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MULTIFIX™

REWORK FLUXES

402-01, 425-01 AND 450-01

Multifix 402-01, 425-01 and 450-01 are tacky fluxes designed for use in a wide range of electronics assembly and rework processes. They represent a range of activities and residue levels to meet different customer requirements.

- No Clean Formulations
- Residue free or minimal clear residues
- Range of activity to deal with different component solderability
- Halide free
- Suitable for dispensing
- Compatible with solder coatings and/or No Clean flux cored solder wire

PRODUCT RANGE

All three products are supplied in syringes or cartridges for application by dispensing. The user should select the product most appropriate to the application.

Multifix 402-01 leaves virtually no residues but has limited activity which may be inadequate to deal with surfaces having marginal solderability.

Multifix 450-01 leaves visible but clear residues which do not require cleaning. It has good activity for rework operations.

Multifix 425-01 is a compromise between the other two products. The residues are clear and barely visible while soldering activity is sufficient for many users.

RECOMMENDED OPERATING CONDITIONS

There are a great number of different applications for these products and users may find that their own process requires particular conditions. The following information can therefore be for guidance only.

The main function of these fluxes is threefold. They provide a thermal pathway from the heat source to the workpiece, ensuring that it is evenly heated. The viscous fluid protects metal surfaces from rapid oxidation at

soldering temperature and finally, they break down surface contaminants to allow solder spread. On tin/lead surfaces, this may be a purely physical effect causing oxide skins to flow away from the molten coating but chemical dissolution may also be required.

Where a component is to be soldered into place for the first time, the alloy for the fillet may be provided by the fusible coating on the PCB and to some extent, on the component termination. The PCB may be of conventional design or it can be specially fabricated with a flat, thick solder coating. In both cases, Multifix 402-01 may be the most suitable product and it will provide a sufficiently tacky surface to hold the component in place.

When a component is to be soldered to a board having little or no fusible coating, it may be necessary to use Multifix 425-01 or Multifix 450-01 to clean the surface to be joined. Solder for the joint is supplied by wire which may be solid or flux cored. If flux cored wire is used, it is recommended that the low residue product Multicore X39 is selected since the residues from this material are minimal and totally compatible with all three of these Multifix products.

Where components have been removed from a PCB, it is important to prepare the site for the replacement device in order that the resoldering process can be carried out efficiently. Excess solder should be removed from the PCB with Multicore No Clean Desoldering Wick and areas showing abnormally high levels of oxidation may benefit from pretinning.

In all cases, a variety of heating methods may be used to produce a solder joint with these products. These include soldering irons, hot gas and hot bar devices, condensation reflow and IR/convection reflow. Specialist tools and workstations are available to assist operators but skill will often be required to adapt these to particular situations. Both Multifix 425-01 and Multifix 450-01 are tolerant of a wide range of temperature profiles and any residues left after reflow will be hard, clear and non-tacky. However, if optimum results are to be achieved with Multifix 402-01 it is important that the flux is submitted to sufficient thermal input to totally dissipate the residues. Failure to ensure this may leave tacky residues which will not dry under normal ambient conditions.

TECHNICAL SPECIFICATION

The following Table summarises typical product properties. Full details of test methods are available on request.

FLUX PROPERTIES			
TEST	402-01	425-01	450-01
Halide content, %	Zero		
Acid Value, mg KOH/g total flux	10.5	35	68
Flux Classification			
- IPC-SF-818	L3CN	LR3CN	LR3CN
- EN 29454	2.2.3	1.1.2	1.1.2
- J-STD-004	OR LO	RO LO	RO LO
Copper Mirror Test	Pass		
Chromate Paper Test	Pass		
Corrosion Test	Pass (10 days)		
- IPC-SF-818	Pass		
- BS5625	Pass		
- DTD 599A	Pass		
- DIN 8516	Pass		
- JIS-Z-3197	Pass		
SIR Test (without cleaning)	Pass		
- IPC-SF-818 Class 3	Pass		
- Bellcore TR-NWT-000078	Pass		
- J-STD-004	Pass		
Electromigration Test (without cleaning)	Pass		
- Bellcore TR-NWT-000078	Pass		
Flash point (°C)	12	>100	>100
Viscosity (cP)			
- unstirred	24,000	436,000	705,000
- stirred	22,000	250,000	550,000

PACKAGING

Multifix Rework Fluxes are available in 10cc and 30cc cartridges and syringes.

HEALTH AND SAFETY

WARNING: The following information is for guidance only and users must refer to the Material Safety Data Sheets relevant to the specific products before use.

Fume Hazard and Precautions: Avoid excessive inhalation of the flux fumes. These are irritating to the throat and respiratory organs. Prolonged or repeated exposure to the fumes of Multifix 425-01 or Multifix 450-01 may result in sensitisation leading to occupational asthma. Suitable fume extraction equipment should be used to extract flux fumes away from operators.

Protection and Hygiene: Suitable protective clothing should be worn to prevent the materials from coming into contact with the skin and eyes. If the materials come into contact with the skin, the affected area should be washed using a proprietary skin cleanser. If any irritation develops seek medical attention. If the materials come into contact with the eyes, they should be irrigated thoroughly with running water for at least 10 minutes and medical attention sought. Eating and drinking should not be permitted in the work area and hands should be washed with soap and warm water before eating.

Fire Hazards and Precautions: These products are combustible. Carbon dioxide, alcohol resistant foam or dry powder extinguishers should be used if the materials catch fire.

Spillage and Waste Disposal: Spillages should be scraped up and the contaminated area washed with organic solvent. Waste should be stored in closed containers and disposed of in accordance with relevant local and national regulations.



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