

Self Smoothing, 1mm thick epoxy resin based floor topping

Silfloor ET1000 is designed for use in wide range of industrial environments where a lasting solution to floor maintenance problems is required. It provides a dense, impervious, coloured and chemically resistant floor surface which is hygienic and easy to clean. Typical applications include:

Product usages and advantages

- Clean Rooms
- Laboratories
- Kitchens,
- Plant rooms
- Light Industrial Plants
- Fast Application minimize downtime
- Good Chemical resistance
- Good abrasion resistance
- Hygienic – provide a dense. Impervious, seamless floor surface which is easy to clean

Standards compliance

Silfloor ET1000 complies to BS 8204.

Description

Silfloor ET1000 consists of graded aggregates bound in a pigmented epoxy resin binder. It is supplied as a four component system, pre-weighed for on-site mixing. When laid, it provides a smooth, light-reflective surface. It is available in a range of standard colours.

It is Flow-applied epoxy floor topping The designated floor areas shall be surfaced with Silfloor ET 1000, a 1 mm thick flow-applied epoxy resin floor topping. The topping shall achieve a minimum compressive strength of 50 N/mm² and a flexural strength of 26 N/mm² at 7 days when tested to BS6319. At 25^oC, it shall be capable of accepting foot traffic at 24 hours and vehicular traffic at 48 hours.

Technical support

Silkon offers a comprehensive range of high performance, high quality concrete flooring construction products. In addition, Silkon offers technical support service to specifiers, end-users and contractors, as well as on-site technical

assistance in locations all over the country.

Properties

The values given below are average figures achieved in laboratory tests. Actual values obtained on site may show minor variations from those quoted.

Pot Life	@ 25 ^o C	@35 ^o C
Silfloor ET1000	: 45 min	20 min
Silfloor Primer	: 2-3 hours	1-1.5 hours
Cure time- Foot traffic	: 24 hours	16 hours
Vehicular traffic	: 48 hours	36 hours
Chemical resistance	: 7 days	4 days

Physical properties

Mixed density	: 1.72 g/cc	
Compressive strength @7 days (BS 6319) N/mm ²	: 50 N/mm ²	50
Flexural strength @7 days (BS 6319)	: 26 N/mm ²	26 N/mm ²
Tensile strength @7 days (BS 6319)	: 12 N/mm ²	12 N/mm ²
Abrasion resistance	: 0.1mg/ cycle-loss of weight (ASTM D 4060) (with CS 17 wheel of1000g weight)	
Shore D Hardness as per (ASTM D 2240)	: >75	
Adhesion Strength @ 7 Days (ASTM D4541)	: > 1.5N/mm ²	

Chemical Properties

Silfloor ET1000 has excellent resistance at ambient temperatures to a wide range of industrial chemicals. Specific data is available on request.

Note that it is especially important that spillage is cleaned up quickly since much higher concentrations of chemicals may occur on evaporation.

Design Characteristic

Silfloor ET1000 is designed for application at a nominal thickness of 1mm. Substrates should be dry and not suffer, or

be likely to suffer, from rising damp. If necessary, suitable damp-proof membranes should be installed during construction to prevent this. Substrates should not have a relative humidity greater than 75% at the time of installation.

Surface Preparation

It is essential that Silfloor ET1000 is applied to sound, clean and dry surfaces in order that maximum bond strength is achieved between the substrate and the flooring system. All dust and debris should be removed prior to application of the product or its primer.

New concrete, or cementitious substrates, should be at least 28 days old and have a moisture content not exceeding 5%. Laitance deposits on new concrete are best removed by light grit blasting, mechanical scrubbing or grinding.

Old concrete floors which require refurbishment must be prepared to ensure a strong adhesive bond between the flooring system and the existing floor. Mechanical cleaning methods are strongly recommended particularly where heavy contamination by oil and grease has occurred or existing coatings are present. To ensure adhesion, all contamination should be removed. Alternatively, blasting techniques can be used to provide the required substrate

Steel surfaces should be degreased and grit blasted to SA2½ immediately prior to application. The prepared surface should then be treated with one coat of Silkon Primer.

Priming

All surfaces to be treated with Silfloor ET1000 should be primed with Silfloor Primer, a solvent based epoxy resin primer designed for maximum absorption and adhesion to concrete substrates. Add the entire contents of the hardener tin to the base tin and mix the two primer components thoroughly for at least 2 minutes - under no circumstances should part mixing be considered. Once mixed, the primer should be applied immediately to the prepared substrate using stiff brushes and/or rollers. The primer should be well 'scrubbed' into the substrate to ensure full coverage, but care should be taken to avoid over application or 'ponding'. Allow the primer to dry (see table below) before proceeding to the next stage. Do not proceed whilst the primer is 'tacky' as this will lead to unsightly marks on the finished surface.

Porous substrates may require a second primer coat – when the first coat is directly absorbed into the substrate – but minimum overcoating times must still be observed (see table below).

The minimum over coating times will vary slightly according to the porosity of the substrate. However, they should be in accordance with the following ambient application temperatures.

20°C	:	8-12 hours
30°C	:	6-8 hours
40°C	:	4-6 hours

Mixing

Silkon flooring is supplied in four pre-weighed packs (base, hardener, aggregate and colour pack) which are ready for immediate on-site mixing. Part mixing of these components is not acceptable and will affect both performance and appearance of the finished floor. Mixing should be carried out using either a forced action mixer; or a heavy duty, slow-speed drill fitted with mixing paddle. All such equipment should be of a type and capacity approved by Silkon. The components should be mixed in a suitably sized mixing vessel. The colour pack should be added to the base container and mixed for 15-30 seconds, until homogeneous. Then add the hardener and mix for further 30 seconds, until an even colour and texture is obtained. Thereafter, the contents of the graded aggregate pack should be slowly added and mixing carried out for a further 3 minutes until a completely homogenous material is obtained.

Application

The applicator should ensure that there are sufficient supplies of plant, labour and materials to make the mixing and subsequent application process a continuous one for any given, independent floor area. Once mixed, the material must be used within its specified pot life - see "Properties" section. The material should be poured onto the prepared and primed substrate as soon as mixing is complete. It should be spread to the required thickness using a serrated trowel; with care taken not to overwork the resin, spreading evenly and slowly. Immediately after laying, the material should be rolled, using a spiked nylon roller, to remove slight trowel marks, and to assist air release. The rolling should be carried out using a 'back and forth' technique along the same path. An overlap of 50% with adjacent paths is recommended. Further light rolling may be required to remove surface imperfections, or for subsequent release of trapped air, but should be prior to the setting of the product.

Floor Joints

All existing expansion or movement joints should be followed through the new floor surface. Joint sealant & joint geometry should be compatible with the floor type used, intended exposure conditions and likely movement characteristics of the substrate - consult the local Silkon office for more details.

Technical support

Silkon offers a comprehensive range of high performance, high quality, flooring, jointing and repair products for both new and existing floor surfaces. In addition, the company offers a comprehensive technical support service to specifiers, end users and contractors. It is also able to offer on-site technical assistance, an AutoCAD facility and dedicated specification assistance in locations all over the world.

Limitations

- Silfloor ET1000 should not be applied on to surfaces known to, or likely to suffer from, rising dampness, potential osmosis problems or have a relative humidity greater than 75% as measured in accordance with BS 8203 Appendix A, or Protimeter Thermohygrometer.
- In areas where significant thermal shock is likely to occur, for e.g. cold rooms etc., please consult the local Silkon Office.

Packing

Silfloor ET1000 : 62 liters pack (incl.colour pack)
Silfloor Primer : 30 liters packs

Coverage

Silfloor ET1000 : 62 M²/pack @ 1 mm thickness
or 31 M²/pack @ 2mm thickness
Silfloor Primer : 6.5 - 7.5 M²/liter

Note : The coverage figures given are theoretical - due to wastage factors and the variety and nature of possible substrates, practical coverage figures will be reduced. Typically, an additional 10% should be allowed for surface irregularities and wastage although this will vary with site conditions.

Storage

Shelf life

Silfloor ET1000 has a shelf life of 12 months if kept in warehouse conditions at 30°C in the original, unopened pack. Storage conditions Store in dry conditions between 5°C and 30°C, away from sources of heat and naked flames, in the original, unopened packs. If stored at high temperatures the shelf life will be reduced.

Health and safety

Silfloor ET1000 and Silfloor Primer should not come in contact with the skin and eyes, or be swallowed. Ensure adequate ventilation and avoid inhalation of vapours. Some people are sensitive to resins, hardeners and solvents.

Wear suitable protective clothing, gloves and eye protection. In case of contact with skin, rinse with plenty of clean water, then cleanse with soap and water. Do not use solvent. In case of contact with eyes, rinse immediately with plenty of clean water and seek medical advice. If swallowed seek medical attention immediately - do not induce vomiting.

Fire

Silfloor Primer is flammable. Keep away from sources of ignition. No smoking. In the event of fire extinguish with CO₂ or foam. Do not use a water jet. Silfloor ET1000 is non-flammable.

Flash points

Silfloor Primer : 39°C

Disposal

Spillages of component products should be absorbed on to earth, sand or other inert material and transferred to a suitable vessel. Disposal of such spillages or empty packaging should be in accordance with local waste disposal regulations. For further information, refer to the Product Material Safety Data Sheet.