

API 5CT N80

- ALLLAND Production Standards Overview



Definition and Applications

1. Definition

API 5CT N80 is a grade of Oil Country Tubular Goods (OCTG) defined by American Petroleum Institute (API) Standard 5CT, primarily used for casing and tubing. It is a medium-to-high-strength steel grade suitable for medium- to deep-well applications and oil and gas wells operating at medium-to-high pressures.

2. ALLLAND API 5CT N80 Steel Pipe Dimensions

Parameters	Dimensions
O.D.	Tubing 26.7 mm - 114.3 mm/1.05" - 4 1/2"
	Casing 114.3 mm - 508 mm/4 1/2" - 20"
WT	Casing 5.21 mm - 16.66 mm
	Tubing 2.87 mm - 16.00 mm
Length	Casing : R1 R2 R3 (4.88-14.63 m)
	Tubing : R1 R2 R3 (6.10 - 12.80 m)
End Finish	Plain End (PE), Threaded & Coupled (T&C), Upset Ends
Process	SEAMLESS / ERW
Connection	STC / LTC / BTC / NUE / EUE
Product Specification Level:	PSL1 PSL2

3. Application

API 5CT N80 Steel Pipe is widely used for oil and gas well **casing and tubing applications**. With high yield strength and good pressure resistance, it is suitable for medium-depth wells, oilfields, gas wells, and drilling operations.

N80 provides reliable mechanical performance for supporting well structures and transporting oil and gas under demanding conditions.

Critical Tolerances

Our API 5CT N80 standard steel pipes are manufactured in strict compliance with the specification requirements.

Item	Tolerance	Description
O.D.	±0.79 mm	OD ≤ 4 1/2"
	±0.75% of OD	OD > 4 1/2"
WT	-12.5% / +Unrestricted	Standard Wall Thickness
	-12.5%	Thick Wall
Length	R1: 4.88–7.62 m; R2: 7.62–10.36 m; R3: 10.36–14.63 m	Common range

Chemical and Mechanical Properties

1. Chemical Composition (wt%, max)

Element	Chemical Composition (% , Max.)
Carbon (C)	≤ 0.43
Manganese (Mn)	≤ 1.90
Phosphorus (P)	≤ 0.030
Sulfur (S)	≤ 0.030
Silicon (Si)	Manufacturer controlled
Chromium (Cr)	Manufacturer controlled

Note: API 5CT N80 includes **N80-1** and **N80-Q** grades. Their chemical compositions can be similar, but the difference mainly comes from the heat treatment process: N80-Q is typically supplied in a quenched and tempered condition for improved strength and toughness.

2. Mechanical Properties

Item	Requirement
Yield Strength	552–758 MPa (80–110 ksi)
Tensile Strength	≥ 689 MPa (100 ksi)
Elongation	According to API 5CT requirements
Hardness	≤ 241 HBW (N80Q)

API 5CT N80 Casing & Tubing Sizes Charts

API 5CT N80 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 N80 Tubing Dimensions Table

OD (inch)	OD (mm)	Wall Thickness (mm)	Weight (lb/ft)	Drift Diameter (in)
1.05"	26.7	2.87 – 3.18	1.14 – 1.20	0.433 – 0.450
1.315"	33.4	3.18 – 4.00	1.70 – 1.80	0.546 – 0.560
1.66"	42.2	3.68 – 4.83	2.30 – 2.40	0.669 – 0.684
2 3/8"	60.33	3.91 – 6.45	4.60 – 5.80	1.901 – 1.965
2 7/8"	73.03	5.51 – 7.01	6.40 – 7.90	2.441 – 2.347
3 1/2"	88.90	5.49 – 8.05	9.20 – 12.70	2.992 – 3.068
4 1/2"	114.30	6.35 – 10.54	12.60 – 13.50	3.826 – 3.965

API 5CT N80 Manufacturing Process

- ERW (Electric Resistance Welded)
- Seamless (Hot-finished / Cold-drawn)
- LSAW (for large-diameter casing)

ALLLAND' Strengths in API 5CT N80 Steel Pipe Manufacturing

- Large-scale Production and Advanced Manufacturing Processes

Annual production capacity of **200,000** metric tons of high-end steel pipes and **4** million square meters of anti-corrosion coatings.

- Technological Innovation and Quality Assurance

100% traceability accuracy.

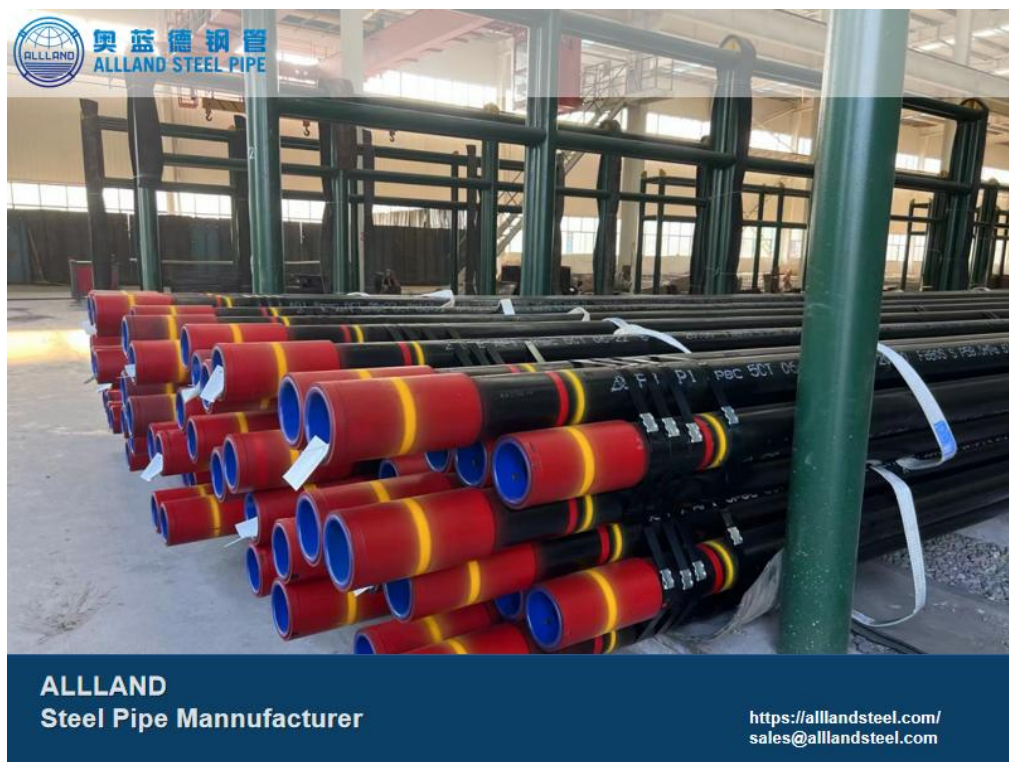
- Comprehensive Certifications and Global Standards

Products fully comply with major global standards such as **API 5L, ASTM, EN, ISO, DIN, and JIS, etc.**

- Extensive Experience in Numerous National-Level Flagship Projects

Strategic projects such as the “West-to-East Gas Pipeline” and the China-Russia Eastern Route.

ALLLAND API 5CT N80 Product Images



The image shows steel pipes actually produced by our company