

Bellman-Melcor

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#6F (BCuP-4)

TECHNICAL DATA

NOMINAL COMPOSITION	Copper	Remainder
	Phosphorus	7.25% ± 0.25
	Silver	6.0% ± 0.2
	Other Elements, Total	0.15% Max
PHYSICAL PROPERTIES	Color	Gray
	Solidus	1190°F (643°C)
	Liquidus	1325°F (718°C)
	Recommended Brazing Temperature	1375-1425°F (746-774°C)
	Density (lbs./in³)	0.29
	Specific Gravity	8.0
	Electrical Conductivity (%IACS)	7.9
	Electrical Resistivity (Microhm-cm)	21.9
USES	<p>#6F is a low-cost brazing filler metal suitable for joining copper to copper & copper to copper alloys where critical impact or vibration stresses are not encountered in service. It should only be used on assemblies where good fit up can be maintained.</p>	
BRAZING CHARACTERISTICS	<p>#6F is a copper rich, intermediate temperature filler metal that is self-fluxing on copper by virtue of its phosphorus content. #6F has good flow and wetting properties on copper, brass, and bronze and is extremely fluid when heated rapidly to its flow point. The self-fluxing property of #6F is effective on copper only. Copper base alloys, such as brass or bronze, may be brazed with #6F but cannot be used on ferrous metals or nickel base alloys, since the phosphorus produces brittle iron or nickel phosphorus at the joint interface.</p>	
PROPERTIES OF BRAZED JOINTS	<p>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. When brazing copper alloys the properties of joints with good fit-up should exhibit adequate performance.</p> <p>If poor fit-up prevails, or shear area is marginal, a lower phosphorus content silver-copper-phosphorus alloy such as #5 may be preferred, particularly if the joints are to be subjected to impact or vibration in service.</p>	
CORROSION RESISTANCE	<p>The corrosion resistance of #6F is comparable to that of copper except when exposed to Sulphur-containing compounds, particularly at elevated temperatures. Under these conditions #6F undergoes progressive deterioration. Exposure to pressurized steam can also result in accelerated corrosion.</p>	
SPECIFICATIONS	<p>#6F alloy conforms to: Unified Numbering System (UNS) C55283 and American Welding Society (AWS) A5.8/A5.8M BCuP-4</p>	
AVAILABLE FORMS	<p>Wire, engineered preforms, specialty preforms per customer specification, powder and paste</p>	

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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