

Low Residue Soldering Flux

Product Applications

HMT43-LF No-Clean/Water-Soluble flux is a specially formulated low-solids flux free of any halides, resin, or rosin. This flux was designed for soldering high quality electronic printed circuit boards (PCBs), such as, through-hole, mixed technology, and surface mount assemblies while eliminating the need for a post cleaning operation. HMT43-LF No-Clean/Water-Soluble is formulated for foam or spray applications as supplied.

Product Benefits

- Excellent surface wetting.
- May be used as a No-Clean or Water-Soluble
- May be conformal coated without post-solder cleaning.
- Can be used with lead free solder.
- Conforms to ANSI-J-STD-004, Type ORL0.
- RoHS 3 and REACH compliant

Specifications and Test Results

Test J-STD-004 or other requirement (as stated)	Test Requirement	Result
Copper Mirror	IPC-TM-650: 2.3.32	L: No Breakthrough
Corrosion	IPC-TM-650: 2.6.15	L: No Corrosion
Quantitative Halides	IPC-TM-650: 2.3.28.1	L: <0.05%
Electrochemical Migration	IPC-TM-650: 2.6.3.7	L: <1 decade drop (not cleaned)
Surface Insulation Resistance 40°C, 90% RH @ 168 Hours	IPC-TM-650: 2.6.3.7	L: ≥ 100 MΩ (No Clean)
Fluoride Test		Passed, No Fluoride Content
Visual	IPC-TM-650: 3.4.2.5	Clear and Free from precipitation
Conflict Minerals Compliance	Electronic Industry Citizenship Coalition (EICC)	Compliant
REACH Compliance	Articles 33 and 67 of Regulation (EC) No 1907/2006	Contains no substance >0.1% w/w that is listed as SVHC or restricted for use in solder materials.
Specific Gravity	N/A	0.825 ± 0.01
Density	N/A	6.88 lb/gal
Acid Value	N/A	16-22 ± 4.0
Solids Content	N/A	2.0% ± 0.1
Flash Point TCC	N/A	11.7°C/53°F

Wave Soldering

HMT43-LF No-Clean/Water-Soluble Flux may be applied by foam, spray, or wave application. The optimum topside PCB preheat temperature recommendation is 200-240°F/93-115°C. Too low a preheat setting is indicated by post-solder residues on PCBs that look like water stains. A solder-bath temperature of 480°F ± 20°F is recommended for optimum result. For optimum soldering results, use the following guidelines:

- Make certain that the PCB surfaces are free of any oil, grease, or other impurities.
- Maintain a consistent foam head by narrowing the flux chimney, or using dual flux stones.
- Add fresh flux to maintain proper flux level in flux tank.
- Replace the flux daily unless a sealed, self-contained system is used; such as in a spray fluxing system.
- Regularly clean the fluxing equipment. Never leave foaming stone in flux when pressure is not applied.
- Clean fluxing stone in Isopropyl (IPA) flux thinner.
- When foam fluxing, flux properties can be maintained by monitoring the specific gravity. However, control by checking the acid value is recommended as the most accurate measure.

Add Isopropyl (IPA) as a flux thinner when needed. HMT43-LF No-Clean/Water-Soluble is also formulated for use in manual soldering applications for electronic assemblies. A soldering iron temperature between 315-400°C / 600-750°F is recommended for optimum results. Apply flux to area that is being soldered. Post-soldering residues are water-soluble and should be removed with DI, distilled, or RO water. PHYSICAL PROPERTIES Specific Gravity 0.825 ± 0.01@ 20-25°C/68-77°

Storage and Shelf Life

Product should be stored in original sealed containers below 50°C. Shelf life under stated conditions is (2) years.

Packaging

Container Sizes	1-gallon container, 5-gallon pail, 55-gallon drum, Flux Pens
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Health and Safety

HMT43-LF is a flammable product and should be handled with care and the normal precautions taken when working with chemical products. Recommended handling procedures are provided in the SDS.

Please refer to the Safety Data Sheet (SDS) before use. Safety data sheets can be found at www.hmtsolder.com

This data is based on information that the manufacturer believes to be reliable and offered in good faith. In no event will HMT be responsible for special, incidental and consequential damages. The user is responsible to the Administrative Authorities (regulations for the protection of the Environment) for the conformity of his installation.