Bellman-Melcor
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#0 (BCuP-2)

TECHNICAL DATA

NOMINAL COMPOSITION	**Phosphorus**	7.25% ± 0.25
	Copper	Remainder
	Other Elements, Total	0.15% Max
PHYSICAL PROPERTIES	**Color**	Light Copper
	Solidus	1310°F (640°C)
	Liquidus	1570°F (780°C)
	Recommended Brazing Temperature	1620-1670°F (882-910°C)
	Density (lbs./in^3)	0.29
	Specific Gravity	8.0
	Electrical Conductivity (%IACS)	7.5
	Electrical Resistivity (Microhm-cm)	23.2

USES

#0 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. Application assemblies include heat exchanger return bends, hot water cylinders and refrigeration points.

BRAZING CHARACTERISTICS

#0 is a copper rich, intermediate temperature, brazing filler metal that is moderately free flowing & self-fluxing on copper (only) by virtue of its phosphorus content. It liquates slightly more than a 7% Phosphorus Copper when heated rapidly. Induction Brazing will produce better mechanical properties in general than torch brazing. Best results are obtained with joint clearances of .001-.003". #0 liquates (i.e. separates into high & low melting constituents) if heated slowly through its melting range.
The self-fluxing property of #0 is effective on copper only. Copper base alloys, such as brass or bronze, may be brazed with #0 if the joints are coated with flux (please call for recommended flux type). #0 should not be used on ferrous metals or nickel base allows, since the phosphorus produces brittle iron or nickel phosphides at the joint interface.

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. Joints made with #0 are entirely satisfactory on copper and 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 filler metal may be preferred, particularly if the joints are to be subjected to impact or vibration in service.

SPECIFICATIONS

#0 alloy conforms to: Unified Numbering System (UNS) C55181 and American Welding Society (AWS) A5.8/A5.8M BCuP-2

AVAILABLE FORMS	Wire, engineered preforms, specialty preforms per customer specification, powder and paste
CORROSION RESISTANCE	#0 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.
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: