Kester WP601-ZH is a zero-halogen, lead-free, water-soluble solder paste formula for both nitrogen and air reflow applications. WP601-ZH is a breakthrough in water-soluble solder paste technology, providing a combination of consistent print performance at wide humidity levels, excellent solderability and ease of cleaning, while maintaining a zero-halogen flux formulation. WP601-ZH is a stable water-soluble formula, providing consistent stencil life, tack time and print definition. WP601-ZH is classified as ORM0 flux under IPC J-STD-004B.

Performance Characteristics:
- Zero-halogen (none intentionally added)
- Cleaning can be accomplished with heated de-ionized water
- Consistent printing performance at wide humidity levels (30-60% RH)
- Good solderability in air under straight profiles

RoHS Compliance
This product meets the requirements of the Restriction of Hazardous Substances (RoHS) Directive, 2015/863 for the stated banned substances.

Physical Properties

Initial Tackiness (typical): 35 grams
Tested to J-STD-005A, IPC-TM-650, Method 2.4.44

Slump Test: Pass
Tested to J-STD-005A, IPC-TM-650, Method 2.4.35

Solder Ball Test: Pass
Tested to J-STD-005, IPC-TM-650, Method 2.4.43

Viscosity: 2200 poise
Malcom Viscometer PCU-203 @ 10 rpm, 25°C, measurement after 9 minutes

Reliability Properties

Copper Mirror Corrosion: Moderate
Tested to J-STD-004B, IPC-TM-650, Method 3.1.1.1

Corrosion Test: Moderate
Tested to J-STD-004B, IPC-TM-650, Method 3.4.1.2

Surface Insulation Resistivity (SIR): Pass, All Readings >1.0x10^6 Ω
Tested to J-STD-004B, IPC-TM-650, Method 2.6.3.7

Surface Insulation Resistivity (SIR): Pass All Readings >1.0x10^6 Ω
Tested to J-STD-004A, IPC-TM-650, Method 2.6.3.3

Halogen Content: None Detected
Tested to J-STD-004B, IPC-TM-650, Method 2.3.28.1

Electro Chemical Migration (ECM): Pass
Storage, Handling and Shelf Life

Refrigeration is the recommended optimum storage condition for solder paste to maintain consistent viscosity, reflow characteristics and overall performance. WP601-ZH should be stabilized at room temperature prior to printing. WP601-ZH should be kept at standard refrigeration conditions, 0-10°C (32-50°F). Shelf life is 6 months from the date of manufacture when handled properly when held at 0-10°C (32-50°F). Storage of cartridges should be with the small tip down or on their sides, never with the large end down. Jars can be stored with the bottom down and stacked. Never freeze solder paste, this will shorten its shelf life. Please contact Kester Technical Support if you require additional advice regarding storage and handling of this material.

Cleaning

WP601-ZH residues are best removed using automated cleaning equipment (in-line) within 48 hours of soldering. Deionized water is recommended for the final rinse. Water temperatures should be 49-60°C (120-140°F). Kester’s 5768 Cleaner can also be used in a 1-2% ratio for aqueous cleaning systems.

Health and Safety

This product, during handling or use, may be hazardous to your health or the environment. Read the Safety Data Sheet and warning label before using this product.