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#A-40N2 (BAg-4)

TECHNICAL DATA

NOMINAL COMPOSITION	**Silver**	40.0% ± 1.0
	Copper	30.0% ± 1.0
	Zinc	28.0% ± 2.0
	Nickel	2.0% ± 0.5
	Other	0.15% Max
PHYSICAL PROPERTIES	**Color**	Light Yellow
	Solidus	1220°F (660°C)
	Liquidus	1435°F (779°C)
	Recommended Brazing Temperature	1485-1535°F (807-835°C)
	Density (Troy oz/in^3)	4.76
	Specific Gravity	9.04
	Electrical Conductivity (%IACS)	16.8
	Electrical Resistivity (Microhm-cm)	10.3

USES

#A-40N2 is an intermediate temperature brazing alloy for use on stainless steels, mild steels, cast and malleable irons and various non-ferrous alloys. This alloy is particularly useful for brazing stainless steel food containers and food handling equipment where a cadmium free brazing alloy is specified.

BRAZING CHARACTERISTICS

#A-40N2 is an intermediate temperature silver brazing filler metal with a fairly long melting range. It has a tendency to liquate (separation into low and high melting constituents) and therefore it is preferable to use this filler metal where the assembly can be heated rapidly through the filler metal melting range, or where the assembly can be preheated before the filler metal is applied. Flux is normally used.

PROPERTIES OF BRAZED JOINTS

The properties of a brazed joint are dependent upon numerous factors including base metal properties, joint design, metallurgical interaction between the base metal and the filler metal. Tensile strength of joints in butt joint configuration for stainless steels has ranged from 72,000 to 110,000 lbs/in^2 PSI. Data for shear strengths tested at room temperature included values in range of 35,000 to 40,000 PSI.

The following results are based on butt joints brazed from 18-8 stainless steel:

Tensile Strength (lbs/in^2)	Test Temp (°F)	Elongation (%, 2" gage length)
80,500	Room Temp.	1.6
65,600	200	2.4
51,700	400	1.5
38,000	600	0
13,600	800	0
7,700	1000	0

CORROSION RESISTANCE

A 20% salt spray test is typically used for testing corrosion resistance of stainless steel alloys. During a 10-day period of exposure the strength of a 18-8 stainless steel braze joint decreased by roughly 50%. #A-40N2 inhibits interface corrosion in braze joints of 300 and 400 series stainless steel base components.

SPECIFICATIONS

#A-40N2 conforms to: Unified Numbering System (UNS) P07400 and American Welding Society (AWS) A5.8/A5.8M BAg-4

AVAILABLE FORMS

Wire, strip, engineered preforms, specialty preforms per customer specification, 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: