kester®
CONNECTING INNOVATION™

R276
Dispensable No-Clean Solderpaste for Leaded Alloys

Product Description

Kester **R276** is a no-clean solder paste specifically designed for optimal characteristics in all types of dispensing applications. R276 is packaged void-free to insure consistent dispensing in high speed automated processes. The flow characteristics of R276 provide for excellent dispensing characteristics with a wide range of needle diameters.

- Excellent dispensing characteristics using 22 gage needles and Type 3 powder
- Manufactured and packaged void-free to insure the most consistent dispensibility available
- Capable of several thousands of dots per hour in high speed automated dispense equipment
- High activity on all substrates, including OSPs
- Stable tack over 8+ hours
- Available with lead-free alloys
- Compatible with Kester Easy Profile® 256 stenciling solderpaste
- Classified as ROL0 per J-STD-004
- Compliant to Bellcore GR-78

Standard Application

87% Metal -- Dispensing

Physical Properties

(Data given for Sn63Pb37 87% metal, -325+500 mesh)

Viscosity (typical): 670 poise
Malcom Viscometer @ 10rpm and 25°C

Initial Tackiness (typical): 32 grams
Tested to J-STD-005, IPC-TM-650, Method 2.4.44

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

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

Wetting Test: Pass
Tested to J-STD-005, IPC-TM-650, Method 2.4.45

Reliability Properties

Copper Mirror Corrosion: Low
Tested to J-STD-004, IPC-TM-650, Method 2.3.3

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

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

Chloride and Bromides: None Detected
Tested to J-STD-004, IPC-TM-650, Method 2.3.35

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

SIR, IPC (typical): Pass
Tested to J-STD-004, IPC-TM-650, Method 2.6.3.3

	Blank	R276
Day 1	$1.0 \times 10^{10}\ \Omega$	$9.8 \times 10^{8}\ \Omega$
Day 4	$1.3 \times 10^{10}\ \Omega$	$1.6 \times 10^{9}\ \Omega$
Day 7	$1.3 \times 10^{10}\ \Omega$	$1.1 \times 10^{9}\ \Omega$

Application Notes

Availability:

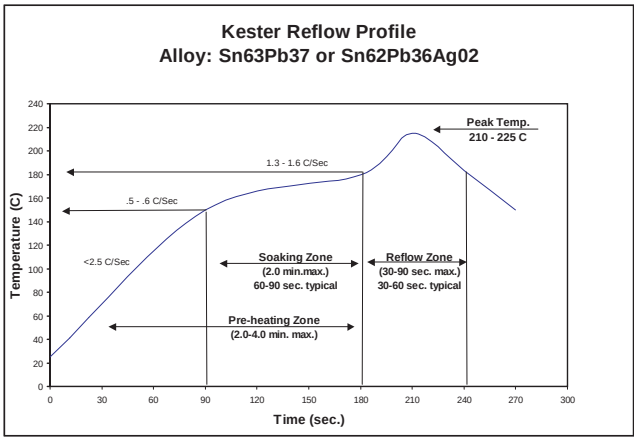
R276 is commonly available in the Sn63Pb37 and Sn62Pb36Ag02 alloys. Type 3 powder mesh is typically recommended, but Type 4 is available for fine needle applications. R276 is available only in 10cc and 30cc syringes. For specific packaging information, see Kester's Solder Paste Chart.

Dispensing Parameters:

Needle diameter	Type 3 powder may be used with needle sizes down to 22 gauge. Type 4 powder may be used for finer needle applications.
Dispense Speed	Capable of at least 4 dots per second
Temperature/Humidity	Optimal ranges are 21-25°C (70-77°F) and 35-65% R.H.

Recommended Reflow Profile:

The recommended reflow profile for R276 made with either the Sn63Pb37 or Sn62Pb36Ag02 is shown here. This profile is simply a guideline. Since R276 is a highly active solder paste, it can solder effectively over a wide range of profiles. Your optimal profile may be different from the one shown based on your oven, board and mix of defects. Please contact Kester if you need additional profiling advice.



Cleaning:

R276 is a no-clean formula. The residues do not need to be removed for typical applications. Although R276 is designed for no-clean applications, its residues can be easily removed using automated cleaning equipment (in-line or batch) with a variety of readily available cleaning agents. Call Kester Technical Support for details.

Storage, Handling, and Shelf Life:

Refrigeration is the recommended optimum storage condition for solderpaste to maintain consistent viscosity, reflow characteristics and overall performance. R276 should be stabilized at room temperature prior to dispensing. R276 should be kept at standard refrigeration conditions, 0-10°C (32-50°F). Please contact Kester if you require additional advice with regard storage and handling of this material. Shelf life is 6 months from date of manufacture when handled properly 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.

World Headquarters: 800 West Thorndale Avenue, Itasca, Illinois, 60143-1341 USA
Phone: (+1) 847-297-1600 • **Email**: customerservice@kester.com • **Website**: www.kester.com

Asia Pacific Headquarters
500 Chai Chee Lane
Singapore 469024
(+65) 6449-1133
customerservice@kester.com.sg

European Headquarters
Zum Plom 5
08541 Neuensalz
Germany
(+49) 3741 4233-0
customerservice@kester-eu.com

Japanese Headquarters
20-11 Yokokawa 2-Chome
Sumida-Ku
Tokyo 130-0003 Japan
(+81) 3-3624-5351
jpsales@kester.com.sg

Rev: 03Oct07