



APTEK LABORATORIES, INC.

ISO 9001 / AS9100 Certified

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TECHNICAL DATA & INFORMATION

APTEK 2555

Black, ESD, High Temperature Paint

PRODUCT DESCRIPTION

APTEK 2555 is a one component, black, ESD, semi-rigid, mineral-filled, silicone-based coating/paint designed for very high temperature space applications. A thin coating of **APTEK 2555** was developed to withstand long term exposures up to 500°C (932°F) without cracking or peeling with a good degree of adhesion and flexibility.

KEY FEATURES AND BENEFITS

- Supplied as a low viscosity sprayable paint for convenience.
- Passes NASA outgassing per ASTM-E 595

HANDLING INFORMATION

1. **APTEK 2555** is a one component, ready-to-spray system; however, it may be thinned up to an additional 20% by weight or volume with APTEK 2555 Thinner or reagent grade toluene or reagent grade xylene.
2. Filler will settle upon long term storage. Homogenize prior to use by vigorously shaking the sealed container or stirring by hand or mechanical means until uniform.
3. Once uniform, pour freshly agitated **APTEK 2555** into spray gun reservoir. For best results, keep mixture in spray reservoir stirred or shaken during spraying procedure.
4. SURFACE PREPARATION
 - a. Substrate surface to be sprayed should be clean and dry and free from mineral, petroleum oils/greases, etc.
 - b. It is recommended substrates be scrubbed with an abrasive cleaner, such as AJAX oxygen bleach and a red Scotchbrite® pad. An alternative cleaning process would be to abrade with 60-80 grit sand paper or to sandblast the surface with coarse grain to get a roughened surface for mechanical adhesion.
 - c. Then rinse with distilled water until a uniform 'sheet' of water film appears on surface. Rinse in clean, anhydrous IPA, and allow to air dry for 15 minutes. Then bake for 15 minutes @ 65°C in an air circulating oven.
5. PAINT APPLICATION: For optimum adhesion, flexibility, and high temperature performance, a cured film thickness of 0.0009" to 0.0014" is recommended. Thicknesses above 0.0015" may result in loss of adhesion and/or flexibility.

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CURE SCHEDULE

Solvent flash-off: 15 minutes @ RT (25°C) plus 30 mins @ 100°C, then ramp up to 260°C,
 plus 1 hr @ 260°C, then ramp up to 430°C,
 plus 1 hr @ 430°C,
 plus allow to cool to RT gradually (DO NOT SHOCK COOL), preferably at a rate no faster than 1.5°C/minute
 until temperature drops below 100°C.

Cure schedule is a guideline. User to determine actual cure for application.

TYPICAL PROPERTIES

(Values not to be used for specification purposes.)

<u>CHARACTERISTICS</u>	<u>2555</u>	<u>TEST METHOD</u>
Color	Black	Visual
Specific Gravity	1.07	ASTM D-1475
Viscosity @ 25°C, cps, Spindle 2, Speed 100 rpm	60	ASTM-D-1824
Solids content, %	43	QCP-011-0109
Flash point, °F	10	PMCC
Shelf life, months @25°C in factory sealed containers	6	
<u>CURED PHYSICAL PROPERTIES</u>	<u>2555</u>	<u>TEST METHOD</u>
Outgassing @ 10 ⁻⁶ torr, TML, % CVCM, %	<1.0% <0.1%	ASTM E-595
Surface resistivity @ 25°C on conductive surfaces, ohms/sq	10 ³	ETS-872A
Flexibility over a 1" mandrel	Pass	Visual
Adhesion, with 3M 250 tape	Pass	

SAFETY AND FIRST AID

APTEK 2555 is a solvated, filled, silicone-based low viscosity coating which is safe to handle when used properly. Store the coating at 15-30°C in original factory sealed containers. 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 MSDS for more details.

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