

SIPIOL® UV E1014790 RED COATING

Technical Data Sheet

Sipiol® UV E1014790 Red coating is a single-component, flexible, dielectric coating that cures in seconds.

Application of Sipiol UV E1014790 Red coating on electrically-sensitive substrates provides comparable dielectric protection as PET film with minimal risk of delamination from the substrate.

Features and Benefits

Environmentally Preferred: solvent-free, VOC-free, 100% solids formulation.

Dielectric: provides electrical isolation using thin film layers.

Durable: designed to withstand harsh environments.

Convenient: does not require a curative or dilution.

Application

Note: Protect Sipiol UV coating from incidental light exposure to prevent advancing or curing of the coating.

Surface Preparation: Remove contaminants from surface. For maximum adhesion, primer, alkaline wash, plasma treatment, flame treatment or laser etching may be needed. If sharp burred edges exist on substrate, a deburring step is recommended.

Mixing: Thoroughly stir coating prior to application using a paint stick or an automatic stirrer at low speed. A round or impeller-type mixer at 30-60 rpm is recommended for:

- 10-15 minutes; 1-gallon container
- 30-60 minutes; 5-gallon pail
- 2-4 hours; 55-gallon drum

Pressure pots with low-speed agitation are recommended for production use.

Applying: Multiple application processes are acceptable to apply Sipiol UV coating including: wet spray, electrostatic spray, roll coating, flow coating, dip or brush methods.

Gently warming the coating to 50°C (122°F) will help with repeatability and consistency during application. Do not heat above 70°C (158°F) as this can cause irreparable damage to the coating. The manufacturing environment should maintain relative humidity between 0-80% for best coating performance.

For optimal performance, minimum dry film thickness of Sipiol UV coating should be 100 microns. Actual thickness depends on the desired performance and the substrate type being coated.

Curing: It is recommended to cure the coating using a broad-spectrum bulb with strong UVA output, such as an H-bulb or D-bulb. For metal-halide bulbs, a minimum lamp intensity of 600 mW/cm² is recommended. Lower intensity lamps will work, but the cure time will be longer to reach the recommended cure energies.

Typical Properties*

Appearance	Red Liquid
Viscosity, mPa·s/cps @ 22°C (72°F) Brookfield RV/HA Spindle 4, 20 rpm	4,000 - 10,000
Density g/cm ³ (lb/gal)	1.10 - 1.17 (9.1 - 9.8)
Solids Content by Weight, %	100

*Data is typical and not to be used for specification purposes.

Below are the recommended ranges for UVA, UVB, and UVC wavelengths to fully cure the coating. Measure the total UV energy with a radiometer to ensure the appropriate cure energy is achieved. For tack-curing between coating layers, it is recommended to target 20% of full cure. This reduced tack cure allows the coating layers to stitch together to form a cohesive coating film.

Full Cure	H-bulb	D-bulb
UVA Energy, mJ/cm ²	2000 - 3400	4000 - 6000
UVB Energy, mJ/cm ²	2000 - 3400	1300 - 2000
UVC Energy, mJ/cm ²	400 - 700	200 - 400

LED curing is possible with high-intensity lamps in the 365-385 nm range, but the coating will initially have surface tack. Surface tack will resolve within 24 hours. If using LED equipment to cure Sipiol UV E1014790 Red coating, a minimum lamp intensity of 2 W/cm² is recommended. Lower intensity LED lamps will work, but the cure time will be longer to reach the recommended UVA energy and surface tack may be more apparent. Measure the total UVA energy with a radiometer to ensure the appropriate cure energy is achieved. When curing with LED, Sipiol UV E1014790 Red coating needs to achieve a total UV cure energy in the UVA range of 4000-6500 mJ/cm² for 2 W/cm² LED.

For any questions, concerns, or assistance regarding the use, processing, and curing of Sipiol UV coating, please contact your local Parker Lord representative or contact Customer Support at parkerlordsupport@parker.com.

Cleanup: Use compatible solvent such as MEK, IPA or acetone to clean up equipment immediately after use. Do not use water.

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Typical Cured Properties*

Volume Resistivity, ohm-cm	1 x 10 ¹⁵
Dielectric Breakdown, kV ASTM D3755, Direct Current	
@ 100 µm	8.0
@ 130 µm	11.0
Dielectric Constant ASTM D 150	3

*Data is typical and not to be used for specification purposes.

Shelf Life/Storage

Shelf life is nine months from date of manufacture when stored below 27°C (81°F) in original, unopened container. Do not allow product to freeze.

Shelf life is subject to change as new data from production batches becomes available.

Cautionary Information

Before using this or any Parker Lord product, refer to the Safety Data Sheet (SDS) and label for safe use and handling instructions.

For industrial/commercial use only. Must be applied by trained personnel only. Not to be used in household applications. Not for consumer use.

Values stated in this document represent typical values as not all tests are run on each lot of material produced. For formalized product specifications for specific product end uses, contact the Customer Support Center.

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