



Metallic Resources



MetaFlux™ WS-700 Product Bulletin

Water Based Water Soluble Flux

Metallic Resources' MetaFlux WS-700 is a VOC-free, water soluble, water-based organic foam soldering flux specially formulated for wave soldering applications. The amino acid halide activator starts cleaning metals at room temperature and achieves peak efficiency and activity at 500°F (260°C), thus promoting excellent solderability. It is available in 1-gal. containers, 5-gal. pails, and 55-gal drums.

Designed for Foam Fluxing

MetaFlux WS-700 is specially designed for wave soldering applications where foam fluxing is desired. It is ideal for soldering difficult printed circuit boards where demanding conditions exist. It may be applied by spray application.

Versatile and Economical

MetaFlux WS-700 solder flux can be used over a wide variety of electronics applications, thus creating versatility and economy. Since it is water based, it is extremely safe to use. The high activity makes it ideal for high production rates for greater cost-effectiveness. Residues are chemically neutral, non-corrosive, non-conductive, and non-hygroscopic.

Application Directions

MetaFlux WS-700 is formulated for foam fluxing wave soldering applications. An excess amount of flux will hinder rather than improve the application. The specific gravity should be checked at least once a day. The specific gravity may increase with prolonged use. Precipitation of flux solids may occur if the specific gravity exceeds 1.050 g/cc, and stone clogging may then occur. However, since the product is water based, extremely little evaporation takes place. The circuit boards should be preheated to reduce/ eliminate spattering and solder ball formation when the board makes contact with the hot solder. Employ as high a preheat temperature as possible without causing damage to the board and components. Hot air preheating will facilitate drying. Residue should be washed with hot distilled or de-ionized water (140°F or 60°C minimum).

Physical Properties

Form	Clear liquid	Spread Factor	80 (minimum)
Color	Blue	Surface Tension	35 dynes/cm (max.)
Specific Gravity	1.040 ± .005 g/cc @ 68°F (20°C)	Boiling Point	173°F (78.3°C)
Density	8.32 lb./gal.	Freezing Effects Optimum	None
Solids Content	13.0%	Soldering Range	375-500°F (200-260°C)
Flash Point	None	Residues	Water Soluble
pH	1.4 ± 0.30		
Chloride Content	12.5-17.5 g/l		
Acid Equivalent	0.60-1.0 g/l (hydrogen)		



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Safety Precautions

MetaFlux WS-700 requires no special safety measures because it is water based. Adequate ventilation is recommended to eliminate fumes generated by the flux, the solder, and the circuit boards. Avoid contact with skin and eyes. The product should be stored in plastic containers away from heat in temperatures between 60°F to 80°F. This product has a one (1) year shelf life from date of manufacture. Refer to the Safety Data Sheet (SDS) for additional information.

Standards Met

IPC J-STD-004

Type ORM1 classification

U.S. Army Satellite Communications Agency Spec No. SM-A571678

Federal Spec. QQ-S-571E, Type AC, non-rosin flux, organic chloride

Federal Spec. O-F-506C, Type 1, Form B

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