

Handy Flo® 120, Handy Flo® 121 DF 120, DF 121

GENERAL DESCRIPTION

Handy Flo 120 is a high fluidity general purpose fluxing system, which has been specially formulated for dispensing applications using automated dispensing equipment. When used with appropriate silver bearing braze filler metal, Handy Flo 120 will provide sufficient fluxing action to join most ferrous and non-ferrous metals providing high strength and hermetically sealed joints. This system is recommended for automated brazing operations that require flux deposit to remain in place and not flake off or blow off the assembly during initial stages of heating operation. This product has been used in applications where controlled amount of flux is needed each time the product is applied.

This system is recommended for use in most brazing applications including torch, induction, resistance and air furnace heating methods. Handy Flo 120 is not recommended for use in a vacuum or controlled atmosphere furnace brazing operations. This product is more active but has a shorter life at temperature in comparison to Handy Flo 110 or Handy Flo 130 systems. Handy Flo 120 is more fluid than Handy Flo 130 and not as restrictive as Handy Flo 110 and Handy Flo 130 systems. Handy Flo 120 system is generally recommended for brazing of small size assemblies with fast heat brazing cycles. HF 120, when heated under a nitrogen atmosphere to a temperature of 850°F (455°C), shows 100% binder weight loss in tests using thermal gravimetric analysis. HF 121, when heated under a nitrogen atmosphere to a temperature of 875°F (470°C), shows 100% binder weight loss in tests using thermal gravimetric analysis.

Handy Flo 121 is a boron containing version of Handy Flo 120. The Handy Flo series are generally used in paste formulations containing braze filler metal, whereas DF 120 & DF 121 are dispensable versions of Handy Flo 120 and Handy Flo 121 distributed as flux formulations only without the braze filler metal content.

PRODUCT APPLICATION

Handy Flo 120 is recommended for use with braze filler metals that flow between 1100°F - 1500°F (600°C - 815°C). This product is recommended for use with many of the common Silvaloy® formulations which include silver, copper, zinc and tin or nickel, and Easy-Flo® alloy formulations which include silver, copper, zinc and cadmium. Handy Flo 120 has been used in various applications including electronic/electrical, automotive, plumbing, and construction industries. Handy Flo 121 includes an addition of boron and provides an additional 100°F (38°C) of surface protection up to 1600°F (871°C). Handy Flo 121 is recommended for joining of stainless steels, carbides, malleable iron or other hard to braze base metals.

BRAZING CHARACTERISTICS

Handy Flo 120, Handy Flo 121, DF 120 and DF 121 will exhibit some mild slump characteristics and should be used cautiously on vertical joints if restrictive slump characteristics are required. This product exhibits fluid properties when molten making it beneficial for large parts where excessive flow is necessary. These products are corrosive and a post-braze cleaning or rinsing operation is required. The flux residue is easily dissolved in hot water at temperatures of 120°F (49°C) or higher.

WARRANTY & STORAGE

Lucas-Milhaupt, Inc. warrants their Brazing and Soldering Paste products for 90 days from the date of shipment if stored in the original unopened container. Optimal storage conditions would be 65°F (18°C) - 75°F (24°C), clean and dry. It is recommended that the paste products are stored away from direct heat. Paste may require mixing to regain a homogenous mixture before application.

Technical Data Sheet

The 90 day warranty should not be interpreted as the shelf or useful life of the product. The paste products may be used well beyond the 90 day warranty, unless customer testing or production results indicate unsatisfactory performance of the product.

AVAILABLE PACKAGING

Handy Flo and DF products are available in various size syringes, jars and cartridges. Paste may also be obtained in large containers prepackaged for immediate pneumatic dispensing operations.

SPECIFICATIONS

Handy Flo 120 conforms to the following specifications: N/A

Handy Flo 121 conforms to the following specifications: N/A

APPLICABLE PRODUCT CODE(S)

The applicable Lucas-Milhaupt product code(s) for this technical data sheet: 83-120,83-121.

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". For more complete information refer to the Material Safety Data Sheet for Handy Flo 120/DF 120 or Handy Flo 121/DF 121.

WARRANTY CLAUSE

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