



# Product MULTIFIX™ 425-01 & 450-01

April 2003

## REWORK FLUXES

Multifix 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
- Low residue
- 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

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

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

Multifix 425-01 is less active. However, the residues are clear and barely visible while soldering activity is still sufficient for many users.

## RECOMMENDED OPERATING CONDITIONS

There are many 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 (eg. produced by the Solid Solder Deposition (SSD) process). In either case, Multifix 425-01 and Multifix 450-01 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 both of these Multifix products.

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.

## TECHNICAL SPECIFICATION

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

FLUX PROPERTIES		
TEST	425-01	450-01
Halide content, %	Zero	
Acid Value, mg KOH/g total flux	35	68
Flux Classification		
IPC-SF-818	LR3CN	LR3CN
EN 29454	1.1.2	1.1.2
J-STD-004	RO L0	RO L0
Copper Mirror Test	Pass	
Chromate Paper Test	Pass	
Corrosion Test		
IPC-SF-818	Pass (10 days)	
BS5625	Pass	
DTD 599A	Pass	
DIN 8516	Pass	
JIS-Z-3197	Pass	
SIR Test (without cleaning)		
IPC-SF-818 Class 3	Pass	
Bellcore TR-NWT-000078	Pass	
J-STD-004	Pass	
Electromigration Test (without cleaning)		
Bellcore TR-NWT-000078	Pass	
Flash point (°C)	>100	>100
Viscosity (cP)		
Unstirred	436,000	705,000
Stirred	250,000	550,000

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THE TECHNICAL INFORMATION CONTAINED HEREIN IS INTENDED AS REFERENCE ONLY. PLEASE CONTACT LOCTITE CORPORATION QUALITY DEPARTMENT FOR ASSISTANCE AND RECOMMENDATIONS ON SPECIFICATIONS FOR THIS PRODUCT.

## 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 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.

### Note

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## Loctite Electronics



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