APTEK LABORATORIES, INC.
ISO 9001 / AS9100 Certified

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TECHNICAL DATA & INFORMATION

APTEK® 2551
High heat resistant, polyimide coating

PRODUCT DESCRIPTION

APTEK 2551 is a clear, low viscosity, one component, electrically insulative, tough polyimide coating.

KEY FEATURES AND BENEFITS

- High heat resistance for continuous service at 300°C and/or intermittent exposure up to 400°C
- Excellent reversion resistance for good physical stability under high heat and humidity environments
- Excellent substrate adhesion; superior to silicones
- Sprayable viscosity as supplied
- Very long usable work life in sprayer reservoir - greater than 3 days

HANDLING INFORMATION

1) Work life will be affected by temperature, humidity, and degree of solvent evaporation.

2) To reduce mixed viscosity, and/or extend work life, dilute mixture with 2551 Thinner as needed.

3) Suggested spray system is an HVLP spray gun such as DeVilbiss PROLITE-2-HV5 -TE5-10-C. This is a high volume, low pressure, gravity-fed spray system. Typical spray pressure is 15-25psi depending on fan/feed settings and distance from nozzle to substrate.

4) The recommended solvent to clean the spray gun is NMP or APTEK 2551 thinner.

5) The coating should be sprayed in multiple thin coats to achieve a cured coating thickness of 0.4 – 1.0 mils for best adhesion and best cured properties. It typically takes 5-8 coats to achieve the desired thickness range. After each sprayed coat, bake the solvent off at 60-65C for ~10 minutes or until the coating looks dry. Once the desired thickness is achieved, proceed with a cure schedule option below.

CURE SCHEDULE

15 minutes @60°C (for solvent flash off – see above)
+
4 hours @ 175°C
OR
2 hours @ 200°C
OR
1 hour @ 300°C

* The above cure schedules are conservative guidelines. User to determine proper cure schedule for specific application requirements.

TYPICAL PROPERTIES

(values not to be used for specification purposes)

CHARACTERISTICS	2551	TEST METHOD
Color	Pale yellow/amber	Visual
Specific gravity	1.0	ASTM D-1475
Viscosity @ 25°C, cps	70	ASTM D-1824
Flash point, °C	-20	ASTM D-92
Shelf life @ 5°C, months, factory sealed containers	3	
@ -18°C or below, months, factory sealed containers	12	

Notes: Shelf life may be reduced once containers are opened and material is exposed to air and moisture.
To preserve maximum use life, blanket the contents of the containers with dry nitrogen or argon before resealing.

CURED PHYSICAL PROPERTIES	2551	TEST METHOD
Outgassing @ 10^{-6}		
TML, %	0.13	ASTM-E595
CVCM, %	0.06	ASTM-E595
Pencil Hardness	>6H	

CURED ELECTRICAL PROPERTIES	2551	TEST METHOD
Surface resistivity @ 25°C, 1 mil thick film, ohms/square	10^{14}	ETS 860B

SAFETY AND FIRST AID

APTEK 2551 is a polyimide resin containing xylene and is thus considered a flammable liquid and should be treated with caution. Avoid storage temperatures above 5°C and keep away from flame, sparks, or other sources of ignition. Use in well-ventilated area and avoid breathing vapors. In case of eye contact, flush with fresh clean water for at least 15 minutes; for skin contact, wash thoroughly with soap and water. If swallowed, drink at least one pint of water and call a physician. Refer to Material Safety Data Sheet for more details.

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