

Product Description

Vitralit® 7041 is a low viscosity, UV and/or light cure, and transparent acrylate adhesive. Vitralit® 7041 is specially designed for plastic bonding. It provides excellent adhesion to PC, ABS or PET and shows good adhesion to glass and metal. Vitralit® 7041 is suitable for transparent plastics with low UV transmission such as PC.

Vitralit® 7041 has met the requirements for USP Class VI and is suitable for use in the assembly of disposable medical devices.

Low viscosity makes Vitralit® 7041 ideal for needle bonding and other medical applications where wicking of the adhesives into the pre-assembled parts is required. It is compatible with sterilization by autoclaving, gamma irradiation and EtO.

Vitralit® 7041 is also available with fluorescent capabilities improving the process quality.

Curing Properties

Vitralit® 7041 can be cured by exposure of UV and/or light. Increased cure properties are developed after 12 hours.

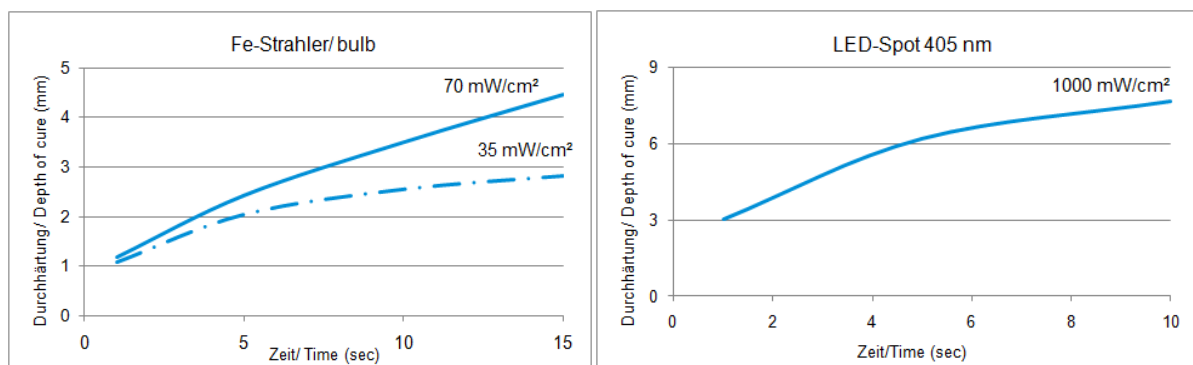
Material thickness of 0.02 mm can be cured in approximately 2 seconds using UVA light with intensity of 60 mW/cm². For rapid and high quality bonding we recommend the UV and LED devices manufactured by Dr. Höhle AG, which complement our adhesive technology.

bluepoint LED/ LED-Spot		
Wavelength [nm]	365	405
Suitability	++	+++

+ limited ++ suitable +++ excellent

To obtain full cure at least one substrate must be transparent to UV and/or visible light. The curing speed will depend upon the light intensity, light source, the exposure time, and the light transmittance of the substrate.

The graphs below show the increase in depth of cure as a function of exposure time at two different intensities for two different curing devices.



Technical Data

Base	acrylate
Curing	one part, UV/VIS light
Appearance	transparent, slightly yellow

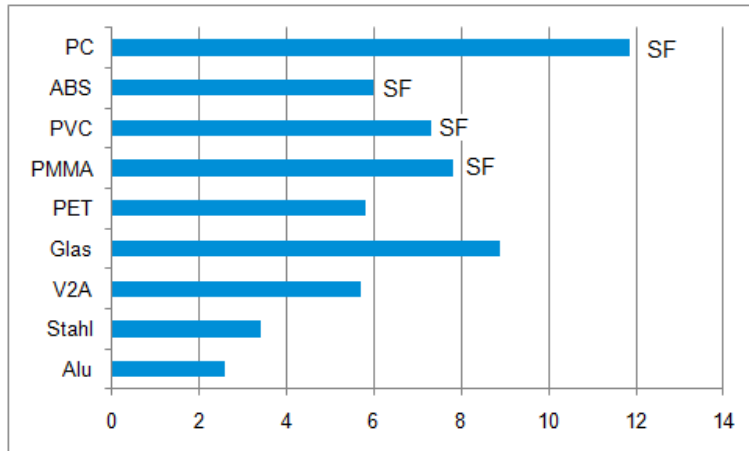
Uncured Material

Viscosity [mPas] (Brookfield LVT, 25 °C, 62/60rpm) PE-Norm 001	50 - 90
Density [g/cm ³] PE-Norm 004	1.05
Flash Point [°C]	> 100
Refractive Index n_D^{20} PE-Norm 018	1.47

Cured Material

Glass Transition Temperature DSC [°C] PE-Norm 009	32 - 42
Hardness Shore D PE-Norm 006	70 - 80
Young' s Modulus [MPa] PE-Norm 056	550
Coefficient of Linear Expansion below Tg PE-Norm 017	83
Coefficient of Linear Expansion above Tg PE-Norm 017	386
Linear Shrinkage [%] PE-Norm 031	< 4
Water Absorption [%] PE-Norm 016	< 7
Temperatur Resistance[°C]	-40 - 120

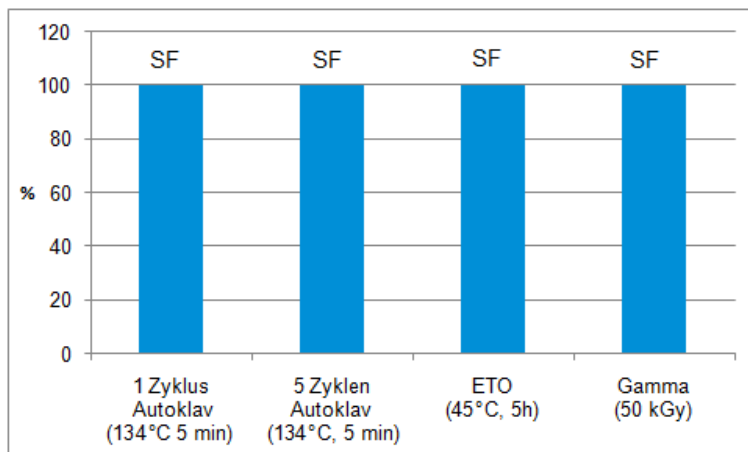
Tensile Shear Strength [MPa]
PE-Norm 013



SF = Substrate Failure

Sterilization

The diagram below shows the tensile shear strength of PC/PC bonding after sterilization expressed as % from the initial value. The adhesive were cured by exposure of UV lamp with intensity of 30 mW/cm².



SF= Substrate Failure

Vitralit® 7041 shows excellent bond strength retention after sterilization by autolaving, EtO and gamma irradiation. Generally the resistance depends on the substrate material, the curing parameters and the process of sterilization. It remains the user's obligation to determine the effect of sterilization on the specific product.

Storage and Shelf life

The product can be stored for 6 month at 7 °C to 25 °C in unopened containers. Store under dry and dark conditions only.

Packaging Unit

Standard packaging units of 100 g and 1 kg are available. Others on request.

Instructions for Use

Surface Preparation

The surfaces to be bonded should be clean and free from oil and grease. Lightly soiled surfaces can be cleaned with our cleaner IP®. Substrates with low surface energy (such as polyethylene and polypropylene) need to be pretreated.

Application

Our products are supplied ready for use. They can be applied manually from the cartridges or automatically with air-operated dosing devices (cartridge/piston combination). Depending on the amount of adhesive to be used, different valves are available. If help is required, please consult our application department.

For reliable and fast bonding the substrate temperature should be at room temperature.

Vitralit® products cure with UV and visible light. Therefore exposure of light should be kept to a minimum during handling. We recommend using opaque feedlines and nozzles.

For safety information refer to our safety data sheet.

Note

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 an additional technical consultation, please contact our R&D department. In general, for warranty claims, please refer to our standard terms and conditions.