HONGCHEN METAL
INDUSTRIAL METAL MATERIALS

PRODUCT DATA SHEET
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PRODUCT SPECIFICATIONS · PLATE

Hastelloy B-2 Plate

Chemical composition, mechanical properties and material characteristics

Features

- Hastelloy B2 plate is made of a solid solution strengthened nickel-based special alloy with excellent corrosion resistance and high temperature strength.
- Hastelloy B2 exhibits excellent corrosion resistance in various temperatures and complex environments, especially in oxidizing environments.

Typical Applications

- Selected for strongly reducing acids such as hydrochloric acid service where nickel-molybdenum chemistry is required; not intended for oxidizing media.

Product Parameters

Product Name	Hastelloy B-2 Plate
Type	Ni-Mo Alloy (Hastelloy B-2)
Standard	UNS N10665; ASTM B333 / B619 / B622
Surface	BA, 2B, No.1, No.4, HL, 8K / polished, pickled or passivated as required.
Delivery Condition	Annealed / solution annealed; other tempers available by agreement.
Scope of Application	Selected for strongly reducing acids such as hydrochloric acid service where nickel-molybdenum chemistry is required; not intended for oxidizing media.
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. Cut-to-length, leveling, plasma / waterjet cutting and surface grinding available.
Edge Processing	Mill, slit or trimmed edge; final edge condition confirmed by thickness, width tolerance and downstream welding / forming needs.
Thickness	0.3mm-200mm
Length	2000mm, 2438mm, 3000mm, 5800mm, 6000mm, 12000mm, etc.
Width	40mm-600mm, 1000mm, 1219mm, 1500mm, 1800mm, 2000mm, 2500mm, 3000mm, 3500mm, etc.

Chemical Composition

C	Si	P	S	Cr	Mn	Fe	Co	Ni	Mo
0.02 max	0.1 max	0.04 max	0.03 max	1.0 max	1.0 max	2.0 max	1.0 max	Remainder	26.0 - 30.0

Mechanical Properties

Tensile Strength (ksi)	0.2% Yield Strength (ksi)	Elongation% in 2 inches
110	51	40

Physical Performance

	Units	Temperature in°C
Density	9.22 g/cm³	22°C
Specific Heat	0.089 Kcal/kg.C	Room
Melting Range	1370-1418°C	-
Modulus of Elasticity	217 KN/mm²	Room
Electrical Resistivity	137 μΩ.cm	0 °
Coefficient of Expansion	10.3 μm/m °C	20-93°
Thermal Conductivity	11.1 w/m-° K	0°

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

Related Properties

Corrosion Resistance	Provides practical corrosion resistance in atmospheric exposure, fresh water, food-contact environments and many mild chemical media. Resistance drops when chlorides, reducing acids or high-temperature concentrated solutions become dominant—match the grade to the real medium, temperature and oxygen level.
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	Generally weldable with common fusion processes. For as-welded corrosive service, prefer low-carbon (L) or stabilized grades, control heat input, and specify filler that preserves corrosion resistance in the weld metal and HAZ. Post-weld cleaning and passivation improve finished performance.
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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