Technical Bulletin
JOHNSON MANUFACTURING COMPANY
Princeton, Iowa 52768-0096

JOHNSON'S PURE SOLDERS *with* SPECIAL PURPOSE FLUX CORES

DESCRIPTION:

Johnson offers one of the most complete lines of Special Core Fluxes available to industry today. Although originally designed for a single customer or purpose, each flux has been found to be very useful for a wide variety of soldering operations. Johnson Pure Solders are made only from the finest Grade A Tin and other metals of the highest commercial purity. All meet or exceed current Specifications for alloy content. As a leading producer of commercial and industrial soldering fluxes since 1909, we guarantee that all Johnson core fluxes are formulated to meet or exceed our highest standards for purity, uniformity and consistent degree of activity.

PHYSICAL DATA:

Type of Flux	Appearance	Soluble in	pH @ 10%	Strength
R-100 Non-Activated	Amber Solid	Alcohol	NA	Mildest
AR-100 Activated Rosin	Amber Solid	Alcohol	N/A	Milder
OR-120 No-Clean	Waxy Gel	Water	N/A	Mild
OR-200 Stearine	Waxy Solid	Kerosine	N/A	Mild
AL-300 Organic Amine	Viscous Liquid	Water	8-10	Strong
OR-520 Organic Acid	Thick Paste	Water	6-7	Stronger
AC-600 Inorganic Acid	Clear Liquid	Water	1-2	Strongest

R-100 NON-ACTIVATED ROSIN CORE FLUX:

Johnson's R-100 Rosin Flux Core (R-Type)is the mildest of all Johnson core fluxes, leaving no active residues behind on the surface to cause corrosion. While strong enough to permit solder to form a tight metallurgical bond with copper or freshly tinned surfaces, it does not provide the power of an activated flux (RA-Type) enabling solder run or pull deep into joints.

AR-100 ACTIVATED ROSIN SOLID CORE FLUX:

Johnson's AR-100 Rosin Flux Core (RA-Type) is especially useful for soldering electrical wires and circuitry, decorative copper, architectural copper roofing and for many pretinned parts where residues may be difficult or impossible to remove. This activated rosin paste flows readily when heated, cleans and fluxes to permit soldering of most easy-to-solder metals, then it drys to a glassy, light amber colored layer that encapsulates any active ions that may remain behind on the workpiece. Residues can be easily removed with isopropyl alcohol.

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OR-120 NO-CLEAN ORGANIC FLUX CORE:

Johnson's OR-120 Organic Flux Core is next to our most mild flux. It is very useful for soldering automotive, electronic and electrical wiring. This flux is active enough to insure strong bonds, yet it's residues are benign enough to cause little, if any corrosion on the workpiece or under the insulation on wires or terminals. Removal of residues is always recommended providing it is possible without damaging sensitive components. OR-120 is water soluble and residues are easily dissolved.

OR-200 ORGANIC STEARINE, SOLID FLUX CORE:

Johnson's OR-200 Stearine Flux Core is an organic flux that is used by electrical utility companies, battery manufacturers and producers of other easy-to-solder items where a mild flux is called for and residues may be difficult to remove. This flux is slightly more aggressive than our activated rosin flux, yet after soldering, it returns to its natural wax-like state that is non-hygroscopic and relatively non-corrosive. Residues may be removed using kerosine or mineral spirits to prevent discoloration of the surface.

AL-300 ORGANIC CORE FOR ALUMINUM & OTHER METALS:

Johnson's AL-300 Organic Amine Flux Core is well suited to soldering aluminum, copper, nickel and other metals. This special flux core is inactive until heat is applied. When heated it becomes quite aggressive and able to remove even tenacious aluminum oxide film, thus permitting solder to flow as easily to aluminum as to most other metals. Matched with Johnson's #435 alloy or other suitable alloy, oxide films are removed, then soldering occurs at which point the flux becomes inactive. Overheating may cause residues to darken, however they do remain water soluble and are easily removed. Avoid heating aluminum surfaces too rapidly. This can cause spattering of core fluxes and may destroy the activity of the flux before the solder has time to flow. Soldering aluminum is often best accomplished using a volume of heat (generalized heat), as opposed to high specific heat or intense flame.

OR-520 ORGANIC ACID, SOLID FLUX CORE:

Johnson's OR-520 Organic Acid Flux Core is a non-hygroscopic, paste flux having a nearly neutral pH as supplied; therefore there is no danger whatsoever of this flux leaking out of wire solder during proper storage. For that reason, this type of flux is popular throughout the DIY and hardware industries. When heat is applied, OR-520 melts and flows ahead of the solder, providing a powerful cleaning and fluxing action for soldering copper, brass, steel, galvanized and other coated metals. Its residues remain somewhat active after soldering and should be removed with water to prevent staining and possible corrosion of the workpiece.

AC-600 INORGANIC ACID, VISCOUS FLUX CORE:

Johnson's AC-600 is an Inorganic Chloride Viscous Flux that contains free Hydrochloric Acid. This flux is a highly aggressive formula that is used by some manufacturers for soldering stainless steels, without the need for an external flux. Some radiator repair shops also prefer the extra power of Johnson's AC-600 acid flux core, used with an external flux, for repairing tough-to-solder radiators and industrial heat exchangers. Its zinc chloride residues are very hygroscopic and acidic and therefore must be removed to prevent heavy staining and corrosion of the workpiece. Hot water speeds the removal of these residues. Regular users of this product know that care must be taken to crimp the end of this wire solder between periods of use to prevent flux from leaking out of the core. Do not transport or store in a hot place.