

RADIANCE[®] CF10

Technical Data Sheet

RADIANCE[®] CF10 is a single component, high solids, UV curable gel. A secondary moisture cure mechanism will cure unexposed areas within 2-3 days at ambient conditions. The gel fluoresces under UV light to allow inspection. RADIANCE[®] CF10 is in full compliance with the RoHS Directive 2011/95/EC.

Typical Properties of RADIANCE[®] CF10

Density	1.06 g/cm ³
Minimum Solids Content	95 %
Recommended Coating Thickness	25 - 125 microns
Recommended UV Dose*	1 - 4 J/cm ²
Shelf Life at Room Temperature, DOM	12 months
Dielectric Withstand Voltage, per MIL-I-46058C	>1500 volts
Dielectric Constant, at 1MHz and 25°C per ASTM D150-98	2.5
Dissipation Factor, at 1MHz and 25°C per ASTM D150-98	0.01
Insulation Resistance, per MIL-I-46058C	8.0 x 10 ¹⁴ ohms (800TΩ)
Moisture Insulation Resistance, per MIL-I-46058C	4.7 x 10 ¹⁰ ohms (47GΩ)

* Microwave UV cure ovens equipped with "H" style bulbs recommended

Application of RADIANCE[®] CF10

Cleanliness of the substrate is of extreme importance for the successful application of RADIANCE[®] CF10. Contamination under RADIANCE[®] CF10 could cause problems that may lead to assembly failures. For best performance, surfaces should be free of moisture, dirt, wax, grease, flux residues and all other contaminants. If this product will be applied over "no clean" assembly materials, the user should conduct adequate testing to verify compatibility and reliability of the coated assembly

Syringe Application

RADIANCE[®] CF10 is intended for automated needle dispensing, but may also be applied manually.

Curing

RADIANCE[®] CF10 is a highly cross linked coating. In order to achieve maximum cross linking density the product must be exposed to the correct spectral output. The table below outlines the required dosage and irradiance values necessary to properly cure RADIANCE[®] CF10. After UV exposure and return to room temperature the coating should be tack free.

	DOSE J/cm2				IRRADIANCE W/cm2			
	UV A	UV B	UV C	UV V	UV A	UV B	UV C	UV V
MIN	0.700	0.700	0.150	0.750	0.700	0.700	0.150	0.700
MAX	3.000	3.000	0.600	3.500	1.150	1.150	0.240	1.300

Values measured with a Powerpuck II UV radiometer

RADIANCE[®] CF10 was designed to be cured using a microwave UV oven equipped with an "H" style bulb. Arc systems can cure RADIANCE[®] CF10 however care must be taken during the equipment selection process to ensure minimum dosage and irradiance values can be obtained. For additional cure information please contact RADIANCE technical assistance.



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Clean Up

To clean uncured RADIANCE[®] CF10, non-alcohol based solvents, for example n-butyl acetate, toluene, MEK etc. should be used.

Rework

RADIANCE[®] CF10 is a highly cross linked UV cured material. The cured film has a high degree of environmental and chemical resistance and will be more difficult to remove than traditional coatings. Thermal displacement and mechanical abrasion are suitable options for rework of RADIANCE[®] CF10.

Storage

RADIANCE[®] CF10 is photosensitive. The product should not be exposed to direct sunlight or full spectrum fluorescent lighting. RADIANCE[®] CF10 should be stored at 0 to 35°C, away from excessive heat, in tightly closed opaque containers. Prior to use, allow the product to equilibrate for 24 hours at room temperature. RADIANCE[®] CF10 is a moisture curing material and care should be taken to protect process vessels and partial containers from moisture. Partial containers must be purged with a dry, inert gas such as dry air, nitrogen or argon, before closure, otherwise premature polymerization by atmospheric moisture will occur.

Caution

Application of RADIANCE[®] CF10 should be carried out in accordance with local and National Health and Safety regulations.

The solvents in RADIANCE[®] CF10 are flammable. Material should not be used in presence of open flame or sparks. Use only in well-ventilated areas to avoid inhalation of vapours or spray. Avoid contact with skin and eyes.

Consult MSDS/SDS prior to use.

For Further Information on RADIANCE CF10 Contact:

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