Technical Bulletin

JOHNSON MANUFACTURING COMPANY
Princeton, Iowa 52768-0096

JOHNSON'S BEST WATER SOLUBLE PASTE FLUX

Part No. 05-80 Series

DESCRIPTION:

Johnson's Best Water Soluble Paste Flux may be used for soldering copper fire protection sprinkler systems and for all potable (drinking) water supplies. It contains no zinc chloride therefore, it is safe for soldering all copper pipes and brass fittings. Furthermore, its residues are 100% cold water flushable and will cause no harm to the environment.

This light yellow paste flux is blended to a smooth consistency that is very easy to apply. It lubricates parts so the joints can be assembled as easily as with grease type pastes. When heated, it resists spattering and it does not easily char during extended heating periods, like when soldering three or four inch copper. Storing at room temperature is recommended. When stored at higher temperatures some separation may occur, although unlike most grease type pastes, it can be easily restored by stirring thoroughly with the flux brush.

Johnson's Best Water Soluble Paste Flux is laboratory certified to exceed CDA STM 1.0 and ASTM B-813-93 standards. It also meetss Federal Specification A-A-51145C-92, Type 1, Form A, and L.A. Mechanical Testing Laboratory Application No. M-960079. The CDA (Copper Development Association) established the original standard (CDA STM 1.0) for fluxes used when soldering copper sprinkler systems. In addition to other stringent requirements, these fluxes must not contain hazardous ingredients, nor can they release hazardous fumes into the workplace, nor toxic residues into the waste stream. ASTM (American Society for Testing Materials) subsequently adopted the CDA's standard test method verbatim, (ASTM B-813) and recommends it for all potable water supplies, as well as sprinkler systems. Periodically, the CDA conducts soldering classes that are designed to instruct plumbers how to use these environmentally safer fluxes with lead-free solders.

PHYSICAL DATA:

Active Range	**250 to 600°F**
Appearance	**Smooth Light Yellow Paste**

USAGE:

Surfaces must be clean and dry prior to soldering, in order to achieve strongest, tightest solder bonds. For soldering copper tubing and brass plumbing fittings using Johnson's Best Water Soluble Paste Flux, it is recommended to preclean both parts mechanically using a fitting brush, scotchbrite, or emery cloth. Apply flux evenly to all surfaces to be joined and assemble the parts with a twisting motion. Heat the double wall thickness or fitting, while allowing some of the flame to spill over onto the lighter tube. This heating method is used to bring both parts up to soldering temperature at the same time. Apply enough solder to fill the joint and while still molten, wipe away excess solder and flux using a heat resistant cloth. Allow lead-free solder joints to solidify naturally, and without disturbance.

Johnson's Best Water Soluble Paste Flux may be used with all lead-free solders suitable for plumbing applications. Lead-free solders require higher temperatures than tin-lead solders that were banned for use in plumbing applications. Lead-free solders also do not flow as readily as the old tin-lead solders because of their inherently higher surface tension and viscosity. Because of these factors, it is essential that an operator understand how to use the torch, or other heat source, to pull solder completely through the joint, as well as when to remove heat.

HANDLING:

Always wear protective clothing and eye wear when soldering. Please refer to the separate *OSHA Material Safety Data Sheets* for additional information on Johnson's Best Water Soluble Paste Flux.

WASTE DISPOSAL:

Johnson's Best Water Soluble Paste Flux is formulated to contain no hazardous chemicals. Empty jars that have contained this flux should therefore be safe to discard, however because state and local regulations vary, you are advised to check with officials before disposal. Beyond this, we can make no specific recommendations.