

Vitralit® 1605 is an ionic pure, hard cationic UV and thermally curable epoxy resin. Its key attributes are minimal shrinking and heat expansion coefficient. It can be UV-A cured as well as thermally cured at low temperatures and is thus ideal for adhesions including shaded areas.

Vitralit® 1605 can also be used as an under filler.

Moreover, this product has a very high TG value, is autoclavable and has a high chemical resistance.

**shelf life:**

in closed original packing unit at 5°C without UV- irradiation -- 6 months --

## Technical Data

Color	transparent
Resin	epoxy

## UNCURED PROPERTIES

Viscosity (Brookfield LVT/25°C) [mPa·s]	PE-Norm P001	300 to 500
Flash point [°C]	PE-Norm P050	> 100
Density [g/cm³]	PE-Norm P003	approx. 1.12
Refractive Index [nD20]	PE-Norm P018	1.5218

## Curing

UV(UV-A 60mW/cm² Thickn.st. 0,5mm): [sec.]	PE-Norm P002	60
Thermal Curing 105°C :[Min]	PE-Norm P035	30
Full Strength [hours]	PE-Norm P032	after 24
Depth of Cure [mm]	PE-Norm P033	3

## CURED PROPERTIES

Temperature Resistance [°C]	PE-Norm P030	-40 to 180
Hardness [Shore D]	PE-Norm P052	80 to 90
Shrinkage [Vol-%]	PE-Norm P031	1.25
Water Absorption [mass-%]	PE-Norm P053	< 0.5
Tg [°C] (DSC)	PE-Norm P009	> 150
CTE [ppm/K]	PE-Norm P017	75
Dielectric Constant [10kHz]	PE-Norm P054	3.4
Dielectric Strength [kV/mm]	PE-Norm P055	16.7

Our data sheets have been compiled to the best of our knowledge. The information included in our data sheets is exclusive information for the tended user and describes characteristics, with no declaration of commitment. We recommend trials in order to confirm that our products satisfy the particular application requirements. For an additional technical consultation, please contact our RD department. In general, for guarantee claims, please refer to our standard terms and conditions.

**Adhesives  
and more...**

## Mechanical Data

Lap Shear Strength (Glas/Stahl) [MPa]	[PE-Norm P013]	approx. 8.5
Lap Shear Strength (Glas / Glas) [MPa]	[PE-Norm P013]	approx. * 3.3
Elongation at Break [%]	[PE-Norm P060]	approx. 1,0
Tensile Stress [MPa]	[PE-Norm P060]	approx. 17,3
E-Modul [MPa]	[PE-Norm P056]	3132

### Instructions of use of unfilled Vitralit UV epoxy:

- store at max. 5 °C
- warm up to room temperature before usage
- dispensable, filled systems are use at machines from e.g. Mühlbauer, Schiller, Esec or Ruhlmat
- surface must be clean and dry and free from fat and parting agents
- for curing UV- light at wavelength from 315 - 400 nm is needed.

### The curing time depends on:

- \* emission spectrum and energy of emitter, min 30mW/cm<sup>2</sup>
- \* distance to substrate
- \* ageing of emitter
- \* layer thickness
- \* material influence like reflection, adsorption and UV- diaphaneity

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