Product Information

Fine-L-Kote™ High Viscosity AR Acrylic Conformal Coating

2151
2105 or 2110 (Thinner)

Introduction

Techspray's new Fine-L-Kote ™ High Viscosity Acrylic Conformal Coating is a high viscosity version is an economical AR coating to protect PCBs. Innovative acrylic conformal coating gives PCB assemblers a wider process window and greater flexibility in their coating operation. High viscosity allows operators to use as-is for dipping, or to thin down for spray systems. This coating is tested and approved in Asymtek and PVA selective spray systems, both atomized and airless models. Designed with high solids content to maximize coating thickness and reduce production time.

Either 2105 or 2110 Techspray Conformal Coating Thinners are able available to reduce the viscosity to fit ideal process parameters.

Features / Benefits

- High Solids Content – 30% solids
- Thick Coating – One-Pass Application
- Fast & Easy Rework & Repair
- IPC-CC-830B
- Flammability of cured coating – UL94 HB, per IPC-CC-830B testing
- Crystal Clear & Glossy Finish
- UV Indicator for Black Light QC Inspection

Applications

Electronic Assemblies for…

- Automotive
- Aviation
- Consumer Electronics
- Appliances
- Industrial Meters & Control

Thinning / Removal

Techspray coatings can be thinned to meet production requirements using Techspray Conformal Coating Thinners (2105 or 2110). Conformal Coating Remover (2510) is also available for rework and repair, although coating is often just burnt through in the soldering process for spot repairs.

Techspray coatings contain Opti/Scan to allow quality control inspection of coverage and evenness of the coating on a PCB. A coated board can be passed under a standard, low-cost long-wave UV (black) light, and the coated areas glow. The brighter the glow indicates the thicker the coating.

Cure Profile

	Ambient Cured, 70°F(21°C), 19% RH	Accelerated Cure, 176°F (80°C)	Tack Time	Tested Thickness
2151 (neat)	24 Hours		30 Minutes	2.9 mils
2151 (30% 2110 thinned)	24 Hours	70 Minutes	10 Minutes	1.3 mils

Cure time depends with various factors, including the method and thickness of application. Dilution will also change the cure profile. At 30% dilution, 176°F (80°C) is recommended as the best accelerated temperature to optimize leveling, providing the smoothest possible finish. Faster curing may be achieved, but should be thoroughly tested first.

Chemical Properties *(MSDS available on request)*

Test Data

Application

	Test Method*	2151 Test Results
Application Method		Spray system, dip, or brush
Cure Time	TS-053	See Cure Profile
Accelerated Cure Time	TS-054	70 Minutes @ 80°C
Dry Time to Touch	TS-055	See Cure Profile
Quality Inspection Method of Coverage		UV (long-wave black) light
Removal Method		Alkane, Acetone or Acetate, Solder iron burn through

Characteristics

As Supplied:	Test Method	2151 Test Results
Visual Appearance	TS-050	Clear, Colorless Liquid
Density (25°C)	TS-019-1	~0.90
Viscosity (25°C)	Instrument (Brookefield RVT) Guide	200-250 Centipoise
Solids % by wt	TS-015	30
Flash Point	ASTM D-56 (TAG CC)	-3°C (27°F)
Vapor Pressure (20°C) (VOC Composite)	Calculated	35.5 mmHg
Initial Boiling Point	TS-051	Not Determined
Stability (30-day Test @ 37 C/100 F)	TS-052	Stable
Stability (30-day Test @ 6.1 C/21 F)	TS-052-1	Stable
Resin T_g	provided by supplier	58.5 – 61.5°C
Resin Mol Wt	provided by supplier	140K

Certified Testing

As Cured - Physical	Test Method	2151 Test Results
Dielectric strength	ASTM D-149, IPC-TM-650 2.5.6.1, Rev. A	1000 volts
Adhesion	ASTM D-3359	4B
Film hardness	ASTM D-3363	2H-4H
Film thickness, neat (1 dip),	ASTM D-1005	~6 mils (0.006”)
Film thickness, 30% dilution (1 dip)	ASTM D-1005	~2 mils (0.002”)
UL Qualification	**Test Method**	**2151 Test Results**
Coating flammability	UL94 Horizontal Burn	UL94 HB
IPC-CC-830B Qualification	**Test Method**	**2151 Test Results**
Appearance	IPC-CC-830B 3.5.2	passed
Fluorescence	IPC-CC-830B 3.5.3	passed
Flammability	IPC-CC-830B 3.5.6	passed
Fungus resistance	IPC-TM-650 2.6.1.1	passed
Flexibility	IPC-TM-650 2.4.5.1	passed
Dielectric Withstand Voltage	IPC-TM-650 2.5.7.1	Goes up to 1500VAC (100VAC/sec) for 1 mn. passed
Moisture & Insulation Resistance	IPC-TM-650 2.6.3.4	Tested for 160 hrs @ 50VDC bias per 830B, passed
Thermal Shock	IPC-TM-650 2.6.7.1	passed
Temperature Humidity Ageing	IPC-TM-650 2.6.11.1	passed
Continuous Use Operating Range		-65^{o}C to +125^{o}C

In most cases, Techspray corporate test methods (TS designation) correspond to standard ASTM Copies of Techspray corporate test methods are available upon request.

Environmental Policy

Techspray® is committed to developing products to ensure a safer and cleaner environment. We will continue to meet and sustain the regulations of all federal, state and local government agencies.

Packaging and Availability

Fine-L-Kote™ High Viscosity AR:

2151-P	1 pint (0.47L) in glass bottle
2151-G	1 gallon (3.8L) in metal bottle
2151-5G	5 gallons (18.9L) in metal pail
2151-54G	54 gallons (204L) in metal drum

Conformal Coating Thinner:

2110-G	1 gallon (3.8L) in metal bottle
2110-5G	5 gallons (18.9L) in metal pail

Turbo-Coat Thinner:

2110-G	1 gallon (3.8L) in metal bottle
2110-5G	5 gallons (18.9L) in metal pail

SHELF LIFE:
Conformal Coating is not perishable product. Shelf life is undefined because it is dependent on storage conditions, not by the nature of the product itself. This product, in its original unopened container, is expected to remain within original specifications up to 2 years if stored in a controlled environment, 41-86°F (5-30°C). If a shelf life needs to be defined for an inventory management process (e.g. ISO9001), a date can be set based on the manufacturing date referenced on the product label.

Resources

Techspray® products are supported by global sales, technical and customer services resources.

For additional technical information on this product or other Techspray® products in the United States, call the technical sales department at 800-858-4043, email tsales@techspray.com or visit our web site at: www.techspray.com and mobile site at: mobile.techspray.com

North America
Techspray
P.O. Box 949
Amarillo, TX 79105
800-858-4043
email: tsales@techspray.com

Europe
ITW Contamination Control BV
Saffierlaan 5
2132 VZ Hoofddorp
The Netherlands
+31 88 1307 400
email: info@itw-cc.com

Countries Outside US
Call to locate a distributor
in your country.