TECHNICAL INFORMATION

SWARCOPLAST 2-C Indoor

swarco

Road Marking Systems

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SWARCOPLAST 2-C Indoor

Art. No.: 5050, white
Art. No.: 53H145….RAL, colored

Version: 2022-08-04

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

SWARCOPLAST 2-C Indoor...

- belongs to the group of solvent-free, multi-component, reactive systems
- consists of two components which – through a chemical reaction – form a duroplastic compound and cannot be thermally plastified thereafter
- developed as durable material for markings in car parks and industrial buildings
- ensures little tendency to attract dirt due to its smooth surface and its special formulation (chemical reaction)
- combined with 2-C UV clear varnish it reduces the attraction of dirt on surfaces with heavy impact (on concrete and floor coatings) and increases abrasion resistance

2 Technical Data

Color	White, (other colors upon request)
Density	approx. 1.67 kg/l +/- 0.06
Pot life	5 – 10 min. (depending on hardener quantity added and air, material, and surface temperatures; cf. "Table Potlife / Curing time"!)
Solvent content	Solvent-free, solvent must not be added
Solvent for cleaning	Special cleaner for marking machines Art. No.: 3086.
Storage stability	6 months (unmixed), in sealed original packaging; protect from frost and direct sun light
Trafficability / curing time	Depends on the climatic conditions (see tables under point 4.2). In general, the markings` over rollability must be checked before exposing them to traffic impact.
Standard packaging	**SWARCOPLAST 2-C Indoor:** Tin container with 10/15/25/40 kg filling weight; **SWARCODUR Hardener powder:** PE-bags – filling weight corresponds to cold plastic quantity and mixing ratio **Attention:** all hardener types are organic peroxides – they must be packaged separately and transported and stored in special containers (special cartons and boxes) away from the cold plastic. **Anti-skid aggregates:** paper bags with PE-inlay – 25 kg filling weight
Drop-on material	Drop-on material is usually not used when applied in car parks or industrial facilities in order to avoid attraction of dirt. If special anti-skid resistance is required anti-skid aggregates should be broadcasted into the wet film (e. g. cristobalite sand M72, Art. No.: RH11130). Application on such surfaces need no night visibility (beads).
Identification	The regulations and instructions concerning appropriate transport, handling, storage, first aid and measures, toxicology and ecology are stated in detail in our material safety data sheets! The instructions stated on the product label and in the MSDS must be followed.
VOC (according to ASTM 2369 – 10)	60.7 +/- 0,5 (g/l) (Test report no. 190014714)
Processing temperature	min. + 5°C
Surface temperature	+ 5°C to + 45°C
Relative humidity	max. 75% (dew point spreadsheet has to be regarded)
Layer thickness to be applied	1 – 2 mm
Theoretical consumption	approx. 1.67 – 3.34 kg/m² (1.0 – 2.0 l/m²) The actual consumption depends on the applied layer thickness, the screed box used and the type and state of the surface.

3 Mixing ratio / Application techniques / Hardener

Product	Art. No.	Technique	Hardener type
SWARCOPLAST 2-C Indoor white **SWARCOPLAST 2-C Indoor** colored (RAL.../ colors)	**5050** **53H145….**	**Open mixture technique** screed box manual application (trowel)	SWARCODUR Hardener powder
Mixing ratio: Base component (SWARCOPLAST 2-C Indoor)**: SWARCODUR Hardener powder = 100 : 1.2**			

4 Processing instructions

4.1 Preparation of material and application techniques

SWARCOPLAST 2-C Indoor must be homogeneously stirred in its original container before processing! Then the SWARCODUR hardener is mixed with the base component (SWARCOPLAST 2-C Indoor) at the indicated mixing ratio using an appropriate stirring device. Never prepare more material with SWARCODUR hardener than needed for the application (observe pot life).

Cold plastic is solvent-free and solvents must not be added (optimizing of application properties, see chapter 4.2).

The cleaning of machines and tools must be done before the curing process is complete. Use Special cleaner for marking machines (Art. No. 3086).

Theoretical consumption of paint and drop-on material is listed:

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

4.2 Optimizing application properties

Application and reactivity depend on material, air and surface temperatures. Proper storage conditions may partly improve application conditions.

Pot life and curing times depend on material and surface temperatures. Different hardener quantities are shown in the spreadsheet.

Table 1: Pot life and curing times of 2-component cold plastics depending on material and surface temperature

Temp. (°C)	Powder hardener (weight %)	Pot life (min)	Curing time (min)
0°	2	-	-
5°	2	31	48
10°	2	23	39
15°	2	12	30
20°	1	11	29
25°	1	9	25
30°	1	7	20
40°	0,5	10	26
45°	0,5	8	19

Table 2: Pot life and curing times of 2-component cold plastics as a function of temperature with addition of accelerator or retarder

Temp. (°C)	Accelerator (weight %)	Retarder (weight %)	Powder hardener (weight %)	Pot life (min)	Curing time (min)
0°	0,2	-	1	-	-
5°	0,2	-	1	24	67
10°	0,2	-	1	19	36
15°	0,1	-	1	18	31
20°	-	-	1	15	31
25°	-	0,1	1	14	29
30°	-	0,1	1	13	26
30°	-	0,2	1	18	35
40°	-	0,2	1	14	26
45°	-	0,2	1	12	29

To reduce viscosity (e. g. due to low material, air and surface temperatures) add max. 1% condenser (Art. No.: 3044). Never prepare more cold plastic blended with condenser than needed for the next marking job because adding condenser may influence sedimentation properties and diluted cold plastic may change its viscosity later.

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 techniques.

Attention: SWARCOPLAST 2-C Indoor is not suitable for large scale markings (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, including fine mortar layers, concrete slurries, concrete after-treatments as setting retarders, paraffin, silicate-based impregnations, etc. must be appropriately removed (e. g. with high pressure waterjet, fine mill-cut or similar). We recommend conducting test applications. In case of doubt communicate your concerns in written form.

When applying SWARCOPLAST 2-C Indoor on concrete or cement-bound surfaces, a pretreatment with primers is recommended:

a) spray technique (paint spray machine) with 2-C EP-primer (Art. No.: 8609000) or
b) manually (roller) with 2-C primer B71 for concrete (Art. Nr. 8010)

It is essential to have a sufficient and uniform coverage with primer in order to obtain an optimum bonding of the cold plastic and the concrete. Primer consumption may vary depending on the concrete's porosity. The moisture of concrete must not exceed 4% during application. Primers based on epoxy resins are suitable for residual moisture surfaces.

5.3 Bituminous surfaces

Any loose components such as chippings must be removed. On new asphalt surfaces additives (flux oils, adherents etc.) are detrimental to good bonding of markings and can cause discolorations. Prior to an application test markings / bonding checks are necessary, especially since a mechanical removal is hardly possible. In case of doubt communicate your concerns in written form.

If marking test results are negative (conduct tests 3 days after application) we recommend the following:
Apply LIMBOROUTE 2-C K809 without any guarantee (see Technical Information of LIMBOROUTE 2-C K809). Bituminous layers at car parks or factories are less compact asphalt 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 non-static surfaces. Basically, they are critical surfaces for SWARCOPLAST 2-C Indoor. 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, wear of marking.
Concrete cobbled stones are a common surface for car parks and industrial facilities. Before applying SWARCOPLAST 2-C Indoor concrete stones have to be treated with 2-component EP-primer (Art. No.: 8609000) or 2-component primer B71 for concrete (Art. Nr. 8010)

5.5 Floor coatings

Synthetic resin floor products are usually made of epoxy resins or polyurethane. They are differentiated into sanded and non-sanded coatings. Such coatings must be considered as critical surfaces. If the synthetic resin coatings are older than 3 days, it is essential for a successful application of SWARCOPLAST 2-C Indoor that the floor is roughened with adequate means (e. g. blastrac, fine mill-cut or grinding). If the marking is applied within 2 days after the application of the coating, roughening is not necessary. Due to the variety of different coatings we recommend to conduct test applications and bonding checks and to check the coating's Technical Information Sheet for information on markings.

6 Application techniques

With cold plastic application machines or manually with screed box, trowel, etc. Stencils and tapes ensure sharp marking edges. When the applied SWARCOPLAST 2-C Indoor has cured, it is possible to apply, if required, a second layer of approx. 0,1 mm 2-component UV-clear varnish in order to improve the abrasion resistance and dirt-repellent characteristics.

Attention: Machine-applied markings in car parks or factory facilities might not be fully applicable towards walls for technical reasons. It is recommended to clarify beforehand whether the costly manual completion of the striping is required. The uniform spread of marking material over the entire application surface must be observed.