

CSUVACR02

General Information

The CSUVACR02 is a one-component, water and solvent free UV-curing adhesive of **High viscosity** used to bond plastic and metal/glass products.

Application/properties

It can be used for bonding plastics, glass, metals and ceramics. Good adhesion to ABS, FR4, PC/ASA, PEI, PES, PMMA, PSU, PVC (soft and hard), SAN, glass, metal.

The product has a **high viscosity**. The main properties are: low shrinkage, electrical insulation. The product is gap filling and flexible 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 (nonyellowing due to sunlight). Due to its good weathering resistance it is suitable for outdoor applications.

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 Depends on the intensity of the UV-light and the min. dose required.

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, Transparent
Density	SAD-TM-012	1.05 g/cm ³
Viscosity @ 23°C Shear rate 200/s	SAD-TM-001	5300 mPa.s Range: 4100– 8800 mPa.s
Refractive index uncured	SAD-TM-009	1.4740

Properties of the cured product

Properties	Method	Result
Temperature range of use		-40°C to +125°C, For glueing purposes temperatures need to be tested (substrate material, sensor packaging,...).
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 Aluminium to glass 320 – 450nm, 60s, 50mW/cm ²	SAD-TM-011	16.8 MPa
Compression shear strength Glass to glass 320 – 450nm, 60s, 50mW/cm ²	SAD-TM-011	17.8 MPa
Tg, glass transition temperature	SAD-TM-015	51°C
Out gassing / weight loss 24 hours @ 85°C	SAD-TM-014	0.85%

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.