



Technical Bulletin

JOHNSON MANUFACTURING COMPANY
Princeton, Iowa 52768-0096

JOHNSON'S FLO-RITE™ PASTE SOLDERS

DESCRIPTION

Johnson FLO-RITE Paste Solder is a homogeneous blend of pre-alloyed solder powder and specially formulated flux vehicles. These products have been designed for high volume industrial applications where cost effectiveness demands an inexpensive product or for the lower volume users who do not require precise viscosity control batch to batch. Johnson FLO-RITE Paste Solders have superior wetting and flow characteristics that allow spread over most solderable surfaces.

APPLICATION

FLO-RITE Paste Solder may be applied to any solderable surface by a variety of techniques. Hand or automated syringe dispensing, screen printing, brushing or dipping are the most common application techniques. All Johnson FLO-RITE Paste Solders are suitable for most reflow methods, including high temperature applications. These products have been developed to withstand direct flame heating and still leave an easily removable residue. Other common heating methods include hot plate, convection oven, and induction heating.

FORMULA F-610

FLO-RITE formulation F-610 is a highly active, water soluble, zinc chloride based, inorganic acid solder paste. F-610 has been developed for hand application and large scale automated placement other than syringe dispensing. F-610 exhibits excellent wetting and spread characteristics even on very hard to solder metals such as oxidized copper, nickel, or stainless steel, but excluding aluminum. F-610 is typically manufactured with the Sn30/Pb70 alloy with an 85% metal content (other alloys and metal percentages are available) and can be packaged in jars or cartridges.

FORMULA F-611

FLO-RITE formulation F-611 is slightly less active than F-610. F-611 is a water soluble, chloride based, inorganic acid paste solder that can be used on most solderable metals including copper, nickel, and mild steels, but excluding hard steels, zinc, and aluminum. F-611 is typically manufactured with the common tin/lead alloys (30/70, 50/50, or 60/40) at 66.7% metal content (other combinations available) and can be packaged in jars or cartridges.

FORMULA F-646

FLO-RITE formulation F-646 is a moderately active paste solder that typically contains 81% metal by weight. It dispenses easily and holds in place during the entire heating process. FLO-RITE F-646 utilizes a proprietary non-leaded alloy powder to produce the right combination of capillary flow and bridging, leaving each joint with a strong bond and nice looking fillet.



TO ORDER CALL (800) 747-0030, FOR SUPPORT CALL (563) 289-5123, TO SEND FAX (563) 289-3825, EMAIL TO johnsonmfg@aol.com

REMOVING RESIDUES

Residues left after soldering are corrosive and conductive and should be thoroughly cleaned with successive deionized water rinses at 130-150°F as quickly as possible to ensure total cleanliness.

HEALTH AND SAFETY

These products, during handling or use, may be hazardous to one's health or the environment. Read the *Material Safety Data* sheet and warning label before using this product.

**FLO-RITE is a registered trademark of Kester Solder Company, Division of Litton Industries.*