

API 5L Grade A

- ALLLAND Production Standards Overview



Definition and Applications

1. Definition

API 5L Grade A is a lower-strength steel grade within the American Petroleum Institute (API) 5L standard for line pipe, primarily used in pipeline systems for the transportation of oil, natural gas, water, and other fluids.

It offers reliable mechanical performance and is suitable for general pipeline applications requiring a basic strength grade.

2. ALLLAND API 5L Grade A Steel Pipe Dimensions

Item	Specification
Product Name	API 5L Grade A Steel Pipe
Standard	API 5L
Grade	Grade A
Product Specification Level	Generally PSL1
Pipe Type	Seamless / ERW / HFW / LSAW / SSAW
Outside Diameter	21.3–3048 mm
Wall Thickness	1.5–60 mm
Pipe Length	6–18 m or Customized
Pipe Ends	Plain End / Beveled End / Threaded End
Length Type	Random Length / Fixed Length / Customized Length

2.1 Available Size Range by Manufacturing Process

Pipe Type	Outside Diameter	Wall Thickness	Typical Length
Seamless Pipe	21.3–660 mm	According to requirements	6–12 m



Pipe Type	Outside Diameter	Wall Thickness	Typical Length
ERW / HFW Pipe	21.3–610 mm	According to requirements	6–12 m
LSAW Pipe	406–1422 mm	According to requirements	6–12.5 m
SSAW Pipe	219–3048 mm	According to requirements	6–18 m

Note: Available dimensions may vary depending on the manufacturing process, applicable API 5L requirements, wall thickness, and project specifications. Customized dimensions are available upon request.

3. Application

API 5L Grade A Steel Pipe is widely used for the transportation of oil, natural gas, water, and other fluids in general pipeline, industrial, energy, and infrastructure projects. Depending on the required diameter, wall thickness, manufacturing process, and corrosion protection system, it can be applied to **oil and gas transmission, water supply, industrial fluid transportation, municipal pipelines**, and other **general line pipe** applications.

Critical Tolerances

Actual dimensional tolerances depend on the pipe manufacturing process, outside diameter, wall thickness, applicable API 5L edition, and specific project requirements.

Parameter	Typical Control Requirement
Outside Diameter (OD)	In accordance with applicable API 5L dimensional tolerances
Wall Thickness (WT)	In accordance with applicable API 5L requirements and purchase order
Pipe Length	According to specified random, fixed, or customized length requirements
Straightness	Controlled according to applicable manufacturing and project requirements
Out-of-Roundness	Controlled according to applicable API 5L and project requirements
End Squareness	Controlled to ensure suitable field welding and installation
Bevel Angle	According to specified welding and project requirements
Weld Seam Quality	Subject to applicable manufacturing, NDT, and inspection requirements

Chemical and Mechanical Properties

1. API 5L Grade A Chemical Composition

Element	Maximum Content (%)
Carbon (C)	0.22
Manganese (Mn)	0.90
Phosphorus (P)	0.030
Sulfur (S)	0.030

2. API 5L Grade A Mechanical Properties

Mechanical Property	Requirement
Pipe Grade	L210 or A
Minimum Yield Strength	210 MPa (30,500 psi)
Minimum Tensile Strength	335 MPa (48,600 psi)
Minimum Elongation	Determined according to the applicable API 5L formula
Weld Seam Tensile Strength	Minimum 335 MPa (48,600 psi) for applicable welded pipe

Dimension Specifications Table

API 5L Grade A Steel Pipe dimensions are available according to API 5L requirements and project specifications. The following table shows common reference dimensions for line pipe applications.

Nominal Pipe Size (NPS)	Outside Diameter (OD)	Wall Thickness (WT)	Reference Weight
1/2"	21.3 mm	2.77 mm	1.27 kg/m
3/4"	26.7 mm	2.87 mm	1.69 kg/m
1"	33.4 mm	3.38 mm	2.50 kg/m
1-1/4"	42.2 mm	3.56 mm	3.39 kg/m
1-1/2"	48.3 mm	3.68 mm	4.05 kg/m
2"	60.3 mm	3.91 mm	5.44 kg/m
3"	88.9 mm	5.49 mm	11.29 kg/m
4"	114.3 mm	6.02 mm	16.07 kg/m
6"	168.3 mm	7.11 mm	28.26 kg/m
8"	219.1 mm	8.18 mm	42.55 kg/m
10"	273.1 mm	9.27 mm	60.29 kg/m
12"	323.9 mm	9.53 mm	73.84 kg/m
16"	406.4 mm	9.53 mm	93.27 kg/m
20"	508.0 mm	9.53 mm	117.05 kg/m
24"	609.6 mm	9.53 mm	140.83 kg/m

Note: The dimensions and weights listed above are reference values for common API 5L line pipe sizes. Actual dimensions may vary depending on pipe grade, manufacturing process, wall thickness requirements, applicable API 5L edition, and project specifications. Customized sizes are available upon request.

ALLLAND API 5L Grade A Product Images



The image shows steel pipes actually produced by our company