

API 5CT L80

- ALLLAND Production Standards Overview



Definition and Applications

1. Definition

API 5CT L80 is an oil and casing standard established by the American Petroleum Institute (API) for the oil and gas industry. L80 is a commonly used alloy steel grade within the API 5CT standard, specifically designed for wells operating under moderate to high temperatures and pressures.

2. ALLLAND API 5CT L80 Steel Pipe Dimensions

Parameters	Dimensions
O.D.	73.0–508.0 mm
WT	2.87–16.13 mm
Length	API 5CT L80 casing : R1 R2 R3 (4.88-14.63 m) API 5CT L80 tubing : R1 R2 R3 (6.10–12.80 m)
End Finish	Plain End (PE), Threaded & Coupled (T&C), Upset Ends
Process	SEAMLESS / ERW
Connection	BTC, LTC, STC, EUE, NUE, Premium Thread
Product Type	Casing Pipe & Tubing Pipe
Grade	API 5CT L80-1 / L80 9Cr / L80 13Cr



3. Application

API 5CT L80 Steel Pipe is mainly used for **oil and gas well casing and tubing applications**. It is suitable for **medium and deep wells, sour gas wells, and corrosive oilfield environments** due to its high strength, good toughness, and corrosion resistance. L80 is widely used in oil production, gas extraction, and downhole completion systems.

Critical Tolerances

Our API 5CT L80 standard steel pipes are manufactured in strict compliance with the specification requirements.

Item	Tolerance
Outside Diameter (OD)	OD < 4 1/2": ± 0.79 mm; OD $\geq$ 4 1/2": +1% / -0.5%
Wall Thickness (WT)	-12.5%
Weight (Mass)	-3.5% / +6.5%
Length	R1: 4.88–7.62 m; R2: 7.62–10.36 m; R3: 10.36–14.63 m

Main Types of API 5CT L80

L80-1 (Standard L80)

A standard low-alloy steel with good strength and moderate corrosion resistance, suitable for general oil and gas well applications.

L80-9Cr (9% Chromium L80)

Contains 9% chromium for improved CO₂ and corrosion resistance, mainly used in moderately corrosive oilfield environments.

L80-13Cr (13% Chromium L80)

A high-alloy corrosion-resistant grade with 13% chromium, designed for H₂S-containing wells and highly corrosive environments. It provides superior resistance to sulfide stress cracking (SSC).

Standard Chemical Composition of API 5CT L80 Casing & Tubing

Element	L80-1 (%)	L80-9Cr (%)	L80-13Cr (%)
Carbon (C)	≤ 0.43	≤ 0.15	0.15–0.22
Manganese (Mn)	≤ 1.90	0.30–0.60	0.25–1.00
Silicon (Si)	≤ 0.45	≤ 1.00	≤ 1.00
Chromium (Cr)	≤ 1.50	8.00–10.00	12.00–14.00
Molybdenum (Mo)	—	0.90–1.10	—
Nickel (Ni)	≤ 0.25	≤ 0.50	≤ 0.50
Copper (Cu)	≤ 0.35	≤ 0.25	≤ 0.25
Phosphorus (P)	≤ 0.030	≤ 0.020	≤ 0.020
Sulfur (S)	≤ 0.030	≤ 0.010	≤ 0.010

API 5CT L80 Standard Mechanical Properties

API 5CT L80 Steel Pipe has controlled yield strength and good toughness, making it suitable for oil and gas casing and tubing applications. L80-1, L80-9Cr, and L80-13Cr grades share the same basic mechanical property requirements.

Item	Requirement
Yield Strength	552–655 MPa (80–95 ksi)
Tensile Strength	≥655 MPa (95 ksi)
Elongation	≥0.5% (under load)
Hardness	≤23 HRC / ≤241 HBW

API 5CT L80 Casing & Tubing Sizes Charts

API 5CT L80 Casing Dimensions Table

Casing Size (in)	OD (mm)	Wall Thickness (mm)	Weight Range (lb/ft)
4 1/2"	114.3	5.21–8.56	9.50–15.10
5"	127.0	5.56–9.19	11.50–20.00
5 1/2"	139.7	6.20–10.54	14.00–23.00
6 5/8"	168.3	7.32–10.59	20.00–28.00
7"	177.8	6.91–12.65	17.00–35.00
7 5/8"	193.7	8.33–15.11	24.00–45.30
8 5/8"	219.1	8.94–12.70	24.00–36.00
9 5/8"	244.5	7.92–13.84	32.30–53.50
10 3/4"	273.1	7.09–13.84	32.75–65.70
11 3/4"	298.5	8.46–12.42	42.00–54.00
13 3/8"	339.7	8.38–13.06	48.00–72.00
16"	406.4	9.53–15.88	65.00–109.00
18 5/8"	473.1	11.05–14.27	87.50–117.50
20"	508.0	11.13–16.13	94.00–133.00

API 5CT L80 Tubing Dimensions Table

Tubing Size	OD (mm)	Wall Thickness (mm)	Weight (lb/ft)
1.05"	26.7	2.87–3.18	1.14–1.20
1.315"	33.4	3.18–4.00	1.70–1.80
1.66"	42.2	3.68–4.83	2.30–2.40
1.90"	48.3	3.18–5.08	2.40–3.65
2 3/8"	60.3	3.91–6.45	4.60–5.80
2 7/8"	73.0	5.51–7.01	6.40–7.90
3 1/2"	88.9	5.49–8.05	9.20–12.70
4 1/2"	114.3	6.35–10.54	12.60–15.10

API 5CT L80 Pipe Color Coding

Grade	Pipe Body Color Bands	Coupling Color
L80-1	One red band + one brown band	Red coupling with one brown band
L80-9Cr	One red band + one brown band + two yellow bands	Two yellow bands
L80-13Cr	One red band + one brown band + one yellow band	One yellow band

ALLLAND API 5CT L80 Product Images



The image shows steel pipes actually produced by our company