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PAL 15
TECHNICAL DATA

NOMINAL COMPOSITION	**Silver**	65.0% ± 1.0
	Copper	20.30% ± 1.0
	Palladium	14.7% ± 0.5
	Cadmium	0.001% max.
	Zinc	0.001% max.
	Phosphorus	0.002% max.
	Lead	0.002% max.
	Carbon	0.005% max.
	Other volatile elements each*	0.002% max.
	Volatile elements total	0.010% max.
	Total non-volatile elements	0.05% max.
PHYSICAL PROPERTIES	**Color**	White
	Solidus	1562°F (850°C)
	Liquidus	1652°F (900°C)
	Recommended Brazing Temperature	1702-1752°F (928-956°C)
	Density (Toz/in^3)	5.44
	Thermal Conductivity (W/(m•K))	98
	Electrical Conductivity (x10^6/(ohm•m))	13
	Electrical Resistivity (x10^{-9} ohm•m)	78
	Yield Strength (MPa)	379
	Tensile Strength (MPa)	448
	Elongation (%)	23

USES

PAL 15 can be used on any of the common ferrous and non-ferrous alloys. The most common base materials joined are copper, stainless steels, kovar and Mo/Mn metalized ceramics. Due to its low vapor pressure compared to standard silver base filler metals, PAL 15 is suitable for use in all vacuum applications such as electronic valve construction, and vacuum tube construction in electronic industry. Often this alloy is used in brazing of metallized ceramics to nickel-cobalt-iron assemblies.

BRAZING CHARACTERISTICS

The palladium content in Pal 15 inhibits the potential of stress corrosion cracking in iron-nickel base metals in comparison to standard silver-copper alloys. PAL 15 exhibits higher corrosion and oxidation resistance than standard silver-copper alloys.

PROPERTIES OF BRAZED JOINTS

The properties of a brazed joint are dependent upon the base metal, joint design and brazing technique. For controlled atmosphere brazing or vacuum brazing the recommended radial joint clearance for silver base alloys falls within 0.000in – 0.002in (0.00mm – 0.05mm) range.

SPECIFICATIONS

PAL 15 alloy conforms to: NA

AVAILABLE FORMS	Wire, strip, engineered preforms and specialty preforms per customer specification, powder and paste.
SAFETY INFORMATION	The operation and maintenance of brazing equipment or facility should conform to the provisions of American National Standard (ANSI) Z49.1, “Safety in Welding and Cutting.”

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:

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