TECHNICAL INFORMATION

SWARCO EPOXYGRIP TYPE 1

swarco
Road Marking Systems

SWARCO EPOXYGRIP TYPE 1

1 Main Characteristics

- Comprises of a two-component, modified epoxy binder and 100% road grade calcined bauxite.
- Suitable for old and brand new asphaltic surfaces
- Low odour, low toxicity binder system
- Tough and durable with a long service life
- Fast installation - can be laid directly onto suitable existing surface

2 Packaging and Storage

SWARCO EPOXYGRIP TYPE 1 binder is supplied in pre-weighed 20kg pails or 1000kg IBCs. Calcined bauxite aggregate is supplied in 1250kg bulk bags.

It is recommended that SWARCO EPOXYGRIP TYPE 1 be kept totally dry, stored away from direct sunlight and areas of potential contamination, and in ambient conditions it is possible for components to crystalise at lower temperatures or after prolonged storage in ambient conditions. Due to this, long term storage of material for periods over 6 months is not recommended, as it can increase the risk of crystallisation.

If crystallisation occurs, it is possible to reverse it by exposing the material to elevated temperatures (50-60°C) for a minimum of 60 minutes followed by mixing with a standard bladed paddle mixer. It is typical for the material to be opaque (white) or transparent, and in either form, the product performance is not effected.

3 Technical Information

3.1 Physical Properties

Specific gravity – Part A	1.15 ± 0.05
Specific gravity - Part B	1.00 ± 0.05
Pot life @ 23°C	30 mins
Curing time @ 20°C	2 - 3 hours
Road surface temperature range	5 - 40 °C

3.2 Aggregate

SWARCO EPOXYGRIP TYPE 1 Buff/Dark uses 100% calcined bauxite aggregate. The BBA/HAPAS certificate is based on use of a graded nominal 1-3mm calcined bauxite aggregate. Any deviation from this will compromise performance and will invalidate the Type 1 certification.

Aggregate	**Requirement**
Polished Stone Value (PSV)	70 +
Aggregate Abrasion Value (AAV)	Max. 4
Gradation passing 3.35mm	Min. 95%
Gradation passing 1.18mm	Min. 5%

3.3 Material Performance

The properties of the installed product are designed to conform to the requirements below.

Parameter	Typical Value	BBA/HAPAS Type 1 Specification
Skid Resistance Value (SRV)	75+	≥ 65
Intial texture depth	2.0mm	≥ 1.4 mm
Tensile adhesion @ 20°C	1.6 N/mm²	≥ 0.5 N/mm²

3.4 Spread Rates

Aggregate	Approximately 8 - 10 kg/ m2 using a 1-3mm stone
SWARCO EPOXYGRIP TYPE 1 filled binder	2kg/m2 on typical substrates, more on rough or open textures

4 Surface Preparation

4.1 Suitablility of Road Surface

The system is deemed suitable for use on Highways with bituminous surfaces with texture depths of between 0.5 mm and 2.0 mm, measured in accordance with BS EN 13036-1:2010 or BS 598-105:2000. Texture depths greater than 2.0 mm or negatively textured bituminous surfacing shall be pre-treated with SWARCO HITEX pre-treatment (0.3 - 1.2 mm kiln-dried sharp sand).

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 quality specified 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 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 the area of System installation and road studs shall be suitably masked.

5 Application

5.1 Weather Conditions

Installation of the system shall only be carried out with a road surface temperature of 5 to 35°C. Ambient and road surface temperatures shall be recorded at the start and, if the weather is variable, during the installation process. Road surfaces shall be dry before and during the installation of the system.

5.2 Pre-treatment

On, porous, or open textured bituminous substrates, SWARCO HITEX Pre-treatment shall be used as a pre-treatment to reduce binder consumption. SWARCO HITEX Pre-treatment consists of kiln dried sharp sand (particle size 0.3 mm – 1.2 mm), supplied to site in 25 kg bags, which is applied in excess by brushing onto the open textured surfacing to regulate the voids prior to the application of the SWARCO EPOXYGRIP TYPE 1 binder system. Any excess sand remaining on the surface of the substrate is removed by brushing.

5.3 Mixing and Installation

Installation of the System shall only be carried out by BBA Approved Installers with trained operatives under competent supervision (UK only).

Temperature of each component in the dedicated storage heated tanks is measured using a temperature gauge accurate to ±2°C. The heated components are drawn off via the drain taps at a mix ratio of 50:50 (±2%) by weight, using calibrated containers. The components (up to 20 kg of each part) shall be mixed until homogeneous, using a high torque drill fitted with a helical mixing blade. Only one pack shall be mixed at any one time.

To mix the binder in the pre-weighed pack, component Part B shall be added to the Part A and mixed for approximately one minute ensuring a homogenous mix, using a high torque drill fitted with a helical mixing blade. Only one pack shall be mixed at any one time. In colder conditions (5°C - 10°C), the components may need to be heated to around 30°C to enable easier material handling.

The mixed resin binder shall then be spread onto the dry prepared surface uniformly with a squeegee at a minimum coverage rate, which will vary according to the texture and porosity of the surface but shall not be less than 2.0 kg/m2 . The spread rate may be lower for pre-treated high texture sites.

On more rugous surfaces a greater rate of spread may be required to ensure adequate coverage of the surface. Calcined bauxite aggregate shall be broadcast over the resin binder ensuring that all areas are covered to excess. Where the resin binder bleeds through, more aggregate shall be applied. The layer of aggregate shall not be disturbed whilst the resin binder is still wet.

The masking tape shall be removed, as the work progresses as soon as the resin binder begins to gel. Rolling of the aggregate shall not be permitted. After the resin binder has sufficiently cured, the excess aggregate shall be removed by vacuum sweeper or other suitable means. The amount of aggregate finally retained is approximately 7 - 10 kg/m2 . System shall be fully cured and swept prior to opening to traffic.

6 Certifications

SWARCO EPOXYGRIP TYPE 1 has full BBA/HAPAS certification approval (BBA certificate number 14/H212).

SWARCO EPOXYGRIP TYPE 1 must only be installed by approved installers who have been trained by the certificate holder (applies to the UK only).

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.