



Technical Bulletin

JOHNSON MANUFACTURING COMPANY
Princeton, Iowa 52768-0096

JOHNSON'S WATER REMOVABLE SOLDERING PASTE Part No. 05-20 - 30 Series

DESCRIPTION:

Johnson's Water Removable Soldering Paste is safe for soldering copper, fire protection, sprinkler systems and for all potable (drinking) water supplies. It is safe for copper pipes because it contains no zinc chloride, and safe for brass fittings and valves because it contains no ammonium chloride. Johnson's Water Removable Soldering Paste is biodegradable and 100% cold water flushable. Furthermore, because it contains no hazardous ingredients, none are released into the workplace or down the sewer.

This smooth white paste is blended to a 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 rapidly, it resists spattering and it resists charring during extended heating periods, as when soldering 4" copper. Some separation may occur if stored at temperatures above 120° F however, unlike the grease type pastes, it is easily restored by simply stirring thoroughly with the flux brush.

Johnson's Water Removable Soldering Paste exceeds CDA STM 1.0 & ASTM B-813-93 Standards, as certified by two independent, approved testing laboratories, plus 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 which are designed to instruct plumbers how to use these new, environmentally safer fluxes, and this flux has been used in that program.

PHYSICAL DATA:

Specific Gravity	1.1
pH	6-8
Active Range	350 to 600°F
Appearance	Smooth White Paste
Odor	Slight Wintergreen Odor

USAGE:

Surfaces must be clean and dry prior to any soldering, in order to achieve strongest, tightest solder bonds. For soldering copper tubing and/or brass plumbing fittings using Johnson's Water Removable Soldering Paste, it is imperative to preclean both parts mechanically using a fitting brush designed for the purpose, or emery cloth. Brush flux evenly on all surfaces to be



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joined and assemble the parts with a twisting motion. Apply heat to the double wall thickness or to the heavier fitting, while allowing some of the flame to spill over onto the tube. This method is used to bring both parts up to soldering temperature at precisely 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 Water Removable Soldering Paste is typically used with lead-free solders for plumbing applications. Lead-free solders require higher temperatures than the tin-lead solders that are now banned for use in potable water supplies. Also, they do not flow as readily because of their inherently higher surface tension and viscosity. Because of these factors, it is essential that the operator understand how to use the torch (or other heat source) to pull solder completely through the entire joint, as well as when to remove heat.

Considering its mild nature, one would never guess that Johnson's Water Removable Soldering Flux also solders certain grades of stainless steel as well as nickel. It is also ideal for soldering architectural copper or coated metal roofing where it is particularly useful for vertical seams. Residues are nearly completely non-corrosive, but should be removed if possible.

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 Water Removable Soldering Paste.

WASTE DISPOSAL:

Johnson's Water Removable Soldering Paste is formulated to contain no hazardous chemicals. This flux should be environmentally 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.