



DKL Clearflow 7000 VOC Free No Clean / Water Washable Flux

DESCRIPTION

DKL Clearflow 7000 VOC Free No Clean / Water Washable Flux is a halogen free, water-based, VOC free spray flux formulated for lead free wave and selective soldering applications. Clearflow 7000 provides excellent, defect free soldering of even the most difficult to solder components and board finishes, including OSP, ENIG, Ag, Sn and HASL. Clearflow 7000 leaves the absolute minimal of non-greasy post soldering residue. Tested to Industry standards including J-STD-004B. The residues can be considered safe to remain on an assembly when no-clean technology is appropriate to the assembly end-use, however, if residues need to be removed use water (preferably warm). Clearflow 7000 VOC Free flux allows the user to dramatically reduce wave soldering VOC emissions, whilst improving cleanliness and soldering performance against traditional alcohol based no clean fluxes.

FEATURES

- Good fluxing action
- Halogen free formulation
- Water Based
- Wide Process Window
- Sustained activity

BENEFITS

- Easy soldering of all components and boards
- Improved reliability
- Non-flammable
- Ease of use
- Suitable for dual wave and selective systems

PROPERTIES

Flux Classification (J-STD-004B)	ORL0
Colour	Clear
Solids Content	3.8%
Specific Gravity @25°C	1.013
Acid Value mg KOH/g	30
Quantitative Halide (J-STD-004B)	Halide Free
Halogen Content (J-STD-004B)	Halogen Free
Surface Insulation Resistance (J-STD-004B) (IPC-TM-650 2.6.3)	Pass





PROPERTIES (continued)

Electro Migration (Bellcore GR78) (IPC-TM-650 2.6.14)	Pass
Copper Mirror Test (J-STD-004A/B) (IPC-TM-650 2.3.32)	Pass
Copper Corrosion Test (J-STD-004A/B) (IPC-TM-6502.6.15)	Pass

Flux Type: Halogen Free

Amendment 1 (November 2011) of J-STD-004 revision B, introduces an optional test for Halogen. Many fluxes can contain covalently bonded halogen designed to dissociate at soldering temperatures releasing halogen ions (halides). Prior to soldering these ions are not detected by halide tests and can leave the confusing situation where halogen containing fluxes can be rated as '0'. This optional test can now offer users clarity as to the method of activation used for soldering as halogens are known to lower reliability performance. Clearflow 7000 is a true halogen free VOC free flux.

APPLICATION

Clearflow 7000 can be applied by spray, foam, wave or brush, for optimum results ultrasonic spray methods should be used. A post preheat flux loading of 70-200 $\mu\text{g} / \text{cm}^2$ has been shown to give good soldering performance, for single wave operations, levels towards the lower end of the scale should be applied. Topside board temperatures can range from 100°C-135°C depending on assemblies thermal requirement. The preheat temperature should be adjusted to ensure complete water removal before contact with the solder wave, an experienced operator can often hear when insufficient water is removed or if the preheat is set too high. Conveyor speeds between 1-1.5 m min⁻¹, contact time with the solder wave between 3 and 5 seconds, with a height between 1/2 and 2/3 of the board thickness are typically used. The solder pot temperature can range between 255-270°C dependant on thermal demand and solder alloy choice. Clearflow 7000 gives excellent soldering results with all lead-free alloys including SAC 405, 305, 0307 and SN100C®



CLEANING

Clearflow 7000 is designed for no clean applications, however, post soldering flux residue can be removed if necessary, by using hot water followed with a deionised water rinse or by using a saponifier, for efficient neutralisation of any acidic residue and removal of any additional handling contamination.

STORAGE

Clearflow 7000 offers a 24 month shelf life stored in un-opened containers below 40°C. Care should be taken to avoid temperatures below 0°C as freezing may cause separation of the flux additives. Shelf life of open containers will depend on the environmental conditions, ensure lids are replaced and tightened to avoid evaporation.

AVAILABILITY

Clearflow 7000 Liquid Flux is manufactured in the UK and is available in 1l, 5l, 10l and 25l containers. Larger containers are available to special order.

HEALTH AND SAFETY

Clearflow 7000 Liquid Flux is non-flammable however standard handling precautions should be observed. Eye and skin protection should be worn when handling and using this material. Avoid breathing fumes that are evolved during use. Ensure adequate extraction is provided in the workspace. For more detailed information consult the Material Safety Data Sheet (MSDS) which is available on request.

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The information given in this technical data sheet is to the best of our knowledge accurate. It is intended to be helpful but no warranty is expressed or implied regarding the accuracy of such data. It is the user's responsibility to determine the suitability of his own use of the product described herein: and since conditions of use are beyond our control, we disclaim all liability with respect to the use of any material supplied by us. Nothing contained herein shall be construed as permission or as recommendations to practice any patented invention.

