

# Dam-and-Cure GEL 1602 FLZ-UV

The Dam-and-Cure **GEL 1602 FLZ-UV** is a dam material for UV LED curing systems such as **ELPEGUARD® UV-LED Twin-Cure® DSL 1602 FLZ/400**. The recommended wavelength is 395 nm, but other wavelengths are also possible.

- Base: acrylate resins (AR)
- can be combined with various conformal coating types
- when using **ELPEGUARD®** thick film coatings of the series **UV-LED Twin-Cure®** and **UV Twin-Cure®**, curing can be carried out together with the GEL 1602 FLZ-UV (without intermediate curing)
- elastic
- UL Recognized Component acc. to UL 94: Non-flammability class HB  
– Horizontal Burning (UL file no. E80315)

## Characteristics

<b>Colour/appearance</b>	colourless, slightly hazy
<b>Viscosity*</b> at 20 °C [68 °F], DIN EN ISO 3219	4500 ± 700 mPas
<b>Density</b> (DIN EN ISO 2811-1, at 20°C [68 °F])	1.02 ± 0.02 g/cm <sup>3</sup>

\* measured with Haake RS 600, C 20/1°, D = 50 s<sup>-1</sup>

viscosity measuring unit supplied by Thermo Fisher Scientific, [www.thermofisher.com](http://www.thermofisher.com)

Indices: FLZ = fluorescent, UV = UV curing


## Physical and mechanical properties

Property	Test method	Result
Thermal cycling test	100 cycles, -40 °C to +125 °C [-40 °F to 257 °F], holding time 30 min, temp. change every 15 s	passed

## Electrical properties

Property	Test method	Result
Dielectric strength	IPC-TM-650, 2.5.6.1	≥ 55 kV/mm
Comparative tracking index (CTI, tracking resistance)	DIN EN 60112, V on FR 4 base material with CTI 275	CTI ≥ 600
Specific volume resistivity	DIN EN 62631-3-1	≥ 1.0*10 <sup>12</sup> Ohm x cm
Surface resistance	DIN EN 62631-3-2	≥ 1.0*10 <sup>13</sup> Ohm

## Processing

	Please read this technical report and the publications listed below carefully before using the product. These sheets are enclosed with the first shipment of product or sample.
<b>MSDS</b>	The corresponding material safety data sheet contains detailed information and characteristics on safety precautions, environmental protection, transport, storage, handling and waste disposal.
<b>TI</b>	<a href="#">Technical information TI 15/3</a> "Protective measures when using chemicals including lacquers, casting compounds, thinners, cleaning agents"

The Dam-and-Cure **GEL 1602 FLZ-UV** is applied by means of a dispenser.

- Apply the Dam-and-Cure **GEL 1602 FLZ-UV** without generating bubbles and **avoid** to apply them under components where they will not cure completely.
- Because of the thixotropic adjustment avoid vigorous mixing as this can easily trap air which mostly remains in the gel after UV curing.



Protect from UV light

Since the many different permutations make it impossible to evaluate the whole spectrum (parameters, reactions with materials used, chemical processes and machines) of processes and subsequent processes in all their variations, the parameters we recommend are to be viewed as guidelines only that were determined in laboratory conditions. We advise you to determine the exact process limitations within your production environment, in particular as regards compatibility with your specific follow-up processes, in order to ensure a stable fabrication process and products of the highest possible quality.

The specified product data is based upon standard processing conditions/test conditions of the mentioned norms and must be verified if necessary while observing suitable test conditions on processed products.

Feel free to contact our application technology department (ATD) if you have any questions or for a consultation.

### Auxiliary products recommended

- [ELPESPEC® cleaning agent R 5817](#)  
for the cleaning of work place and tools/equipment
- [ELPESPEC® cleaning agent R 5888](#)  
water-soluble, biodegradable cleaning agent for product carriers and tools

### Drying/curing

Due to the high elasticity of the system, the gel remains tacky even when perfectly cured.

When using solvent-based conformal coatings, the GEL 1602 FLZ-UV must be UV-cured before the conformal coating is applied.

#### UV LED curing

Curing is effected in UV LED curing units at a wavelength of 395 nm.

- Cure the **ELPEGUARD®** Dam-and-Cure **GEL 1602 FLZ-UV** by applying

**an energy density (dose) of  $1500 \pm 500$  mJ/cm<sup>2</sup> and a UV irradiance (intensity) of  $1500 \pm 500$  mW/cm<sup>2</sup>** (measured with UviCure Plus II with UVA 2 Band from EIT / EIT2.0 LLC)  
or  
**an energy density (dose) of  $2550 \pm 500$  mJ/cm<sup>2</sup> and a UV irradiance (intensity) of  $2700 \pm 500$  mW/cm<sup>2</sup>** (measured with LED-Cure L395 from EIT / EIT2.0 LLC).

The LED-Cure L395 measuring device from EIT /EIT2.0 LLC is recommended. Upon request we will gladly provide the test report "Determination and measurement of the required curing energy for UV-LED curable protective coatings". The distance between lamp and assembly should be as low as possible.

## Packaging

The packing units available are indicated in our offer which we will send you upon request.

## Shelf life and storage conditions



Shelf life: In sealed original containers at least 9 months



Storage conditions: +5 °C to +25 °C [+41 °F to +77 °F]



Protect from UV light



Protect against humidity

For warehousing reasons, isolated cases may occur where the shelf life upon shipment is less than the shelf life indicated in this technical report. However, it is ensured that our products have **at least** two-thirds of their shelf life remaining when they leave our company. Labels on containers show shelf life and storage conditions.

## Disclaimer

All descriptions and images of our goods and products contained in our technical literature, catalogues, flyers, circular letters, advertisements, price lists, websites, data sheets and brochures, and in particular the information given in this literature are non-binding unless expressly stated otherwise in the Agreement. This shall also include the property rights of third parties if applicable.

The products are exclusively intended for the applications indicated in the corresponding technical data sheets. The advisory service does not exempt you from performing your own assessments, in particular as regards their suitability for the applications intended. The application, use and processing of our products and of the products manufactured by you based on the advice given by our Application Technology Department are beyond our control and thus entirely your responsibility. The sale of our products is effected in accordance with our current terms of sale and delivery.

**ATTENTION! For new products, according to preliminary technical reports, adequate practical results are not always available which would permit a comprehensive assessment of such a product. It is therefore imperative to exercise particular care in the testing of such products with regard to the application intended!**

Any questions? We would be pleased to offer you advice and assistance in solving your problems. Samples and technical literature are available upon request.

Lackwerke Peters GmbH & Co. KG  
Hooghe Weg 13, 47906 Kempen, Germany

Internet: [www.peters.de](http://www.peters.de)  
E-Mail: [peters@peters.de](mailto:peters@peters.de)

Phone +49 2152 2009-0  
Fax +49 2152 2009-70

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