

## Haynes Hastelloy® B-3® alloy, after elevated temperature exposure

Category : Metal , Nonferrous Metal , Nickel Alloy , Superalloy

### Material Notes:

The attributes of Corrosion-Resistant HASTELLOY® alloys include high resistance to uniform attack, outstanding localized corrosion resistance, excellent stress corrosion cracking resistance, and ease of welding and fabrication. Same excellent resistance to hydrochloric acid and other strongly reducing chemicals as B-2 alloy, but with significantly better thermal stability, fabricability and stress corrosion cracking resistance. In The As-Welded Condition HASTELLOY® B-3® alloy is an additional member of the nickel-molybdenum family of alloys with excellent resistance to hydrochloric acid at all concentrations and temperatures. It also withstands sulfuric, acetic, formic and phosphoric acids, and other nonoxidizing media. B-3 alloy has excellent resistance to pitting corrosion, to stress-corrosion cracking and to knife-line and heat-affected zone attack. The improved thermal stability of HASTELLOY B-3 alloy minimizes the problems associated with fabrication of B-2 alloy components. This is due to the reduced tendency to precipitate deleterious intermetallic phases in B-3 alloy, thereby, affording it greater ductility than B-2 alloy during and following various thermal cycling conditions. HASTELLOY B-3 alloy has good overall forming and welding characteristics. It may be forged or otherwise hotworked, providing that it is held at 2250°F (1230°C) for a time sufficient to bring the entire piece to temperature. Since it is a low carbon alloy, the use of lower hot finishing temperatures may be necessary to achieve grain size control. B-3 alloy may also be formed by cold working. Although it does work-harden somewhat rapidly, B-3 alloy components can be made using all common cold forming techniques. Limited tests in boiling 20 percent hydrochloric acid indicate that the uniform corrosion resistance of B-3 alloy is not affected by cold reductions up to 50 percent as compared to that of the alloy in the solution heat-treated condition. B-3 alloy can be welded by all common welding techniques, although oxyacetylene and submerged arc welding processes are not recommended when the fabricated item is to be used in corrosive service. Special precautions should be taken to avoid excessive heat input. Heat Treatment: All wrought forms of HASTELLOY B-3 alloy are furnished in the solution heat treated condition unless otherwise specified. B-3 alloy is solution heat-treated at 1950°F (1065°C) and rapid quenched, except for bright annealed sheet or coil products which are heat-treated at 2100°F (1150°C) and cooled in hydrogen. Applications: HASTELLOY B-3 alloy is suitable for use in all applications previously requiring the use of HASTELLOY B-2 alloy. Like B-2 alloy, B-3 is not recommended for use 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. ASME Boiler And Pressure Vessel Code ASME has published Code Case 2140 for solution annealed HASTELLOY B-3 alloy. Data provided by the manufacturer, Haynes International, Inc.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Haynes-Hastelloy-B-3-alloy-after-elevated-temperature-exposure.php](http://www.lookpolymers.com/polymer_Haynes-Hastelloy-B-3-alloy-after-elevated-temperature-exposure.php)

## Contact Songhan Plastic Technology Co.,Ltd.

Website : [www.lookpolymers.com](http://www.lookpolymers.com)

Email : [sales@lookpolymers.com](mailto:sales@lookpolymers.com)

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215, Fengxian District, Shanghai City, China