HONGCHEN METAL
INDUSTRIAL METAL MATERIALS

PRODUCT DATA SHEET
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PRODUCT SPECIFICATIONS · PIPE

Stainless Steel 304L Pipe

Chemical composition, mechanical properties and material characteristics

Features

- 304L stainless steel has a very similar chemical composition to 304 stainless steel with one key difference.
- The maximum carbon content is set at 0.08% for 304, whereas grade 304L stainless steel has a maximum carbon content of 0.03%.
- It is more often adopted in the production of equipment and parts that require better corrosion resistance.

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	304L 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
≤ 0.03	≤1.0	≤ 2.0	18.0～20.0	8.0～12.0	≤ 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	Corrosion performance similar to 304 in mild media, with lower carbon to reduce carbide precipitation and intergranular corrosion risk after welding. Still not intended for strong chloride or reducing-acid duty without evaluation.
Formability	Most austenitic corrosion grades form well by bending, rolling, deep drawing and stamping when tooling radii, lubrication and springback are set for the thickness and temper. Work hardening raises strength during cold work; intermediate anneal may be needed for severe multi-stage forming.
Weldability	Preferred over 304 when welded fabrications remain in corrosive service without a full solution anneal. Maintain low heat input and use matching low-carbon filler.
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	Use molybdenum-bearing or higher-alloy variants when pitting, crevice attack or stronger chemical media are expected. Confirm product form (plate, tube, bar, wire) and heat-treatment condition against the project specification before ordering.

Material guidance for your next project

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

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