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BNi-9

TECHNICAL DATA

NOMINAL COMPOSITION

Nickel	Remainder
Chromium	15.0% ± 1.5
Boron	3.625% ± 0.375
Iron	1.5% max
Carbon	0.06% max
Phosphorous	0.02% max
Sulfur	0.02% max
Aluminum	0.05% max
Titanium	0.05% max
Zirconium	0.05% max
Cobalt	0.10% max
Selenium	0.005% max
Other Elements, Total**	0.50% max

**The filler metal shall be analyzed for those specific elements for which values are shown in this table. If the presence of other elements is indicated in the course of this work, the amount of those elements shall be determined to ensure that their total does not exceed the limit specified

PHYSICAL PROPERTIES

Color	Iron Gray
Solidus	1930°F (1055°C)
Liquidus	1930°F (1055°C)
Recommended Brazing Temperature	1980-2030°F (1082-1110°C)
Density (Lbs/in^3)	0.28
Specific Gravity	7.8
Electrical Conductivity (%IACS)	N/A
Electrical Resistivity (Microhm-cm)	N/A

USES

BNi-9 is a eutectic nickel-based brazing alloy suitable for brazing nickel, super alloys, stainless steels and other assemblies which require good joint strength at high temperatures with excellent corrosion and oxidation resistance. Some of the applications for this filler metal are highly stressed sheet metal components, jet engine parts, and assemblies used in corrosive conditions.

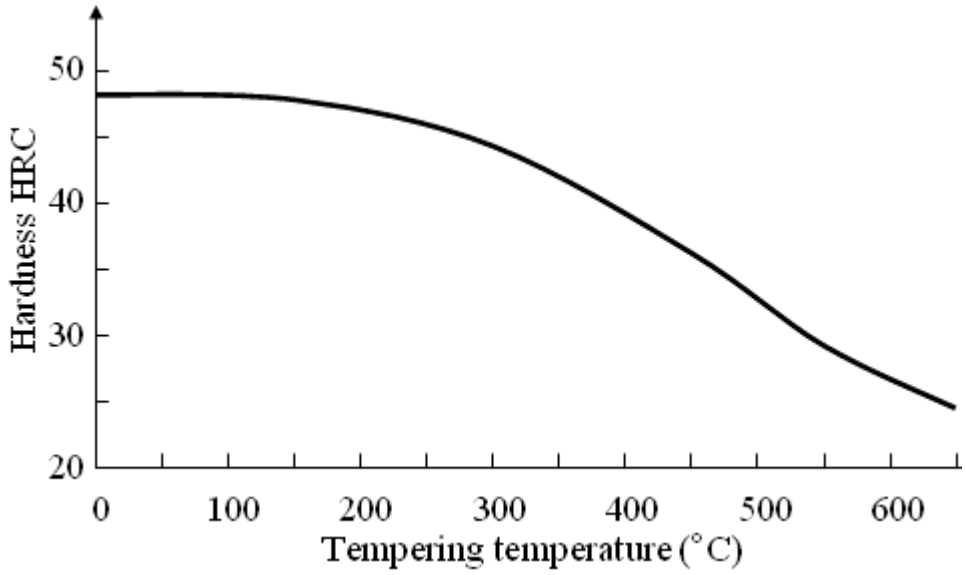
BRAZING CHARACTERISTICS

Due to its eutectic nature BNi-9 exhibits excellent flowability and is therefore a good choice for narrow, deep joints where tighter clearances are maintained. Tighter joint clearances along with the use of a minimal amount of braze alloy will limit potential erosion of the base components. When wetting to base metals which contain higher Al or Ti content in an inert atmosphere, nickel plating of the base metal is recommended. Dry reducing atmospheres or inert atmospheres are also recommended. When joining thinner, less ductile assemblies brazing should be conducted at the lower end of the braze range so along with fast heating and cooling cycles so as so minimize distortion.

PROPERTIES OF BRAZED JOINTS

The properties of a brazed joint are dependent upon the base metal, joint design and brazing technique. For atmospheric brazing the recommended radial joint clearance for nickel-base alloys fall within .000-.002” range for atmosphere brazing.

HEAT TREATMENT



SPECIFICATIONS

BNi-9 conforms to: Unified Numbering System (UNS) N99612, American Welding Society (AWS) A5.8/A5.8M BNi-9, European Union standard (EN 1044) NI 109 and German Institute for Standardization (DIN-8513) L-Ni9

AVAILABLE FORMS

Powder and paste

Individuals requiring further information and Engineering Specification Documents may wish to contact the Engineering Society for Advanced Mobility, Land Sea Air and Space, The Society of Automotive Engineers http://www.sae.org/ (SAE AMS) or The American Welding Society (AWS) http://aws.org/

NOTE:

DISCLAIMER