

Bellman-Melcor

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#2 (BCuP-6)

TECHNICAL DATA

NOMINAL COMPOSITION	Copper	91.0% ± 1.0
	Phosphorus	7.0% ± 0.2
	Silver	2.0% ± 0.2
	Other Elements, Total	0.15% Max
PHYSICAL PROPERTIES	Color	Light Copper
	Solidus	1190°F (643°C)
	Liquidus	1450°F (788°C)
	Recommended Brazing Temperature	1350-1500°F (732-815°C)
	Density (lbs./in³)	0.29
	Specific Gravity	8.0
	Electrical Conductivity (%IACS)	5.50
	Electrical Resistivity (Microhm-cm)	31.48
USES	<p>#2 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>	
	<p>#2 is a copper rich, filler metal that is self-fluxing on copper by virtue of its phosphorus content. #2 has good flow and wetting properties on copper, brass, and bronze. Its melting characteristics are such that on the low end of its brazing temperature range it has "sluggish" flow characteristics which enable it to fill gaps better, making it ideal for loose-fitting joints. On the other hand, when brazing at high end of its brazing temperature range, it is very fluid, making ideal for tight-fitting joints requiring deep penetration.</p> <p>The self-fluxing property of #2 is effective on copper only. Copper base alloys, such as brass or bronze, may be brazed with #2 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>	
CORROSION RESISTANCE	<p>The corrosion resistance of #2 is comparable to that of copper except when exposed to Sulphur-containing compounds, particularly at elevated temperatures. Under these conditions #2 undergoes progressive deterioration. Exposure to pressurized steam can also result in accelerated corrosion.</p>	
SPECIFICATIONS	<p>#2 alloy conforms to: Unified Numbering System (UNS) C55280 and American Welding Society (AWS) A5.8/A5.8M BCuP-6</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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