

TECHNICAL INFORMATION
SWARCOPLAST PUMABRITE



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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

- MMA cold applied road marking material.
- Engineered to achieve the highest levels of retroreflectivity, durability, adhesion and colour stability.
- Catalyst controlled, rapid curing, typically 10 - 30 minutes
- Tough and durable with a long service life
- Non-toxic binder system and uses heavy metal free pigments

2 Packaging and Storage

SWARCOPLAST PUMABRITE is supplied in pre-weighed 10kg or 20kg pails. The catalyst (hardener) is supplied separately. Dosage of the catalyst varies according to material temperature. It is recommended that SWARCOPLAST PUMABRITE product should be kept totally dry and stored away from direct sunlight and areas of potential contamination. The binder component must be stored away from any catalyst. Stable for at least 12 months when stored in a cool, dry place. Long periods of over-heating (e.g. external storage in summer) may lead to gelling of the material.

3 Technical Information

SWARCOPLAST PUMABRITE Screed Road Marking System is a two-component cold applied chemically curing Methyl Methacrylate compound, consisting of a pre-accelerated base resin, blended fillers, pigment(s), aggregate, trace amounts of property modifying additives and a powder catalyst (BPO), supplied in pre-weighed quantities ready for on-site mixing.

3.1 Physical Properties

Typical coverage rate per m²	2.6kg per m ² (1.9kg per mm)
Pot life*	5 – 15 mins
Curing time*	10 – 30 mins
Road surface temperature range	0 – 40°C
Maximum relative humidity	85%

* Dependant on ambient temperature and catalyst dosage.

4 Surface Preparation

4.1 Suitability of Road Surface

The system is deemed suitable for use on Highways with concrete or bituminous surfaces. New bituminous substrates should be allowed to weather for at least 6-8 weeks prior to the installation of the system. This is because new bituminous substrates can contain residues of

oils and additives which can inhibit adhesion and curing. Depending on the type of substrate, this can take even longer than 8 weeks, and tests should be carried out on a small area.

The use of a primer or applying an initial thinner coat of SWARCOPLAST PUMABRITE can help to reduce bleed through of bitumen on new substrates when circumstances do not allow the weathering in process to occur. Allow the first coat to fully cure before applying a second coat on top.

Concrete surfaces should be a minimum of 28 days old and must be primed using a SWARCOPLAST Primer Roll 120 prior to the installation of the system.

4.2 Preparation of the Road Surface

The road surface shall be clean, dry and free from ice, frost, loose aggregate, oil, grease, road salt and other loose matter that may impair the adhesion of the system.

Where the road surface does not comply with the above it shall be cleaned by the Installer or others, by grit blasting, high pressure water jetting, low pressure water/abrasive blast cleaning, scarifying, scabbling or other means approved by the Purchaser. To remove dust and other loose matter the road surface should be vigorously brushed or treated with hot compressed air. Any oil visible on the road surface shall be removed by washing and scrubbing with a suitable detergent solution followed by flushing with clean water or by other suitable means.

Existing road markings, ironwork, road edges of area to be treated and road studs shall be suitably masked.

On concrete substrates, SWARCOPLAST Primer Roll 120 shall be applied using a short pile paint roller or serrated edge squeegee at a typical coverage rate of 0.4kg/m², depending on the substrate texture and porosity. The road surface temperature shall be between 0 and 40°C. The SWARCOPLAST Primer Roll 120 needs to be catalysed according to the following table:

Substrate temperature (°C)	Primer pack size (kg)	BPO powder catalyst required (g)
0 - 5	20	1,200
5 - 15	20	800
15 - 25	20	400
25 - 40	20	200

5 Application

5.1 Weather Conditions

Installation of the system shall only be carried out with a road surface temperature of 0°C to 40°C and with a relative humidity of ≤85%. At temperatures below 5°C, the pails should be carefully warmed to above 5°C (do not use naked flames on the pails to warm them). Road surfaces shall be completely dry before and during the installation of the system.

5.2 Catalyst Levels

SWARCOPLAST PUMABRITE road marking systems are available for use at substrate temperatures from 0°C to 40°C.

For the amount of BPO powder catalyst required for the installation temperature, see the following table:

20kg Pails

Substrate temperature (°C)	SWARCOPLAST PUMABRITE pack size (kg)	BPO powder catalyst required (g)
0 – 5	20	500
5 – 15	20	400
15 – 25	20	200
25 – 40	20	100

10kg Pails

Substrate temperature (°C)	SWARCOPLAST PUMABRITE pack size (kg)	BPO powder catalyst required (g)
0 – 5	10	250
5 – 15	10	200
15 – 25	10	100
25 – 40	10	50

The catalyst level is critical – the minimum catalyst level is 0.5% (100g per 20kg pail or 50g per 10kg pail). Using catalyst levels below this will lead to partial curing and product failure. Excessive levels of catalyst can lead to premature gelling and accelerated curing, which can lead to reduced adhesion to the substrate and product failure.

5.3 Installation

Immediately prior to use, stir the pail thoroughly using a mechanical mixer until the resin is fully mixed. Add the correct amount of BPO powder catalyst and mix thoroughly for at least 30 seconds. Ensure that the binder at the bottom and sides of the container is completely mixed in. Do not delay once the catalyst has been added, as a chemical reaction is occurring that if left in the pail will ruin the mix.

The mixed binder shall then be screeded onto the dry prepared road surface uniformly with a clean screed box at the required thickness, which will vary according to the texture and porosity of the road surface. The typical thickness is between 1.5mm - 2.0mm, but other thickness may be required.

For lines requiring retro-reflectivity, suitable glass beads should be broadcast onto the material immediately upon application, before the product starts to gel or cure. If there is any delay to the work, the screed box must be checked before any work restarts to ensure that no cured material is left on the screed box, which could lead to a lower thickness of marking, and thus reduced durability.

On more open textured surfaces a greater material usage may be required to ensure adequate coverage of the surface. Any masking tape used shall be removed as the work progresses before the binder begins to gel or cure.

6 Certifications

The management system of SWARCO HITEX LTD has been assessed and registered as meeting the requirements of BS EN ISO 9001 and BS EN ISO 14001.