

## TSF-6522

### No-Clean Tacky Soldering Flux

#### Product Description

Kester formula TSF-6522 is a no-clean tacky soldering flux formula designed to be used with a rotating disc, a doctor blade, or a drum fluxer. The TSF-6522 can also be used in dot dispensing for BGA/PGA sites or in a rework application for surface mount packages. TSF-6522 maintains its activity and dispensing characteristics for up to 8 hours and can be used in a wide range of temperature and humidity conditions. Kester maintains the highest standards by manufacturing the TSF-6522 under a vacuum environment.

- High tack values and long tack life
- Leaves bright/shiny solder joints after reflow
- ANSI/J-STD-004 flux designator ROL0
- Can reflow in air or nitrogen environments

#### Physical Properties (typical)

- **Viscosity:** 285 poise  
Kester Method #1W-QC-3-09
- **Tackiness (grams-force):** 100  
Kester Method #1W-QC-03-04
- **Acid Number:** 75.4  
Kester Method #1W-QC-G-01
- **Color:** Yellow to Light Amber  
Kester Method #1W-QC-G-18

#### Reliability Properties (typical)

- **Copper Mirror Corrosion:** Low  
Tested to J-STD-004, IPC-TM-650, Method 2.3.32

- **Corrosion Test:** Low  
Tested to J-STD-004, IPC-TM-650, Method 2.6.15

- **pH 5% Solution:** 7.7  
Kester Method #1W-QC-G-15

#### Qualitative Halide Tests:

- **Silver Chromate:** Pass  
Tested to J-STD-004, IPC-TM-650, Method 2.3.33

- **Fluorides by Spot Test:** Pass  
Tested to J-STD-004, IPC-TM-650, Method 2.3.35.1

- **Typical S.I.R., IPC:**  
Tested to J-STD-004, IPC-TM-650, Method 2.6.3.3, (B-24 coupon)

Blank at 24 hours:  $3.08 \times 10^{10}$  ohms  
Blank at 96 hours:  $1.27 \times 10^{10}$  ohms  
Blank at 168 hours:  $8.79 \times 10^9$  ohms

Uncleaned at 24 hours:  $2.56 \times 10^8$  ohms  
Uncleaned at 96 hours:  $4.17 \times 10^8$  ohms  
Uncleaned at 168 hours:  $6.38 \times 10^8$  ohms

- **Typical S.I.R., Bellcore:**  
Tested to TR-NWT-000078, IPC B-24 coupon

Blank at 24 hours:  $1.44 \times 10^{12}$  ohms  
Blank at 96 hours:  $1.38 \times 10^{13}$  ohms

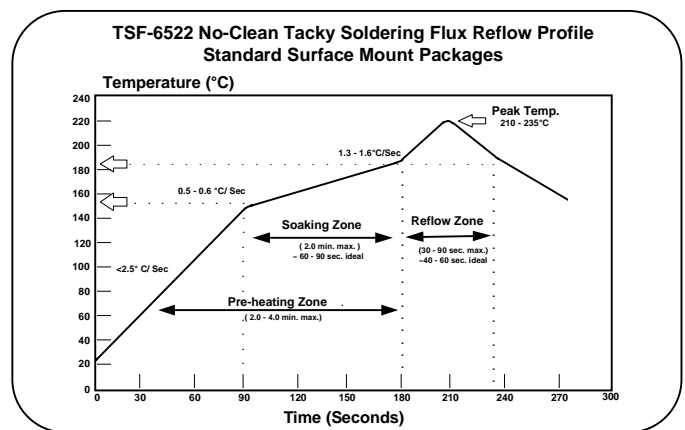
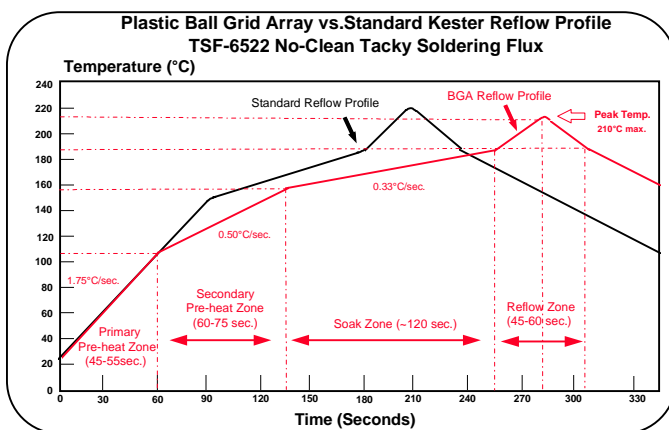
Uncleaned at 24 hours:  $2.19 \times 10^{13}$  ohms  
Uncleaned at 96 hours:  $1.56 \times 10^{13}$  ohms

## Standard Applications:

- Works on flip chip, chip scale package and flip chip bumping sites assemblies as a soldering flux.
- Tacky solder flux formulations are designed for pin transfer, dot dispensing and/or syringe applications.
- Tacky solder flux formulations can be used as a tack and flux vehicle for soldering components to a solid solder deposit (SSD), or precision pad technology (PPT) board surfaces.
- Great for rework applications on all PCB packages.
- Can be used in BGA/PGA sphere/pin attachment vehicle or for repair and reballing/repinning.

## Application Notes

### Reflow Profiles:



### Printing Parameters:

- Temperature/Humidity -- Optimal ranges for production are 21-25°C (70-77°F) and 35-65% R.H.

### Activation Parameters:

- Temperature -- Optimal activation temperatures are 130°-185°C (266-365°F). See "Soak Zone" in diagrams above.

### Cleaning:

- Formula TSF-6522 is a no-clean formula. The residues do not need to be removed for typical applications.
- Although formula TSF-6522 is designed for no-clean applications, its residues can be easily removed using automated cleaning equipment (in-line or batch) with the aid of Kester Bio-Kleen #5768 saponifier in a 10-12% concentration in de-ionized water at approximately 140°F (60°C).

### Available Packaging:

- Syringes -- 10 gram (10cc) and 30 gram (30cc) syringes available.
- Cartridges -- 150 gram and 300 gram cartridges available.
- Jars -- 50 gram and 100 gram jars available.

### Storage, Handling, and Shelf Life:

- Storage & Handling -- should be kept at standard refrigeration temperatures and humidity conditions, 0-10°C (32-50°F) and 35-55% R.H. respectively.
- Shelf life -- 4 months from date of manufacture when held at 0-10°C (32-50°F).

### Health & Safety:

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

### Attention Specification Writers:

- The technical information contained herein is consistent with the properties of this material but should not be used in the preparation of specifications as it is intended for reference only.
- For assistance in preparing specifications, please contact your local Kester Solder office for details.

24 Nov 98/TJT/dms