

TECHNICAL INFORMATION

# SWARCOGLOW 2-C Paint System



# SWARCOGLOW 2-C Paint System

Art.-No.: 8139016 white, SWARCOGLOW 2-C Primer  
Art.-No.: 8131111 yellow-green, SWARCOGLOW 2-C Paint  
Art.-No.: 8130000 transparent, SWARCOGLOW 2-C UV-Clear Varnish

Version: 2022-08-04

|          |   |          |
|----------|---|----------|
| <b>1</b> | <b>Main characteristics / Fields of application .....</b> | <b>3</b> |
| <b>2</b> | <b>Technical Data .....</b>                               | <b>3</b> |
| <b>3</b> | <b>Efficacy of afterglow markings .....</b>               | <b>4</b> |
| <b>4</b> | <b>Processing instructions.....</b>                       | <b>5</b> |
| 4.1      | Preparation of material and application technique .....   | 5        |
| 4.2      | Optimizing application properties .....                   | 5        |
| <b>5</b> | <b>Surfaces / pretreatment .....</b>                      | <b>5</b> |
| 5.1      | General information .....                                 | 5        |
| 5.2      | Concrete and cement-bound surfaces .....                  | 5        |
| 5.3      | Bituminous surfaces .....                                 | 6        |
| 5.4      | Cobbled pavement .....                                    | 6        |
| 5.5      | Floor coatings .....                                      | 6        |
| 5.6      | Other surfaces .....                                      | 6        |
| <b>6</b> | <b>Application technique .....</b>                        | <b>6</b> |

## 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

## SWARCOGLOW 2-C Paint System...

- is a three-layered marking system consisting of a SWARCOGLOW 2-C Primer, SWARCOGLOW 2-C Paint and a SWARCOGLOW 2-C UV-Clear Varnish and belongs to the group of aromatic-free, solvent containing 2-component Paints
- is distinguished from conventional one-component paints by its chemical reaction resulting in extended durability, resistance against chemicals and abrasion. The chemical reaction occurs besides physical drying by evaporation of the solvent
- suitable for near-ground optical safety guidance systems and identification of emergency exit routes in tunnels, staircases, parking garages, factories, shopping centers, tunnels etc. in case of a power blackout or fire with formation of smoke
- can be incited by UV radiation as well as by white daylight or artificial light; in the dark SWARCOGLOW Paint is visible through its afterglow properties (emission of light); the special afterglow pigments are free of phosphor, radioactive substances or other toxic chemicals; incitation and emission can be repeated without limitation
- supplements existing emergency light systems invisible in smoke
- the marking's good luminescence does not only show the direction of evacuation routes, but also makes staircases, obstacles, doors etc. better visible
- the product is suitable for horizontal areas with car intensive traffic impact and also applicable on vertical surfaces (e. g. walls, obstacles, emergency exits)
- developed for inside rooms with intensive lighting, the afterglow paint should be applied close to these light sources
- Use only in well-ventilated rooms, not suitable for living rooms
- suitable for bituminous surfaces (e. g. mastic asphalt, asphaltic concrete), floor coatings, concrete and various metal surfaces (test application on metal surfaces are necessary)
- tested and approved by the Federal Institute for Materials Research and Testings (BAM, Berlin) according to DIN 67510 part 1 (longtime afterglow products)
- suitable for airspray technique (for airless machines: test applications are recommended)

## 2 Technical Data

| 3-layered system                              | first layer                            | second layer                             | third layer  |
|---|--|--|--|
| Product                                       | SWARCOGLOW 2-C Primer                  | SWARCOGLOW 2-C Paint                     | SWARCOGLOW 2-C UV-Clear Varnish                              |
| Art.-No.                                      | 8139016                                | 8131111                                  | 8130000  |
| Standard color                                | white                                  | yellow-green                             | transparent  |
| Density:<br>without hardener<br>with hardener | 1.52 kg/l +/- 0.1<br>1.50 kg/l +/- 0.1 | 1.16 kg/l +/- 0.1<br>1.10 kg/l +/- 0.1   | 1.01 kg/l +/- 0.03<br>1.00 kg/l +/- 0.03                     |
| Mixture ratio                                 | SWARCOGLOW 2-C Primer : EP<br>20 : 1   | SWARCOGLOW 2-C Paint : PU/ACRYL<br>5 : 1 | SWARCOGLOW SWARCODUR 2-C UV-Clear Varnish: PU/ACRYL<br>2 : 1 |
| Thinner: on request                           | Thinner EP                             | Thinner PU/ACRYL                         | Thinner PU/ACRYL   |

|  |   |   |  |
|--|---|---|--|
|  | (Art.-No.: 3130)  | (Art.-No.: 8630)  | (Art.-No.: 8630)   |
| <b>3-layered system</b>                  | <b>first layer</b>  | <b>second layer</b>   | <b>third layer</b>   |
| <b>Product</b>                           | <b>SWARCOGLOW 2-C Primer</b>  | <b>SWARCOGLOW 2-C Paint</b>   | <b>SWARCOGLOW 2-C UV-Clear Varnish</b>   |
| <b>Thinner for cleaning</b>              | Special cleaner for marking machines Art.-No.: 3086   | Special cleaner for marking machines Art.-No.: 3086   | Special cleaner for marking machines Art.-No.: 3086  |
| <b>Potlife</b>                           | Approx. 1 day (high temperatures shorten potlife)   | approx. 1.5 h   | approx. 1.5 h  |
| <b>Next application after</b>            | approx. 3 h . (must not be sticky but dust-dry)   | approx. 4 h . (must not be sticky but dust-dry)   | /  |
| <b>Drying time / Trafficability</b>      | /   | /   | over night *   |
| <b>Wet layer thickness to be applied</b> | <b>approx. 200 µm - 400 µm</b><br>make sure: evenly and all over coverage   | <b>min. 100 µm - max. 600 µm</b><br>depending on requested afterglow time span. A thickness of more than 300µm requires a 2-layer application | <b>min. 60 µm – max. 100 µm</b><br>spray in two application steps  |
| <b>Theoretical consumption</b>           | approx. 0.30 kg/m <sup>2</sup> (0.20 l/m <sup>2</sup> ) to approx. 0.61 kg/m <sup>2</sup> (0.40 l/m <sup>2</sup> )  | approx. 0.11 kg/m <sup>2</sup> (0.102 l/m <sup>2</sup> ) to approx. 0.68 kg/m <sup>2</sup> (0.6 l/m <sup>2</sup> )                            | approx. 0.06 kg/m <sup>2</sup> (0.06 l/m <sup>2</sup> ) to approx. 0.1 kg/m <sup>2</sup> (0.1 l/m <sup>2</sup> ) |
| <b>Consumption</b>                       | <b>400 µm</b>   | <b>600 µm</b>   | <b>60 µm</b>   |
| 1.0 m <sup>2</sup>                       | 0.4 l   | 0.6 l   | 0.06 l   |
| 2.5 m <sup>2</sup>                       | 1.0 l   | 1.5 l   | 0.15 l   |
| 5.0 m <sup>2</sup>                       | 2.0 l   | 3.0 l   | 0.30 l   |
| <b>Standard packaging</b>                | 5.0 l – tin foil container<br>0.25 l – SWARCODUR EP   | 5.0 l – tin foil container<br>1.0 l – SWARCODUR PU/ACRYL  | 5.0 l – tin foil container<br>2.5 l – SWARCODUR PU/ACRYL   |
| <b>Identification</b>                    | The regulations and instructions concerning appropriate transport, handling, storage, first aid measures, toxicology and ecology are stated in our material safety data sheets! The instructions stated on the product label and in the MSDS must be followed |   |  |
| <b>Storage stability</b>                 | 6 months, in sealed original packaging;<br>protect from frost and direct sun light  |   |  |
| <b>Processing temperature</b>            | min. + 5°C  |   |  |
| <b>Surface temperature</b>               | + 5°C to + 45°C   |   |  |
| <b>Relative humidity</b>                 | max. 75% (dew point spreadsheet has to be regarded)   |   |  |

\* In general the marking's work-on stability or trafficability must be checked before exposing it to traffic impact

### 3 Efficacy of afterglow markings

The effectiveness of photoluminescent markings is influenced by the following factors:

- effective and sufficiently strong light sources that ensure good charging (excitation) of the photoluminescent system by their spectral range and illuminance level
- by the charging time
- the applied layer thickness of the afterglow product
- the quality of the primer as a contrast for the afterglow product
- by the quality / intensity of the afterglow pigment itself

**Optical properties tested at BAM\*** SWARCOGLOW Paint System according to DIN 67510-1:

| sample<br>Wet film thickness µm | luminance mcd / m <sup>2</sup> after |        |        |        | decay time **<br>in min |
|---------------------------------|--------------------------------------|--------|--------|--------|-------------------------|
|                                 | 1 min                                | 10 min | 30 min | 60 min |                         |

|      |            | 1.layer | 2.layer | 3.layer |      |     |    |    |      |
|------|------------|---------|---------|---------|------|-----|----|----|------|
| Test | April 2010 | 400     | 400     | 60      | 2168 | 232 | 67 | 29 | 2140 |
| Test | June 2005  | 400     | 600     | 60      | 1725 | 216 | 68 | 31 | 2550 |

\* **BAM** – Bundesanstalt für Materialforschung und -prüfung (Berlin) or: Federal Institute for Materials Research and Testings

\*\* decay time until luminance amount to 0,3 mcd /m<sup>2</sup>

## 4 Processing instructions

### 4.1 Preparation of material and application technique

All products of the SWARCOGLOW 2-C Paint System must be homogeneously stirred in their original containers before processing by using an appropriate stirring device. Afterwards, the SWARCODUR hardener components listed under point 2 must be stirred evenly into the respective base components of the SWARCOGLOW 2-C Paint System in the mixing ratio indicated. The application and drying properties of the material depend on temperatures of air, material and surface. Proper storage conditions may partly improve application conditions.

The theoretical material consumption is stated in the table “Theoretical material- and drop-on consumption” on our website.

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

Cleaning of machine (paint tank, hoses, tools) must take place before the curing process is finished with Special cleaner for marking machines (Art.-No.: 3086).

### 4.2. Optimizing application properties

The products of the SWARCOGLOW 2-C Paint System are ready for processing upon delivery. In general, it is not necessary to add thinner but for optimizing the material’s spray properties add 2-5% of the thinner type stated in the spreadsheet above (see Ch. 2. Technical Data). Only use thinners recommended by the manufacturer.

## 5 Surfaces / pretreatment

### 5.1 General information

The surface must be dry, clean, free from grease, oil and loose gravel and other contaminations. The surface and potentially 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. If the SWARCOGLOW 2-C Paint System is to be applied onto old markings, drying times may be prolonged.

**Note:** SWARCOGLOW 2-C Paint System is not appropriate for large area applications on bituminous surfaces (e. g. playground, sportsground, cycle path or similar).

### 5.2 Concrete and cement-bound surfaces

The pavement components that prevent good bonding, especially on new concrete, as fine mortar layer, concrete slurries, concrete after-treatments as setting retarders, paraffins, impregnations on silicate basis etc. must be appropriately removed (e. g. with high pressure waterjet, fine millcut or similar). We recommend conducting test applications. In case of doubt communicate your concerns in written form.



On new washed concrete surfaces (with grit) poor bonding properties may occur, not caused by marking paint quality. We recommend applying test markings.

When applying the paint on concrete or cement-bound surfaces, the formation of bubbles is likely to occur. In order to prevent bubble formation SWARCOGLOW 2-C Primer should be used blended 1 : 1 with Thinner EP (Art.-No.: 3130) and sprayed with approx. 150 µm wet film thickness. Once dried, a second, undiluted layer can be applied.

### 5.3 Bituminous surfaces

Any loose components such as chippings must be removed. On new asphalt surfaces additives (fluxoils, adherents etc.) are detrimental to good bonding of markings and can cause discolorations on marking paints. Before application test markings / bonding checks are necessary. Since a mechanical removal is hardly possible, the surface should be treated with SWARCOGLOW 2-C Primer. After 4 - 6 weeks waiting time conduct test markings (tests for adhesive properties and discoloration).

If marking test results are negative, we recommend applying SWARCOGLOW 2-C Paint System without any guarantee. Bituminous layers for car parks or factories are less compact than road asphalt. Therefore, marking materials may cause crack formation on such asphalt layers.

### 5.4 Cobbled pavement

Natural, artificial and compound stone pavements are no-static surfaces. Basically, they are not suitable for SWARCOGLOW 2-C Paint System. No guarantee is given in case of crack formation, chippings caused by the movement of pavement parts, poor marking bonding (e. g. natural or artificial stones), penetration of moisture or wear of the marking. Test markings are always necessary.

### 5.5 Floor coatings

Synthetic resin floor products usually consist of epoxy resins or polyurethane. They are differentiated into sanded and non-sanded coatings. Such coatings must be considered critical surfaces. If the synthetic resin coatings are older than 3 days, it is essential for a successful application of SWARCOGLOW 2-C Paint System that the floor is roughened with adequate means (e. g. Blastrac, fine millcut or grinding). If the marking is applied within 2 days after the coating application, roughening is not necessary. Due to the variety of different coatings, we recommend conducting test applications and bonding checks and to check the coating's Technical Information, since these data sheets may provide hints about marking applications.

### 5.6 Other surfaces

Inside buildings different surfaces are possible (e. g.: PVC, wood, chipboards). Test markings with SWARCOGLOW 2-C Primer are mandatory. Metal surfaces also need test markings.

## 6 Application technique

With marking airspray machines (tests are necessary when using airless machines) or manually with spray gun or roller.

The application of SWARCOGLOW 2-C Paint is to be conducted in the following sequence:

#### 1. SWARCOGLOW 2-C Primer

apply evenly

#### 2. SWARCOGLOW 2-C Paint

apply evenly, gives the afterglow effect, depending on applied thickness:

[www.swarco.com/rms](http://www.swarco.com/rms)

SWARCO LIMBURGER LACKFABRIK GmbH, Robert-Bosch-Straße 17, D-65582 Diez, Germany

T. +49-6432-9184-0, E. [info.limburgerlackfabrik@swarco.com](mailto:info.limburgerlackfabrik@swarco.com)

Managing Director: Mario Nöllge

two applications are necessary

### **3. SWARCOGLOW 2-C UV-Clear Varnish**

protects afterglow paint against dirt and wear and prolongates lifetime

The above-mentioned layer thicknesses and the number of stated spray operations have to be applied in order to get the optimal afterglow properties.

SWARCOGLOW 2-C Paint thickness can be modified between 100 µm to max. 600 µm depending on the desired afterglow effect. Regard waiting times stated in the spreadsheet.

The SWARCOGLOW 2-C UV-Clear Varnish needs enough time for drying. Otherwise, the varnish's surface gets soiled, damaged and black tire tracks may occur.