

TECHNICAL INFORMATION

# 2-COMPONENT AFTERGLOW PLASTIC USE AS CYCLE PATH MARKING



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## Important Information:

Please consider our General Terms and Conditions and the general notes of the Technical Information Sheet! No liability is accepted for any errors! The information is provided to our best knowledge and experience. This information is, however, no warranty for any properties of the material. We provide this information without obligation, also regarding the rights of third parties. The user has to make sure that the material is appropriate for the respective application.

# 1 Main characteristics / fields of application

## 2-component afterglow plastic use as cycle path marking...

- belongs to the group of solvent-free, multi-component, reactive systems
- consists of two components (basic component and hardener) which – through chemical interaction – form a duroplastic compound and cannot be thermally plastified thereafter
- distinguished by excellent durability and abrasion resistance compared to other afterglow systems with 1 - 2 mm layer thickness
- can be incited by UV radiation as well as by white daylight or artificial light; in the dark afterglow plastic is visible due to its afterglow properties
- excitation and emission can be repeated without limitation
- the afterglow duration and intensity depends on the layer thickness of the applied afterglow plastic
- is not only used on cycle paths, but also on shared footpaths and cycle paths, on unlit, dangerous turns, accident blackspots or dark parks, and is a cost-effective alternative to the installation of artificial lighting
- provides better visual orientation on cycle paths and footpaths without artificial lighting and thus greater safety for cyclists and pedestrians in the dark
- suitable for markings with heavy use (wear)
- suitable for bituminous surfaces (e. g. mastic asphalt, asphaltic concrete) and for concrete pavements (priming required)
- tested and approved by Federal Institute for Materials Research and Testings (BAM, Berlin) according to DIN 67510 part 1 and 2 (longtime afterglow products)

## 2 Technical Data

<b>Color</b>	yellow-green	
<b>Density</b>	1.17 kg/l +/- 0.1	
<b>Mixing ratio</b>	100 : 1 with hardener powder	
<b>Thinner</b>	process without thinner	
<b>Cleaning thinner</b>	Special cleaner for marking machines (Art.-No.: 3086)	
<b>Potlife</b>	approx. 5 - 10 min.	
<b>Recoat after</b>	immediately after curing	
<b>Trafficability / curing time</b>	approx. 30 - 40 minutes	
<b>Layer thickness to be applied</b>	1 - 2 mm	
<b>Afterglow duration / afterglow intensity</b>	see BAM reports	
<b>Theoretical consumption</b>	approx. 1.2 to 2.4 kg/m <sup>2</sup>	
<b>Consumption examples</b>	<b>1mm</b>	<b>2 mm</b>
1.0 m <sup>2</sup>	1.2 kg/m <sup>2</sup>	2.4 kg/m <sup>2</sup>
2.5 m <sup>2</sup>	3.0 kg/m <sup>2</sup>	6.0 kg/m <sup>2</sup>
5.0 m <sup>2</sup>	6.0 kg/m <sup>2</sup>	12.0 kg/m <sup>2</sup>
<b>Standard packaging</b>	Tin container with 5/10/15kg filling weight; PE bag Hardener powder in the appropriate mixing ratio	
<b>Labelling</b>	The applicable regulations and instructions for proper transport, handling, storage, first aid, toxicology and ecology are described in detail in the safety data sheets and on the labels, are marked and must be observed. Attention: The hardener types are organic peroxides. They must be packed, transported and stored separately from the afterglow plastic in special cartons or boxes.	
<b>Storage stability</b>	6 months; unmixed in sealed original packaging and sheltered from frost and direct sun exposure!	

Processing temperature	min. + 5°C
Surface temperature	+ 5°C to + 45°C
Relative humidity	max. 75% (dew point spreadsheet has to be regarded)

## 3 Processing instructions

### 3.1 Preparation of material and application technique

The 2-component afterglow plastic system must be **homogeneously** stirred in its original container before processing by using an appropriate stirring device.

Never prepare more material with hardener than is needed for the application (observe pot life).

Cold plastic (reactive system) is **solvent-free** and must be applied **without adding solvent**.

The cleaning must occur before the curing of the material is complete place by using special cleaner for marking machines (Art.-No.: 3086) see spreadsheet above.

Ensure that the material is evenly distributed over the entire applied surface to achieve a uniform luminosity of the entire afterglow surface.

Theoretical material consumption is stated in:

- Table "Theoretical material- and drop-on consumption" on our homepage

The exact machine adjustments have to be done according to the manufacturer's instructions. Layer thickness has to be evenly distributed to get consistent afterglow properties.

### 3.2 Optimizing of application properties

The 2-component afterglow plastic is ready for processing out of the box. In general it is not necessary to optimize viscosity. Adding max. 2 % condenser (Art.-No.: 3044) reduces the viscosity of 2-component afterglow plastic. Use thinner recommended by the manufacture only. Only as much material should be adjusted (diluted) as is required, as the viscosity can still change subsequently, or the settling behaviour can be influenced.

## 4 Surfaces / pretreatment

### 4.1 General information

The surface must be dry, clean and free from grease, oil and loose gravel and other contaminations. The surface and potential existing old markings must be checked for their carrying capacity and compatibility with the material to be applied. In case of doubt, test applications and adhesion tests are required. Ideally, old markings should be removed with appropriate mechanical procedures. Dark surfaces need a white primer for improving the effectiveness of the afterglow properties.

### 4.2 Concrete and cement-bound surfaces

The surface components that interfere with adhesion, such as fine mortar layer / concrete slurry or finally sprayed-on retarders on new concrete pavements must be removed by suitable methods (e. g. high-pressure water, fine milling, or similar). In the case of new exposed aggregate concrete road surfaces (with a chippings surface), adhesion problems may nevertheless occur that are not due to the marking material / primer. It is recommended that trial markings be made, and concerns raised if necessary.

Before applying the afterglow plastic, the concrete / cement-based substrate must be primed. The use of LIMBOROUTE 2-C K809 is recommended for this purpose.

### 4.3 Bituminous surfaces

Any loose components such as chippings must be removed. On new asphalt surfaces additives (fluxoils, etc.) are detrimental to good bonding of markings and can cause discolorations. Before application test markings / bounding checks are necessary. Since a mechanical removal of old markings or problematic asphalt is often hardly possible, apply the white primer for testing adhesion and discoloration. In case of discoloration a second thin primer layer is recommended.

A bonding check (after 3 days waiting time) is required before applying the final marking.

## 5 Application techniques

Machine with commercially available hand-pushed marking machines (e.g. plastomarkers) or manually with screed box.