Sipiol® UV Coating
Grades E1014790, E1015107, and E1015270

Technical Data Sheet

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

Application of Sipiol UV 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, plasma treatment or blasting 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 – Spray application is preferred, however brush or dip methods may be acceptable. 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.

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/cm^2 is recommended. Lower intensity lamps will work, but the cure time will be longer to reach the recommended UVA energy.

Typical Properties*

Appearance	Red Liquid
Viscosity, mPa·s/cps @ 25°C (77°F) Brookfield LVT Spindle 3, 12 rpm	5,000-10,000
Density g/cm^3 (lb/gal)	 1.09-1.15 (9.1-9.6)
Solids Content by Weight, %	100

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

LED curing is possible with high-intensity lamps in the 365 nm - 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 coating, a minimum lamp intensity of 2 W/cm^2 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. Sipiol UV coating needs to achieve a total UV cure energy in the UVA range for the following bulb types:

- 2000 – 3400 mJ/cm^2 for H-bulb
- 4000 – 6000 mJ/cm^2 for D-bulb
- 4000 – 6500 mJ/cm^2 for 2 W/cm^2 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.

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.

Typical Cured Properties*	
Volume Resistivity, ohm-cm	>1 x 10^{11}
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.

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.

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