

TECHNICAL DATA SHEET

FOS-FLO 6

Nominal Composition: Phosphorus: 5.90% – 6.25%
 Copper: Balance (including silver up to 0.50%)
 All Others: 0.15% maximum

Physical Properties: Colour: Yellowish-red
 Solidus (Melting Point): 710°C (1310°F)
 Liquidus (Flow Point) 855°C (1570°F)
 Specific Gravity 8.12
 Density (lbs./cu.in.) 0.293
 Electrical Conductivity (%IACS) 7.2
 Electrical Resistivity (Microhm-cm) 24.1
 Brazing Temperature Range 746°-857°C (1375°-1575°F)

Uses: Fos-Flo 6 is a low cost brazing filler metal suitable for joining copper to copper and copper to copper alloys where critical impact or vibration stresses are not encountered in service. It should only be used on assemblies where good fitup can be maintained.

Brazing Characteristics: Fos-Flo 6 is a copper-base, moderately free-flowing brazing filler metal that is self-fluxing on copper because of its phosphorus content. It forms a more ductile joint and liquates only slightly more than a 7% (Fos-Flo 7) phosphorus-copper alloy when the two are heated rapidly under identical conditions. Heating slowly through the melting range tends to accentuate the degree of liquation. The liquating property may be used to advantage in bridging wide gap joints and forming desirable fillets.
 The self-fluxing feature of Fos-Flo 6 is effective on copper only. With copper-base alloys, such as brass or bronze, the joints should be fluxed with Handy Flux. Fos-Flo 6 should not be used on nickel-base or ferrous alloys, as the phosphorus reacts with the nickel or iron to form brittle compounds at the interface of the joints.

Properties of Brazed Joints: The properties of a brazed joint are dependent upon the base metal, joint design, brazing technique, etc.
 The following data is available on the tensile strength of butt joints made with ³/₈" dia. Rods of OFHC copper. All joints were hand fed and the resultant joint clearance was 0.004" to 0.006".

	Tensile Strength psi	Elongation % in 2"
Fos-Flo 6	31,000	20
Fos-Flo 7	18,000	6
Sil-Fos 5	33,000	29

Corrosion Resistance: The corrosion resistance of Fos-Flo 6 is comparable to that of copper except when the joint is exposed to sulphur-containing gas or oil at elevated temperatures as in a cooking range. Under these conditions, it is expected that Fos-Flo 6 will undergo progressive deterioration, as would all other phosphorus-copper brazing alloys with or without silver.

Equivalent Specifications: There are presently no known government or society specifications for this filler metal.

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**Available
Forms:** Wire rods.

Comments: Handy & Harman of Canada, Limited believes the information contained herein to be reliable. However, the technical information is given by Handy & Harman of Canada, Limited without charge and the user shall employ such information at its own discretion and risk, and Handy & Harman of Canada, Limited assumes no responsibility for results obtained or damages incurred from the use of such information in whole or in part.

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