

CSUVACR01

General Information

The CSUVACR01 is a one-component, water and solvent free UV-curing adhesive of **medium viscosity**. It can be used to bond or encapsulate fiber optics.

Application/properties

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

It is a hard product with very low water absorption, low out gassing, low shrinkage, good heat resistance, good chemical resistance, good weatherability and electrically insulating.

The product is durable in humid climates and thermal cycling resistant.

Resistant to salt water.

Storage Temperature and Shelf-life

Storage	Temperature
Recommended storage 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.

For further storage and transportation conditions, please contact us at info@com-sens.eu

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 <i>Depends on the intensity of the UV-light and the min. dose required.</i>

List of Standard suitable UV-lamps:

Lamp type	Use	Cure Area	Cure Time
Hand lamp, 3W UV-LED 395 nm	glueing	3 x 3 cm	60 – 180s
UV-LED, 365nm	Manual or automatic production	All dimensions possible	5 – 60s
UV-LED, 395nm	Manual or automatic production	All dimensions possible	5 – 60s

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

Com&Sens UV-lamp for glueing:

Lamp type	Picture
Hand lamp, 3W UV-LED	

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	550 mPa.s Range: 365 – 680 mPa.s
Refractive index uncured	SAD-TM-009	1.5310

Properties of the cured product

Properties	Method	Result
Temperature range of use glueing of pure glass fiber		-40°C to +125°C, acrylate For glueing purposes temperatures need to be tested (substrate material, sensor packaging,...)
Adhesive Tensile strength	SAD-TM-005	51MPa
Elongation at break	SAD-TM-005	5%
E-modulus @23°C	SAD-TM-005	1925MPa
Compression Shear strength Glass to glass 320-450nm, 60s, 50mW/cm ²	SAD-TM-011	8MPa
Linear shrinkage	SAD-TM-016	1.7%
Volume shrinkage	SAD-TM-016	5.0%
Depth of cure 320-450nm, 60s, 50mW/cm ²	SAD-TM-018	5mm
Tg, glass transition temperature	SAD-TM-015	51°C

Dispensing of the product/ Standard available packaging

Hand dispenser for 50ml or 100ml cartridge



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 safe 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.