Handy & Harman of Canada, Limited
Handy & Harman du Canada, Limitée
290 CARLINGVIEW DR., REXDALE, ONTARIO M9W 5G1
Phone: (416) 675-1860 · (800) 463-1465 Fax: (416) 675-1956 · (800) 426-3907

TECHNICAL DATA SHEET

FOS FLO 7

Nominal Composition:

Phosphorus:	7.25% ± 0.25%
Copper:	Balance
All Others:	0.15% maximum

Physical Properties:

Colour:	Steel Gray
Solidus (Melting Point):	710°C (1310°F)
Liquidus (Flow Point)	793°C (1460°F)
Specific Gravity	7.92
Density (Troy oz/cu in)	4.17
Electrical Conductivity (%IACS)	7.5
Electrical Resistivity (Microohm-cm)	23.2
Brazing Temperature Range	732°-843°C (1350°-1550°F)

Uses:

Fos-Flo 7 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 7 is a copper rich, intermediate temperature, brazing filler metal that is free flowing and self-fluxing on copper by virtue of its phosphorus content. This alloy is extremely fluid when heated rapidly to its flow point and will penetrate joints with very little clearance. Best results are obtained with joint clearances of .001-.003 in.

Fos-Flo 7 liquates (i.e. separates into high and low melting constituents) if heated slowly through its melting range.

The self-fluxing property of Fos-Flo 7 is effective on copper only. Copper base alloys, such as brass or bronze, may be brazed with Fos-Flo 7 if the joints are coated with Handy Flux. Fos-Flo 7 should not be used on ferrous metals or nickel base alloys, since the phosphorus produces brittle iron or nickel phosphides at the joint interface.

Properties of Brazed Joints:

Joints made with Fos-Flo are entirely satisfactory on copper and copper alloys if good fitup and adequate shear area are maintained. If poor fitup prevails, or shear area is marginal, a lower phosphorus content silver-copper-phosphorus filler metal such as Sil-Fos or Sil-Fos 5 may be preferred, particularly if the joints are to be subjected to impact or vibration in service.

Corrosion Resistance:

The corrosion resistance of Fos-Flo 7 is comparable to that of copper except when exposed to sulfur compounds and sulfur-containing gas or oil, especially at elevated temperatures. Under these conditions Fos-Flo 7 undergoes progressive corrosive deterioration, and should not be used.

Equivalent Specifications:

This alloy conforms to the following specifications.

AWS A5.8-04	BCuP-2
ASME Boiler & Pressure Vessel Code, SecII-C	BCuP-2

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Available Forms: Wire, rod, powder and preforms to specification.

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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