

TSF-ULR18

Ultra-Low Residue Tacky Soldering Flux

DESCRIPTION

Kester **TSF-ULR18** is a no-clean, ultra-low residue tacky flux. The product was developed to support the increasing trend in high density, miniaturization, ultra-fine copper pillar and micro-ball bump flip chip IC package where the flux cleaning effectiveness to remove the residue becomes more challenging. Another segment where **TSF-ULR18** is highly recommended is in the Flip Chip on Lead frame (FCOL, FCQFN, etc.) package, the kind of device where flux cleaning is not required. The flux residue that may remain after reflow can interfere with subsequent underfilling or over-molding encapsulation which can possibly affect the reliability of the package. In response to this market need, Kester has developed an ultra-low residue tacky flux with post reflow residue below 10% wt., incredibly 3x reduction versus traditional rosin based tacky flux. The trace amount of residue left is highly reliable and is compatible with post process materials.

READ ENTIRE TECHNICAL DATA SHEET BEFORE USING THIS PRODUCT

RECOMMENDED PACKAGE TYPE

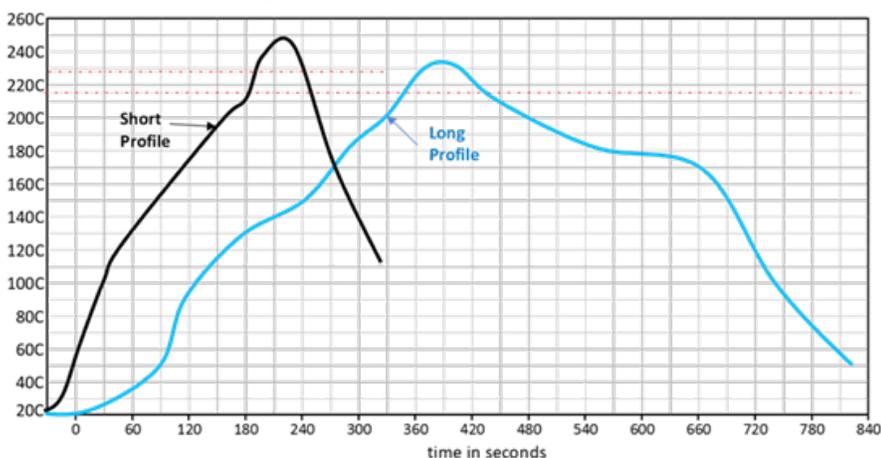
Flip Chip on Lead Frame, Ultra Fine Pitch Cu Pillar Bump and Micro-Solder Bump, 2.5D, 3D Packaging, Flip Chip MEMs, and others Flip Chip Packaging that do not require flux cleaning.

RoHS COMPLIANCE

This product meets the requirements of the Restriction of Hazardous Substances (RoHS) Directive. Additional RoHS information is located at <https://www.kester.com/downloads/environmental>.

RECOMMENDED REFLOW PROFILE

The typical convection reflow profile for TSF-ULR18 use for various lead-free alloys such as Sn96.5Ag3.5, Sn99.3Cu0.7, SnAg1.8, Sn100 and other various SnAgCu alloys is shown here. This profile is simply a guideline. TSF-ULR18 was engineered to be versatile and robust for customer reflow process. The optimal profile varies depending on device, component design, fixture, package design and device defect challenges. Please contact Kester Technical Support if you need additional profiling advice.


TECHNICAL DATA

Attributes	Description & Typical Values
Product Classification	No-Clean Tacky Flux
Halogen Classification	Halogen-Free
Halide Content	None
Application	Dipping / Printing
Viscosity (Typical)	350 to 500 Poise
Tackiness (Typical)	140 to 160 gram
Acid # (Typical)	20 to 50 mg KOH/gram
Residue post Reflow	Below 10% wt
Alloy Compatibility	Lead-free alloys such as SnAg, SnCu, Sn, SnAgCu, SnAgBi, others
Surface Metallization Compatibility	Cu, Cu-OSP, Immersion finishes and ENIG, PPF/Au, SAC305

Attributes	Description & Typical Values
Reflow Environment	Convection and nitrogen
Cleaning	Flux cleaning not required
Shelf Life	6 months at 0 to 25 °C 12 months at 0 to 5 °C
Pot Life @ 25 °C	24 hours
Storage Condition	0 to 25 °C
Thaw Conditions	1 hour (for 30 cc syringe) (minimum)

SAFETY & WARNING

It is recommended that the company/operator read and review the Safety Data Sheets for the appropriate health and safety warnings before use. **Safety Data Sheets are available.**

CONTACT INFORMATION

To confirm this document is the most recent version, please contact

techinfo@MacDermidAlpha.com

www.macdermidalpha.com

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Also read carefully warning and safety information on the Safety Data Sheet. This data sheet contains technical information required for safe and economical operation of this product. READ IT THOROUGHLY PRIOR TO PRODUCT USE . Emergency safety directory assistance: US 1 202 464 2554, Europe + 44 1235 239 670, Asia + 65 3158 1074, Brazil 0800 707 7022 and 0800 172 020, Mexico 01800 002 1400 and (55) 5559 1588

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