

HumiSeal® UV23 UV Curable Adhesive Technical Data Sheet.

HumiSeal® UV23 is single-component epoxy-based UV curable adhesive and encapsulant. This product has been designed for applications that require the cure speed of a UV active polymer and the chemical resistance and high temperature performance of an epoxy. HumiSeal® UV23 requires direct UV light for cure. Heat can accelerate this reaction. Ultimate glass transition temperature (135°C) and best chemical resistance are obtained by baking one hour at 135°C after UV curing. HumiSeal® UV23 is REACH and RoHS compliant.

| APPLICATIONS | FEATURES | SUBSTRATES |
|---------------|------------------------------|------------|
| Electronics | RoHS & REACH compliant | Metals |
| Encapsulation | UV gellable | Ceramics |
| Sealant | High temperature performance | Glass |
| | Chemical resistance | |

Properties of HumiSeal® UV23

| | |
|--|-------------------------|
| Chemical Class | Epoxy |
| Specific Gravity at 25°C | 1.17 |
| Viscosity at 25°C, cps | 9,500 -14,500 |
| Appearance | Clear |
| Cure Type | UV, followed by thermal |
| Cleanup Solvent | Isopropyl alcohol |
| Glass Transition Temperature (T _g) | 135°C |
| Hardness, Shore D | 75 |
| Elongation at Break, % | 4 |
| Tensile Strength, PSI | 5,200 |
| Operating Temperature Range | -50°C to 150°C |

Cure Parameters for HumiSeal® UV23

HumiSeal® UV23 should be cured for best properties by a two-stage process including UV exposure and room/thermal post-cure.

UV Cure Stage Recommendations

The wavelengths from a mercury (H) or iron (D) doped bulb are suitable to initiate the UV cure process. Below are the cure dosage and irradiance values for UV exposure.

| Wavelength (nm) | Adhesive Thickness (microns) | Dosage (J/cm ²) | Irradiance (W/cm ²) |
|-----------------|------------------------------|-----------------------------|---------------------------------|
| UVA | 950-1000 | 1.3 | 0.12 |
| UVA | 1650-1700 | 2.6 | 0.12 |

Room/Thermal Cure Stage Recommendations

To achieve best physical and chemical properties, it is recommended to either room temperature cure for 16H or thermal cure at 135°C for 1H following UV exposure.

Storage

HumiSeal[®] UV23 should be stored between 8°C and 28°C in tightly closed containers away from direct sunlight and light sources. Shelf life is six months from DOM.

Caution

Application of HumiSeal[®] UV23 should be carried out in accordance with local and national health and safety regulations. Use only in well-ventilated areas to avoid inhalation of vapor. Avoid contact with skin and eyes.

Consult SDS prior to use.

Contact HumiSeal[®]

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