TECHNICAL INFORMATION

SWARCOGLOW 1-C Paint System

swarco

Road Marking Systems

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SWARCOGLOW 1-C Paint System

Art.-No.: 8129016 white, SWARCOGLOW 1-C Primer
Art.-No.: 8121111 yellow-green, SWARCOGLOW 1-C Paint
Art.-No.: 8120000 transparent, SWARCOGLOW 1-C UV-Clear Varnish

Version: 2022-07-26

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 1-C Paint System...

- is a three-layered marking system consisting of a SWARCOGLOW 1-C Primer, SWARCOGLOW 1-C Paint and a SWARCOGLOW 1-C UV-Clear Varnish and belongs to the group of aromatic-free, solvent containing 1-component Paints
- can be incited by UV radiation as well as by white daylight or artificial light, in the dark afterglow paint is visible by its afterglow properties (emission of light), the special afterglow pigments are free of phosphor, radioactive substances or other toxic chemicals. Incitation and emissions can be repeated without limitation
- suitable for near-ground optical safety guide systems and identification of emergency exit routes in tunnels, staircases, parking garages, factories, shopping centers, tunnels etc. when a power blackout or fire with formation of smoke takes place
- supplemented existing emergency light systems invisible by smoke
- marking's good luminescence does not only show the direction of evacuation routes, but also make staircases, obstacles, doors etc. visible
- product is not suitable for areas with car traffic impact; applicable on horizontal surfaces with low pedestrian traffic density only or on vertical surfaces (e.g. walls)
- developed for inside rooms with intensive lights, the SWARCOGLOW paint should be applied close to those light sources
- Use only in well-ventilated rooms, not suitable for living rooms
- suitable for bituminous surfaces (e.g. mastic asphalt, asphaltic concrete), not suitable for floor coatings
- tested and approved at Federal Institute for Materials Research and Testings (BAM, Berlin) according to DIN 67510 part 1 (longtime afterglow products)
- suitable for air spray technique (for airless machines: in advance tests are recommended)

2 Technical Data

Three-layered system	first layer	second layer	third layer
Product	**SWARCOGLOW 1-C Primer**	**SWARCOGLOW 1-C Paint**	**SWARCOGLOW 1-C UV-Clear Varnish**
Art.-No.:	8129016	8121111	8120000
Standard colors	white	yellow-green	transparent
Density	1.57 kg/l +/- 0.1	1.13 kg/l +/- 0.1	0.96 kg/l +/- 0.03
Thinner	on request: Thinner for HS-paint Art.-No.: 3080		
Thinner for cleaning	Special cleaner for marking machines Art.-No.: 3086		
Next application after	approx. 5 – 15 min. (must not be sticky – but dust-dry)	approx. 10 – 25 min. (must not be sticky – but dust-dry)	approx. 10 – 15 min.
Drying time / Overrollability			approx. 1 hour after last application (must not be sticky)*

Wet layer thickness to be applied	**approx. 200 µm - 400 µm** make sure: evenly and all over coverage	**min. 100 µm - max. 600 µm** depending on requested afterglow time span. Thickness more than 300µm needs application with two layers	**min. 60 µm – max. 100 µm** spray in two applications
Theoretical consumption	approx. 0.314 kg/m² (0.20 l/m²) approx. 0.628 kg/m² (0.40 l/m²)	approx. 0.11 kg/m² (0.102 l/m²) to approx. 0.68 kg/m² (0.6 l/m²)	approx. 0.058 kg/m² (0.062 l/m² to approx. 0.096 kg/m² (0.103 l/m²)
Standard packaging	2.5l - tin foil container 5.0l - tin foil container 10.0l - tin foil container	2.5l - tin foil container 10.0l - tin foil container	2.5l - tin foil container 10.0l - tin foil container
Identification	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		
Storage stability	12 months, in sealed original packaging; protect from frost and direct sun light		
Processing temperature	min. + 5°C		
Surface temperature	+ 5°C to + 45°C		
Relative humidity	max. 75% (dew point spreadsheet has to be regarded)		

* In general, the markings` work-on stability must be checked before exposing them 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 Wet film thickness µm				**luminance mcd / m² after 1 min**	**10 min**	**30 min**	**60 min**	**ecay time ** in min.**
	1.layer	**2.layer**	**3.layer**					
Test April 2010	**400**	**400**	**60**	**2880**	**312**	**90**	**39**	**2700**
Test June 2005	**400**	**600**	**60**	**1736**	**219**	**68**	**30**	**2450**

* BAM – Bundesanstalt für Materialforschung und –prüfung (Berlin) or: Federal Institute for Materials Research and Testings
** decay time until luminance amount to 0,3 mcd /m²

4 Processing instructions

4.1 Preparation of material and application technique

All products of the SWARCOGLOW 1-C Paint System must be homogeneously stirred in their original container before processing by using an appropriate stirring device.
The application and drying properties of the material depend on temperatures, of air- material and surface. Proper storage conditions improve application conditions partly.

Theoretical material consumption is stated in:

- Table “Theoretical material- and drop-on consumption” on our website in kg/m² as well as in kg/km of line to be marked depending on typical line width

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

Cleaning of machine (paint tank, hoses, tools) must takes place before curing occurs with Special cleaner for marking machines Art.-No.: 3086.

4.2 Optimizing of application properties

The SWARCOGLOW 1-C Paint System in its delivery state is ready for processing. In general, it is not necessary to add thinner but for optimizing the material`s spray properties approx. 2 % Thinner for high solid paints (Art.-No.: 3080) can be added. Thinner recommended by the manufacturer must be used only.

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 potential existing old markings must be checked for their carrying capacity and compatibility with 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 1-C Paint System is applied onto old markings, drying times could be prolonged.

Attention: SWARCOGLOW 1-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, paraffin, impregnations on silicate basis etc. must be appropriate removed (e.g. with high pressure waterjet, fine millcut or similar). We recommend conducting test applications in case of doubt communicate concerns in writing about paint bounding properties.
On new washed concrete surfaces (with grit) poor bonding properties may occur, not caused by marking paint quality. Therefore we recommend applying test markings.
When applying the paint to concrete or cement-bound surfaces, the formation of bubbles is likely to occur. In order to prevent formation of bubbles the concrete - Primer for SWARCOGLOW 1-C Paint - should be used blended 1:1 with Thinner for HS-Paints (Art.-No.: 3080) and sprayed with approx. 150 µm wet film thickness. Once dried, a second, undiluted layer can be applied. The humidity of concrete must not exceed 4 % during the marking job.

5.3 Bituminous surfaces

Any loose components such as chippings must be removed. Flux oils of new bituminous surfaces are detrimental to bonding of markings and may lead to discoloration. Since these oils are not removable mechanically, the surface should be applied with SWARCOGLOW 1-C Primer and after 4 – 6 weeks waiting time conduct test markings (tests for adhesive properties and discoloration).
Furthermore, has to be regarded: new bituminous surfaces applied inside car parks and industrial buildings are not as good compacted as road asphalt. Therefore underneath the marking or sidewards the marking cracks / chippings may occur.

5.4 Cobbled pavement

Natural, artificial and compound stone pavements are loose surfaces that move. Basically, they are no suitable surfaces for the SWARCOGLOW 1-C Paint System. No guarantee is given in cases of: crack formation, chippings caused by the movement of pavement parts, poor marking bonding (e.g. natural or artificial stones), penetration of moisture and wear of marking. Test markings are always necessary.

5.5 Floor coatings

For markings on floor coatings SWARCOGLOW 2-C Paint System or SWARCOGLOW 2-C Cold Plastic should be used. The SWARCOGLOW 1-C Paint System is not suitable for floor coatings.

5.6 Other surfaces

Inside building`s further surfaces are applied (e.g.: PVC, wood, chipboards). Test markings are mandatory. The SWARCOGLOW 2-C Paint System may be an option. Metal surfaces are no suitable surface for the SWARCOGLOW 1-C Paint System.

6 Application techniques

With marking air spray machines (in advance tests are necessary when using airless machines) or with hand spray gun or roller.

Application of the SWARCOGLOW 1-C Paint System is to be conducted in the following sequence:

1. **SWARCOGLOW 1-C Primer**

   apply evenly

2. **SWARCOGLOW 1-C Paint**

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

   two applications are necessary

3. **SWARCOGLOW 1-C UV Clear Varnish**

   protects SWARCOGLOW Paint against dirt and wear and prolonged life time

The above-mentioned layer thicknesses and number of stated spray operations have to be applied in order to get the optimal afterglow properties.
Afterglow paint thickness can be modified between 100 µm to max. 600 µm depending on requested afterglow effect. Regard waiting times stated in the spreadsheet.
The SWARCOGLOW 1-C UV-Clear Varnish needs enough time for drying. Otherwise varnish`s surface gets soiled.