



Technical Data Sheet

UR101 UV Conformal Coating

Product# UR101-MV,UR101-LV,UR101-HV

Chemtronics UR101 is urethane-acrylic based composite which fully cured by ultraviolet (UV) light and moisture. A secondary moisture cure mechanism will cure unexposed areas of the coating within 2-3 days at ambient conditions. Meet the stringent requirements of the industrial control electronics industry. After solidification, it forms a dense protective and dense protective film layer which is insulated, moisture-proof, dust-proof, anti-pollution, anti-corrosive gas. For moisture, acid, alkali, detergents and chemical solvents, all have excellent resistance. It's suitable for high-reliability hybrid integrated circuits, military aviation, maritime circuits, industrial electrical equipment, industrial instrumentation, telecommunications equipment, appliance controllers and other electronic gas facilities protection.



UR101- MV Standard viscosity

- UV curable
- Moisture cure
- Excellent adhesion
- Fast curing
- Non-ozone depleting
- Meets requirements IPC-CC-830
- UL94 level V-0

Density(g/cm ³)	1.125±0.005
Viscosity (cps/25°C)	130±20
Volume Resistance (Ω·cm)	5.84*10 ¹⁵
Surface Resistance (Ω)	3.14*10 ¹⁵
Dielectrical Constant(1MHz)	2.82
Dielectric Withstand Voltage (V/mm)	19700

Typical application

- Date commutation
- Meter
- Automobile manufacturing Industry
- Marine Manufacturing Industry
- Process control

UR101- HV High viscosity

Density(g/cm ³)	1.131±0.005
Viscosity (cps/25°C)	650±50
Volume Resistance (Ω·cm)	3.2*10 ¹⁴
Surface Resistance (Ω)	1.17*10 ¹⁴
Dielectrical Constant (1MHz)	2.62
Dielectric Withstand Voltage (V/mm)	16250

Physical Properties

Physical state	Clarified liquid
Curing Thickness	40-125 μm
Stripper	Techspray 61211
Solids Content	100%
UV indicator	Contain
Shelf Life	12 months

UR101- LV Low viscosity

Density(g/cm ³)	1.116±0.005
Viscosity (cps/25°C)	75±20
Volume Resistance (Ω·cm)	7.3*10 ¹³
Surface Resistance (Ω)	1.02*10 ¹³
Dielectrical Constant (1MHz)	2.27
Dielectric Withstand Voltage (V/mm)	19850

Application of Chemtronics® UR101

Brushing

High-quality brush is used for brushing operation. This will not cause the bristles and brush marks to remain on the circuit board. It avoids damage to the circuit board and components from the surface. At the same time, attention must be paid to keep the plastic product tank closed. Pour out the proper amount of gum and wait outside.

Spraying

Spraying is primarily for computer controlled (atomized or curtain) selective spraying equipment. This selective spray equipment can be selectively coated only on the area where the PCB needs coating. The operation needs to select the nozzles suitable for the current viscosity and the spray pressure according to the instructions of the different equipment's (usually suitable for medium-viscosity coating glues for the best coating effect), in order to ensure that the coating penetrates into the bottom of the components. And the edge position of any coupling position, spraying should be sprayed smoothly from all angles.

Curing

UV cure

Chemtronics® UR101 is a highly cross linked coating. In order to achieve maximum cross linking density, the product must be exposed to the correct spectral output. Chemtronics has modelled the performance of Chemtronics® UR101 using Fusion UV curing equipment. The table below outlines the required dosage and irradiance values necessary to reach UR101 tack free. Minimum figures should provide a tack free surface. The maximum recommendation represents highest tested values by Chemtronics. The cure recommendations may change as curing technology develops.

	Dose J/cm ²			Irradiance W/cm ²		
	UVA	UVB	UVC	UVA	UVB	UVC
Min	1.5	1.5	0.3	0.6	0.6	0.1
Max	3	2.9	0.7	1	0.9	0.3

Moisture cure

Moisture is used as a secondary cure mechanism for shadowed areas that can't be cured with light. While moisture cure time is typically 2-3 days at 25°C, 50% RH, actually moisture cure time is application specific and may vary. Cure time depends on humidity level, amount of coating in shadowed areas, and proximity of shadowed coating to humidity. Coating entrapped under large components may have a prolonged cure time. Exposure to heat (typically 65-80°C) and higher relative humidity will accelerate cure.

Clean Up

To flush equipment and clean uncured Chemtronics® UR101, non-alcohol based solvents should be used. Techspray® 61211 is recommended.

Storage

Chemtronics® UR101 is photosensitive. The product should not be exposed to direct sunlight or full spectrum fluorescent lighting. Chemtronics® UR101 should be stored away from excessive heat, in tightly closed opaque containers at 0 to 25°C to ensure maximum shelf life is achieved. Prior to use, allow the product to equilibrate for 24 hours at room temperature. Chemtronics® UR101 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 Chemtronics® Conformal Coatings should be carried out in accordance with local and National Health and Safety regulations.

Packaging and Availability

UR101	1L
UR101	5L

Environmental Policy

Chemtronics® is committed to developing products to ensure a safer and cleaner environment. We will continue to meet and sustain the regulations of all federal, state and local government agencies.

Resources

Chemtronics® products are supported by a global sales, technical and customer services resources. For additional technical information on this product call the technical sales department at 86 512- 82060808-508, email: chinasales@itwsms.com

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