HONGCHEN METAL
INDUSTRIAL METAL MATERIALS

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PRODUCT SPECIFICATIONS · PIPE

Stainless Steel 304 Pipe

Chemical composition, mechanical properties and material characteristics

Features

- 304 stainless steel is a superior material with regard to corrosion resistance, heat resistance, low temperature strength and mechanical properties, as one of the most widely used types of stainless steel.
- In addition, it has exceptional hot-workability such as stamping and bending, without leaving heat treatment hardening phenomenon.

Typical Applications

- Common applications for stainless steel pipes include food processing, Textile operations, Breweries, Water treatment plants, Oil and gas processing, Fertilizers and pesticides, Chemical applications, Construction, Pharmaceuticals, Auto parts, etc.

Product Parameters

Product Name	304 Stainless Steel Pipe
Type	Corrosion-Resistant Alloy / Stainless Steel
Standard	ASTM, AISI, JIS, GB, DIN , EN, etc.
Surface	Black, Bright Polished, Rough Turning, Matt Surface Treatment, No. 4. BA, etc.
Delivery Condition	Annealed / solution annealed; other tempers available by agreement.
Scope of Application	Common applications for stainless steel pipes include food processing, Textile operations, Breweries, Water treatment plants, Oil and gas processing, Fertilizers and pesticides, Chemical applications, Construction, Pharmaceuticals, Auto parts, etc.
Certificate	ISO / SGS / BV and EN 10204 3.1 MTC available; third-party inspection and PMI can be arranged per purchase order.
Production Technology	Hot rolling or cold rolling / drawing according to product form; solution treatment and pickling / passivation applied where corrosion performance or surface quality require it. Seamless or welded supply routes depending on size; cut-to-length and end preparation available.
Edge Processing	Plain, beveled or threaded ends available on request; end finishing and length tolerance per order.
Outer diameter	Round Tube
Square Tube	10*10mm-100*100mm
Rectangular Tube	10*20mm-50*100mm
Wall Thickness	0.6mm-6.0mm
Length	1-6 meters, Length can be customized

Chemical Composition

C	Si	Mn	Cr	Ni	S	P
≤ 0.08	≤1.0	≤ 2.0	18.0～20.0	8.0～10.5	≤ 0.03	≤ 0.035

Mechanical Properties

Tensile Strength Kb (MPa)	Yield Strength σ0.2 (MPa)	Elongation D5 (%)	Hardness
≥520	≥205	≥40	≤187HB ; ≤90HRB ; ≤200HV

Physical Performance

Density(g/cm³)	Modulus of Elasticity(Gpa)	Coefficient of Thermal Expansion(10 -6 /°C)	Coefficient of Thermal Conductivity(W/m * K)	Resistivity(MΩ. cm)
8.03	193	1 6.9	16.2	72

Selection note: match grade to medium, temperature, chloride level and whether as-welded corrosion service is required.

Related Properties

Corrosion Resistance	Good all-round corrosion resistance in common atmospheres, fresh water, food equipment and many mild organic / inorganic media. Not a first choice for strong chlorides, seawater crevices or reducing acids without further evaluation and possible upgrade to Mo-bearing grades.
Formability	Excellent cold formability for sinks, vessels, tubing and architectural parts. Allow for work hardening and springback; severe draws may need intermediate anneal.
Weldability	Readily welded by most fusion methods. For corrosive as-welded service, 304L is usually preferred to reduce sensitization risk; clean and passivate after welding when appearance or corrosion margin matters.
Surface & Cleanliness	Final corrosion behavior is strongly affected by surface finish, free iron contamination and weld discoloration. Pickling, passivation or electropolishing after fabrication is often as important as grade selection for sanitary, marine and chemical equipment.
Selection Notes	A widely stocked general-purpose austenitic grade. Choose 304L for heavy welding, or step up to 316/316L when chlorides or chemical media become more aggressive.

Material guidance for your next project

Send your grade, size and application requirements to our team.

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