

Hastelloy B-2 Datasheet

Hastelloy B-2 offers superior resistance to hydrochloric acid and strong reducing agents in chemical process environments.

Alloy / Grade	Hastelloy B-2
Common Forms	Plate, Sheet, Bar, Pipe, Fittings.
Key Feature	Resistant to Hydrochloric Acid at all concentrations and temperatures.
Service Focus	Excellent resistance to HCl gas and acid at all concentrations and temperatures, a capability matched by very few metals (like Tantalum).

1. Product Overview

Hastelloy B-2 is a solid solution strengthened, nickel-molybdenum alloy. It is engineered specifically for significant resistance to reducing environments like hydrogen chloride gas, and sulfuric, acetic, and phosphoric acids. It is the premier choice for handling pure hydrochloric acid (HCl).

Grade	Core Description	Typical Service Focus
Hastelloy B-2	Hastelloy B-2 is a solid solution strengthened, nickel-molybdenum alloy. It is engineered specifically for...	If your process involves pure Hydrochloric Acid (HCl) , Hastelloy B-2 is the superior choice. Unlike the...
Supply Capability	Plate, Sheet, Bar, Pipe, Fittings.	Standard mill forms, cut-to-size material and project supply
Technical Review	Confirm final values by product form, heat treatment and material certificate	Excellent resistance to HCl gas and acid at all concentrations and temperatures, a capability matched by...

2. Key Features

- If your process involves pure Hydrochloric Acid (HCl) , Hastelloy B-2 is the superior choice. Unlike the C-series alloys, B-2 relies on a high...
- Excellent resistance to HCl gas and acid at all concentrations and temperatures, a capability matched by very few metals (like Tantalum).
- Superior performance in pure sulfuric acid, acetic acid, and phosphoric acid where oxidizing contaminants are absent.
- Like other high-nickel alloys, it offers excellent resistance to chloride-induced stress corrosion cracking (SCC).

Further information under:	https://www.nickelcasting.com/nickel-alloys/hastelloy-nickel-alloys/hastelloy-b-2/
Home page:	www.nickelcasting.com
Email:	ni@Nickelcasting.com

Technical Data

The following values are provided as general reference data for engineering review and procurement planning. Confirm final values against the applicable specification, product form, heat treatment condition and material certificate.

3. Chemical Composition (%)

Element	Content (%)
Nickel (Ni)	65.0 min (Balance)
Molybdenum (Mo)	26.0 - 30.0
Iron (Fe)	2.0 max
Chromium (Cr)	1.0 max
Manganese (Mn)	1.0 max
Carbon (C)	0.02 max

4. Standard Specifications

Product Form	ASTM / ASME Standards
Plate, Sheet, Strip	ASTM B333, ASME SB333
Bar & Rod	ASTM B335, ASME SB335
Pipe (Seamless & Welded)	ASTM B619, ASTM B622, ASME SB619/SB622
Fittings	ASTM B366, ASME SB366
Forgings	ASTM B564, ASME SB564

5. Mechanical Properties - Typical at Room Temperature

Property	Typical Values (Room Temp)
Tensile Strength	110 - 130 ksi (760 - 895 MPa)
Yield Strength (0.2% Offset)	50 - 65 ksi (345 - 450 MPa)
Elongation	40 - 60 %
Hardness (Rockwell B)	85 - 100 HRB

Note: Values are typical or specification reference values. Purchase requirements should be confirmed against the required standard, drawing and material test report.

Applications and Ordering Information

Use this section to define inquiry requirements and accelerate technical confirmation for Hastelloy B-2 products.

6. Typical Applications

Industry / Area	Typical Components
Industrial Service	Equipment for the production and handling of hydrochloric acid.
Chemical / Process Equipment	Reactors for alkylation of ethylbenzene and production of acetic acid.
Oil, Gas & Marine	Handling reducing acid catalysts in the synthesis of agrochemicals.
High-Temperature / Power	Processes involving reducing environments where C-series alloys may corrode.
Precision Components	We supply high-quality Hastelloy B-2 bar, plate, and pipe. Contact our metallurgists to ensure this alloy is right for your specific...

7. Available Supply Forms

Pipe & Tube	Plate & Sheet	Bar & Rod
Pipe Fittings	Flanges	Wire & Strip
Forgings	Custom Cutting	Project Supply

8. Information to Include When Requesting a Quote

- Required grade: Hastelloy B-2, with ASTM / ASME / AMS specification if applicable.
- Product form: pipe, tube, plate, sheet, bar, fittings, flanges, forgings or machined parts.
- Dimensions: outside diameter, wall thickness, length, width, thickness or drawing number.
- Quantity, delivery destination and required delivery schedule.
- Special requirements: cutting, machining, heat treatment, NDT, PMI, test report or material certificate.

Company Information	
Address	Shanghai, China
Email	ni@Nickelcasting.com
Home Page	www.nickelcasting.com
Product Page	https://www.nickelcasting.com/nickel-alloys/hastelloy-nickel-alloys/hastelloy-b-2/

Disclaimer

This datasheet is provided for general reference only. Actual values may vary by product form, heat treatment, manufacturing condition and applicable specification. Please contact us for confirmed specifications, test reports and material certificates before ordering.