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AMS 4775 (BNi-1) TECHNICAL DATA

NOMINAL COMPOSITION		
	Nickel	Remainder
	Chromium	14.0% ± 1.0
	Silicon	4.5% ± 0.5
	Boron	3.125% ± 0.375
	Iron	4.5% ± 0.5
	Carbon	0.75% ± 0.15
	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	1780°F (971°C)
	Liquidus	1900°F (1038°C)
	Recommended Brazing Temperature	1950-2000°F (1066-1093°C)
	Density (Lbs/in ³)	0.28
	Specific Gravity	7.8
	Electrical Conductivity (%IACS)	N/A
	Electrical Resistivity (Microhm-cm)	N/A

USES

AMS 4775 is a general purpose 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

AMS 4775 is 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 to 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.

SPECIFICATIONS

AMS 4775 conforms to: Unified Numbering System (UNS) N99600, American Welding Society (AWS) A5.8/A5.8M BNi-1 and Society of Automotive Engineers (SAE) AMS 4775

AVAILABLE FORMS

Powder, paste, tape and preforms to customer specifications

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

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