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SILVERPHOS 18 (BCuP-8) TECHNICAL DATA

NOMINAL COMPOSITION	Copper	Remaining
	Silver	17.6% ± 0.4
	Phosphorus	6.35% ± 0.35
	Other Elements, Total	0.15% Max
PHYSICAL PROPERTIES	Color	Gray
	Solidus	1190°F (645°C)
	Liquidus	1230°F (666°C)
	Recommended Brazing Temperature	1280-1330°F (693-721°C)
	Density (lbs./in³)	0.29
	Specific Gravity	8.10
	Electrical Conductivity (%IACS)	5.90
	Electrical Resistivity (Microhm-cm)	29.4
USES	Silverphos 18 is a moderate cost brazing filler metal suitable for joining copper, brass and bronze alloys where low brazing temperature and free flowing characteristics are required. It should be used on assemblies where good fit-up can be maintained.	
	Silverphos 18 is a ternary eutectic, low temperature brazing filler metal that is free flowing and self-fluxing on copper and some high copper and copper alloys by virtue of its phosphorus content. Brasses and most bronzes require the use of a flux for good wetting. This alloy becomes extremely fluid above its melting point. With most joint designs a clearance of 0.001in. to 0.003in. (0.025mm – 0.075mm) is desirable. Silverphos 18 should not be used on ferrous metals or nickel base alloys, since the phosphorus diffuses and produces brittle iron or nickel phosphides at the joint interface.	
BRAZING CHARACTERISTICS	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. Joints made with Silverphos 18 are entirely satisfactory on copper and soft copper alloys if good fit-up and adequate shear area are maintained. If poor fit-up prevails, or shear area is marginal, a lower phosphorus content silver-copper-phosphorus alloy may be preferred, particularly if the joints are to be subjected to impact or vibration in service.	
	The corrosion resistance of Silverphos 18 is comparable to that of copper except when exposed to Sulphur-containing compounds, especially at elevated temperature. Under these conditions, Silverphos 18 undergoes progressive deterioration. Exposure to pressurized steam can result in accelerated corrosion.	
PROPERTIES OF BRAZED JOINTS	Silverphos 18 alloy conforms to: Unified Numbering System (UNS) C55285 and American Welding Society (AWS) A5.8/A5.8M BCuP-8	
SPECIFICATIONS	Wire, strip, limited engineered preforms, limited specialty preforms per customer specification, powder and paste.	
AVAILABLE FORMS		

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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