8.125	10 3/8	7.765	5/16	34.88	20.47
8 5/8	8.625	9.625	9.125	10 5/8	8.765	3/8	45.99	23.80

Table E.38: Corrections shall be made as indicated within the red boxes:

C90 and T95	Coupling stock and coupling material	Coupling stock and coupling material for pipe Label 1: All sizes	1 <sup>b</sup>	1	—
		Coupling blank	Label 1: < 9 5/8: 50 <sup>c</sup> Label 1: ≥ 9 5/8: 30 <sup>c</sup>	1	—
	Hot forging	Coupling blank	Label 1: < 9 5/8: 50 <sup>c</sup> Label 1: ≥ 9 5/8: 30 <sup>c</sup>	1	—
C110 and Q125	Coupling stock and coupling material	Coupling stock and coupling material for pipe Label 1: All sizes	1 <sup>b</sup>	1	—
		Coupling blank	Label 1: < 9 5/8: 50 <sup>c</sup> Label 1: ≥ 9 5/8: 30 <sup>c</sup>	1	—

Table E.39: Values shall be updated as indicated within the red boxes:

Table E.39—Frequency of Tensile Testing—Pup Joints and Accessory Material

Grade	Material and Heat Treatment Conditions <sup>a</sup>		Maximum Number of Pieces in a Lot	Number of Tests	
				per Lot	per Heat
1	2	3	4	5	6
H40, J55, K55, N80 (all types)	Full-length standard tubing or casing from one or more heats		Label 1: < 6 5/8: 400 Label 1: ≥ 6 5/8: 200	1	1
P110	Full-length standard tubing or casing from one or more heats		Label 1: < 6 5/8: 200 Label 1: ≥ 6 5/8: 100	1	1
H40, J55, K55, N80 (all types)	Thick-wall mechanical tube or bar stock from a single heat		Label 1: ≥ 4 1/2: 200 Label 1: > 4 1/2: 100	1	1
	Heat-treated in individual lengths or hot forgings	Batch heat treatment	100 pup joints or 400 accessory material	1	—
		Heat-treated in sequential loads or continuous heat treatment	In accordance with 10.2.3	1	—
R95, L80 Type 1	Full-length standard tubing or casing from one or more heats		Label 1: < 4 1/2: 200 Label 1: ≥ 4 1/2: 100	2 <sup>a, b</sup>	2 <sup>a, b</sup>
	Thick-wall mechanical tube or bar stock from a single heat		Label 1: < 4 1/2: 200 Label 1: ≥ 4 1/2: 100	2 <sup>a, b</sup>	2 <sup>a, b</sup>
	Heat-treated in individual lengths or hot forgings	Batch heat treatment	100 pup joints or 400 accessory material	2 <sup>b</sup>	—
		Heat-treated in sequential loads or continuous heat treatment	In accordance with 10.2.3	2 <sup>b</sup>	—



Table E.40: Corrections shall be made as indicated within the red box:

Table E.40—Frequency of Hardness Testing

Grade	Material		Number of Tests per Lot	Maximum Number of Pieces in a Lot	Type of Test	Location
1	2		3	4	5	6
Grade L80	Pipe, coupling stock, coupling material	Label 1: $\leq 4 \frac{1}{2}$	2 <sup>a</sup>	200 <sup>b, c</sup>	Through-wall, 1 quadrant	Body tensile test
		Label 1: $> 4 \frac{1}{2}$	2 <sup>a</sup>	100 <sup>b, c</sup>	Through-wall, 1 quadrant	Body tensile test
	Coupling blanks or hot forgings		2 <sup>a</sup>	Heat-treat lot or 400 coupling blanks <sup>b, c</sup>	Through-wall, 1 quadrant	Coupling blank tensile test
	Pup joints and accessory material (heat-treated in individual lengths)	Batch heat treatment (method a, 10.2.3)	2 <sup>a</sup>	100 pup joints or 400 accessory material <sup>b, c</sup>	Through-wall, 1 quadrant	Pup joint or accessory tensile test
		Heat-treated in sequential loads (method b, 10.2.3)	2 <sup>a</sup>	Lot (see 10.2) <sup>b, c</sup>	Through-wall, 1 quadrant	Pup joint or accessory tensile test
		Continuous heat treatment (method c, 10.2.3)	2 <sup>a</sup>	Lot (see 10.2) <sup>b, c</sup>	Through-wall, 1 quadrant	Pup joint or accessory tensile test

Table E.43: Corrections shall be made as indicated within the red boxes:

Table E.43—Acceptance (Inspection) Levels

Material	Grade	External Imperfections		Internal Imperfections	
		Longitudinal	Transverse	Longitudinal	Transverse
1	2	3	4	5	6
Pipe body <sup>a</sup>	N80 Type 1	L3	—	L3	—
	N80Q, L80, R95	L4	—	L4	—
	P110 to K.9 (SR 16)	L4	L4	L4	L4
	P110	L2	L2	L2	L2
	P110 to K.9 (SR 16) and K.3 (SR 2)	L2	L2	L2	L2
	C90, T95, C110, Q125	UT	L2	L2	L2
Second method		L2	L2	—	—
Coupling stock	All grades except C110	L2	L2	N	N
	C110	L2	L2	L3	L3
Weld seam	P110, Q125	L2	N	L2	N
	All other grades	L3	N	L3	N
	All other grades to K.3 (SR 2)	L2	N	L2	N

NOTE N = Not required; L<sub>x</sub> = Acceptance (inspection) level.

<sup>a</sup> Accessory material shall be treated as pipe body.

Table E.48: Corrections shall be made as indicated within the red boxes:

4	Size designation (fill in Label 1 designation from Column 1 of Table E.1 or E.2)
	Specified diameter for coupling stock and other products with no mass designation
5	Mass designation (fill in Label 2 designation from Table E.1 or E.2)
	Specified wall thickness for coupling stock and other products with no mass designation

8	Reduced alternative impact test temperature, if applicable. Fill in specified test temperature for full-size specimens, including $\sigma$ symbol and $^{\circ}\text{F}$	«...»F	P	P	P	P	
9	Heat treatment, if applicable: — J55 or K55 normalised	Z	P	P	P	P	P
	— J55 or K55 normalised and tempered	N&T $\square$	P	P	P	P	P

11	Supplementary requirements, if applicable:						
	— K.2 (SR 1)	S1	P		P		
	— K.3 (SR 2)	S2	P		P		
	— K.4 (SR 9) (fill in type)	S9Q«...»				$\square$	
	— K.8 (SR 13)	S13		D or P		$\square$	
	— K.9 (SR 16) (fill in minimum full-size energy absorption requirement, in ft-lb and test temperature including $\sigma$ symbol and $^{\circ}\text{F}$ )	S16«...»F	P		P		
	— K.10 (SR 22)	S22	P	D	P	D	
— Annex H (PSL)	L2 or L3	P	P	P	P	P	
12	Hydrostatic test pressure <sup>e</sup> (fill in the actual test pressure, in psi)						
	All designations	P«...»	P		P		

Table G.2: The title shall be revised as indicated within the red box:

Table G.2—Plane-end Pipe Hydrostatic Test Factors by Grade and Size

Table H.1: Corrections shall be made as indicated within the red boxes:

Table H.1—Reference Table for PSL-2 and PSL-3 Requirements (Continued)

Annex H	API 5CT	Grade										
		J55	K55	N80 Type 1	N80 Q	R95	L80 Type 1	L80 13Cr	C90	T95	P110	Q125
1	2	3	4	5	6	7	8	9	10	11	12	13
H.18.1.1	10.15.5	2	2									
H.18.1.2	10.15.5 10.15.6			2	2							
H.18.1.3	10.15.6					2	2	2				