Hastelloy B-2

Hastelloy B-2 is a corrosion-resistant, solid-solution nickel-molybdenum alloy. It is characterized by:

- controlled chemistry with a minimum iron and chromium content to retard the formation of β-phase Ni_4Mo in the temperature 700~870℃
- significant corrosion resistance to reducing environments
- excellent resistance to medium-concentrated sulphuric acid and a number of non-oxidizing acids
- good resistance to chloride-induced stress-corrosion cracking
- good resistance to a wide range of organic acids

Chemical Composition, %

element	Ni	Mo	Fe	Cr	Co	C	Mn	Si	P	S
min.	bal.	26.0								
max.		30.0	2.0	1.0	1.0	0.02	1.0	0.1	0.04	0.03

Chemical Composition according to ASTM. Some compositional limits of other specifications may vary slightly.

Designation and standards

National Standards	Material designation	Chemical composition	Forgings	Rod and bar	Plate and sheet	Strip	Seamless tube
ASTM ASME	UNS N10665		B564 SB564 B462 SB462	B335 SB335	B333 SB333	B333 SB333	B622 SB622
DIN	2.4617 NiMo28	DIN 17744		DIN 17752	DIN 17750	DIN 17750	DIN 17751
GB/T	NS3202, NS322	GB/T 15007		GB/T 15008	GB/T 15009 GB/T 15010		

Density 9.22g/cm^3

Corrosion resistance

- excellent corrosion resistance in aggressive reducing media such as hydrochloric acid in a wide range of temperatures and concentrations, as well as in medium-concentrated sulphuric acid even with limitd chloride contamination
- good corrosion resistance in acetic and phosphoric acids

Applications

Hastelloy B-2 is used in a wide range of applications in the chemical process industry, especially for processes involving sulphuric, hydrochloric, phosphoric and acetic acid. But it is not recommended in the presence of ferric or cupric salts as these salts may cause rapid corrosion failure. Ferric or cupric salts may develop when hydrochloric acid comes in contact with iron or copper.