

UVACRYL 2661

Version 2

General Information

The UVACRYL 2661 is a one-component, water and solvent free UV-curing adhesive. High viscosity plastic and metal/glass bonding product.

Application/Properties:

It can be used for bonding plastics, glass, metals and ceramics.

Good adhesion to ABS, FR4, PC, PC/ASA, PEI, PES, PMMA, PSU, PVC (soft and hard), SAN, glass, metal.

The product has a high viscosity.

Low shrinkage, electrically insulation, the product is gap filling, flexible product with high elongation at break.

Due to its high flexibility it has a good impact, shock and vibration resistance.

The product is durable in humid climates, thermal cycling resistant and has a good UV-resistance (Non-yellowing due to sunlight). Due to its good weathering resistance it is suitable for outdoor applications.



The product is RoHS and Reach compliant

Storage Temperature and Shelf-life

Storage	Temperature
Recommended temperature	0°C to +10°C
Min storage temperature	-20°C
Max Storage temperature	+25°C

Shelf-life: 12 months from date of manufacturing in the unopened, original packaging.

Curing of the Product

General guidelines:

The product can be cured with UV-lamps (mercury lamps) and UV-LED lamps.

For an optimum cure performance the type of UV-lamp, spectrum and intensity needs to match with the adhesive and the applications (transmission of the substrates that needs to be bonded).

Spectrum of the UV-lamp	320 – 450nm, UV and visible light
Intensity of the UV-light	25 – 500 mW/cm ²
Minimum required dose Dose (mJ/cm ²) = Intensity (mW/cm ²) x Time (s)	3000 mJ/cm ²
Cure time	Guideline: 60s @ 50mW/cm ² It depends on the intensity of the UV-light and the min. dose required.

The cure of the adhesive will depend on the transmission of substrate, the adhesive layer thickness and the intensity of the UV-lamp.

Standard suitable UV-lamps:

Lamp type	Use	Cure area	Cure time
Handlamp, 9W	Demo lamp Small manual production	10 x 3cm	3 – 5 minutes
Hand lamp, 250W	Manual or automatic production	30 x 20cm	10 – 60s
Point source with lightguide	Manual or automatic production	2 cm ²	1 – 10s
UV-LED, 395nm	Manual or automatic production	4 x 5cm Other dimensions possible	10 – 60s

Other UV-lamps are available on request. We also offer custom-made UV-systems.

Overview of the UV-lamps:

Lamp type	Picture
Hand lamp, 9W	
Hand lamp, 250W	
Point source with light guide	
UV-LED lamp	

Properties of the uncured product

Properties	Method	Result
Chemical type		Acrylic
Appearance	Visual	Clear
Density	SAD-TM-012	1.05 g/cm ³
Viscosity @ 23°C Shear rate 200/s	SAD-TM-001	5300 mPa.s Range: 4250 – 6390 mPas.
Refractive index uncured	SAD-TM-009	1.4720

Properties of the cured product

Properties	Method	Result
Temperature range of use		-40°C to +125°C, acrylate Other temperatures need to be tested.
Adhesive Tensile Strength	SAD-TM-005	25 MPa
Elongation at break	SAD-TM-005	211%
E-modulus @ 23°C	SAD-TM-005	630 MPa
Tensile lap shear strength Polycarbonate to polycarbonate, gap 200µm 320 – 450nm, 60s, 50mW/cm ²	SAD-TM-004	11.2 MPa with material failure of PC
Tensile lap shear strength PMMA to PMMA, gap 200µm 320 – 450nm, 60s, 50mW/cm ²	SAD-TM-004	7.6 MPa with material failure of PMMA
Compression shear strength Glass to glass 320 – 450nm, 60s, 50mW/cm ²	SAD-TM-011	16.8 MPa
Compression shear strength Aluminum to glass 320 – 450nm, 60s, 50mW/cm ²	SAD-TM-011	17.8 MPa
Thermal conductivity		0.2 – 0.4 W/mK
Volume resistivity (Ω·m)		1 x 10E15
Dielectric strength (kV/mm)		16
Dielectric constant, 1MHz @ 23°C		2.7

Dispensing of the product

Equipment	Picture
Hand dispenser for 30g cartridge	
Time/pressure dispenser for 30g cartridge	
Pressure vessel for 1kg bottle or cartridge	

Automated dispensing are possible on request

Additional Instructions:

- Make sure the substrates are clean and free from dust, water, grease, fingerprints, oil, release agents, silicones or other chemicals.
- Substrates can be cleaned with Isopropanol (> 99.5% pure)
- To improve adhesion, durability or bonding difficult substrates (PP, PE, silicone, POM and Teflon) a pretreatment can be done with plasma, corona, flame or Pyrosil.
- Avoid direct contact with the skin, wear protective clothing (gloves). See material safety data sheet (MSDS) for safety instruction.
- Do not store the product together with other adhesives and avoid contact with amines, amides and reducing agents.
- When products are stored in the fridge or freezer, put then first at room temperature for a few hours (2-3 hours at 20-25°C) before using. Otherwise water drops can be formed on the adhesive.
- When heat sensitive products (dual cure products or filled products) are not used in production, it is recommended to store them in the fridge or freezer.
- A save temperature range to work with adhesives is between 15 – 25°C. Keep in mind a temperature increase or decrease of 10°C can reduce or increase the viscosity by a factor of 2. Heat sensitive products like dual cure products (UVAPLUS range) can cure in the packaging or with filled products the resin can separate from filler at temperatures of 30°C and higher. So avoid temperature of 30°C and higher for a longer time.

Note:

The information given and the recommendations made herein, are based on our experience and are believed to be accurate. No guarantee as to, or responsibility for, their accuracy can be given or accepted, however, and no statement herein is to be treated as a representation or warranty. In every case we urge and recommend that purchasers, before using any product, make their own tests to determine, to their own satisfaction, its suitability for their particular purposes under their own operating conditions.