Technical Datasheet
Vitralit® 4282 mod2

Product Description

Panacol Vitralit® adhesives are one-component, solvent-free radiation-curing adhesives. The advantages are very short curing time, good adhesion to a variety of substrates, and easy handling. Vitralit® products are used in electronics, medical applications, optics and for fixing parts in general.

Vitralit® 4282 mod2 is an anaerobic threadlocker / retainer which could be fixed immediately with exposure to UV light. The material is designed for bonding of metals. After initial fixation with light, shadow areas can be cured by exclusion of oxygen.

Vitralit® 4282 mod2 has been used for many applications in electronics and automotive industries. The product shows excellent tensile, peeling and impact strength.

Suitability on various substrates

PMMA	*	PP	*	glass	o	Al	✓
brass	✓	PVC	*	steel	*	PA	o

✓excellent o suitable * pretreatment necessary/recommended

Curing Properties

UV-A	VIS	Thermal curing	Activator curing
✓	-	-	✓

✓suitable - not suitable

The product cures within seconds with radiation in the UV-A - range (320 nm - 390 nm). For rapid and high quality crosslinking we recommend the UV devices manufactured by Dr. Hoenle AG, which complement our adhesive technology.

Bluepoint LED/LED-spot		
Wavelength [nm]	365	405
Suitability	++	-

+ application-related ++ well-suited +++ ideal - not suitable

To obtain full cure at least one substrate must be transparent to the recommended wavelength. The curing speed will depend on the intensity of light, light source, the exposure time, and the light transmittance of the substrate. Increased mechanical properties are achieved after 12 hours.

UV curing		
Intensity [mW/cm²]	Layer thickness [mm]	Time [sec]
60	0,5	10

Chemical curing	[min]
Activated	30

Anaerobe curing	2h

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Technical Data

Resin	acrylate
Appearance	light-green

Uncured material

Viscosity [mPas] (Brookfield LVT, 25°C, sp 2/30 rpm) *PE-Norm 001*	500 - 600
Density [g/cm³] *PE-Norm 004*	1,05
Flash point [°C] *PE-Norm 050*	>97
Refractive index [nD20] *PE-Norm 018*	1,47

Cured material

Hardness shore D *PE-Norm 006*	70 - 80
Temperature resistance [°C] *PE-Norm 065*	-40 - 170

Glass transition temperature DSC [°C] *PE-Norm 009*	40 - 60

Young's modulus [MPa] *PE-Norm 056*	44
Lap shear strength (brass/brass) [MPa] *PE-Norm 013*	4,0

Transport/Storage/Shelf Life

Trading unit	Transport	Storage	Shelf-life
Cartridge	At room temperature max. 25°C	At room temperature max. 25°C	At delivery min. 6 months, max. 12 months
Open container			

Store in original, unopened containers!

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Instructions for Use

Surface preparation

The surfaces to be bonded should be free of dust, oil, grease or other dirt in order to obtain an optimal and reproducible bond.

For cleaning we recommend the cleaner IP® Panacol. Substrates with low surface energy (e.g. polyethylene, polypropylene) must be pretreated in order to achieve sufficient adhesion.

Application

Our products are supplied ready to use. Depending on packaging they can be applied by hand directly from the container or semi or fully automatically. With automated application from the cartridge the adhesive is conveyed by a compressed air-operated displacement plunger via a valve in the needle. When metering low viscosity materials from bottles the adhesive is transported by a diaphragm valve. If help is required, please contact our application enhineering department.

Adhesive and substrate may not be cold and must be warmed up to room temperature prior to processing.

After application, bonding of the parts should be done quickly. Vitralit® adhesives cure slowly in daylight. Therefore, we recommend to expose the material to as little light as possible and the use of opaque hose lines and dispensing needles.

For safety information refer to our safety data sheet.

Note

The product is free of heavy metals, PFOS and Phthalates and is conform to the EU-Directive 2011/65/EU "RoHS II" .

Our data sheets have been compiled to the best of our knowledge. The enclosed information describes characteristic properties, with no declaration of commitment. We recommend trials in order to confirm that our products satisfy the particular application requirements. For any additional technical support, please contact our application engineering department. For warranty claims, please refer to our standard terms and conditions.