

TEKNOFLOOR 400F

Epoxy varnish

TEKNOFLOOR Colour Sand Screed



TEKNOFLOOR Colour Sand Screed consists of solvent-free, two-pack TEKNOFLOOR 400F epoxy varnish and a mixture of coloured sand. The screed is applied in a thickness of 4 - 6 mm.

TEKNOFLOOR Colour Sand Screed is used for floors subjected to heavy abrasion or attacked by strong chemicals or hot water. Suitable areas of application are floors in food and meat processing plants, pulp and paper mills, chemical plants and dairies.

TEKNOFLOOR Colour Sand Screed has excellent abrasion resistance due to its thick coat and high sand content. The surface of the coating is not slippery.

In accordance with the Classification Standard SFS-EN 13501-1:2002 (Technical Research Centre of Finland, research Report RTE 4314/04) TEKNOFLOOR Colour Sand Screed's fire conduct is in category Bfl and the smoke formation is in category s1.

TEKNOFLOOR 400F is suitable for use in food preparation and packaging environments (Smithers Rapra, Certificate Number GC0071).

The product has CE approval for protection of concrete structures.

TECHNICAL DATA

Certificates, approvals and classification	CE marking, Smithers Rapra, VTT (Finland)
Recommended substrate	Concrete
Binder	Epoxy
Solids	Approx. 100% by volume
Total mass of solids	Varnish mixture without sand approx. 1100 g/l
Volatile organic compound (VOC)	Approx. 0 g/l (DIRECTIVE 2010/75/EU) The VOC value provided is the average value for factory produced products, and consequently it will be subject to variations between individual products covered by this Technical Data Sheet.
Practical spreading rate	4 mm coat: The practical spreading rate is 4 - 5 l ready mixture/m ² depending on the roughness of the pretreated surface.
Colours	Colours obtained with special colour sand blends and brown (natural sand). NOTE! Changes in the colour of TEKNOFLOOR 400F epoxy varnish may occur on objects exposed to sunlight.
Hardener	Comp. B: TEKNOFLOOR HARDENER 400H

Mixing ratio (A:B)

2:1 parts by volume		
For TEKNOFLOOR Colour Sand Screed the recommended sand qualities are either sand dyed with epoxy or brown natural sand.		
The use of quartz sand is not recommended, since it will fade the Colour Sand Screed when exposed to moisture.		
For each 9 liters of TEKNOFLOOR 400F epoxy varnish mixture (Comp. A/Comp. B = 2:1) mix 30-40 liters (43-58 kg) dyed or natural sand.		
For places which are exposed to specially heavy water or chemical stress should be used no more than 35 liters of sand to 9 liters varnish mixture.		
Practice has shown that the following ratios and grain sizes will give a tight layer with good application properties:		
	Colour sand screed	Natural sand screed
TEKNOFLOOR 400F epoxy varnish mixture	9 liters	9 liters
Coloured sand, grain size 0,7 - 1,2 mm	28 liters = 41 kg	-
Coloured sand, grain size 1,0 - 1,8 mm	7 liters = 10 kg	-
Natural sand, grain size 0,8 - 1,2 mm	-	18 liters = 26 kg
Natural sand, grain size 1 - 2 mm	-	17 liters = 25 kg
READY MADE SCREED	35 LITERS	35 LITERS

Pot life	+23 °C 1 - 2 h (poured out on the floor) 15 - 30 min (kept in the vessel)
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Thinner	Not to be diluted.
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Storage	The storage stability is shown on the label. Must be stored tightly closed and kept cool.
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DIRECTION FOR USE

Surface preparation

NEW CONCRETE SURFACES: The concrete must be at least 4 weeks old and well-hardened so that all moisture from casting is bound and the surface dry. The moisture of the concrete must not exceed 97% as relative humidity or 4% by weight (by 54 / BLY 12).

Dense laitance is to be removed from steel-trowelled concrete by shot-blasting or surface grinding. Brittle and powdery top layers are treated so that the solid concrete containing aggregate is exposed. Thereafter all cement dust is removed by vacuum cleaner or brush. The concrete surface must be clean of anything that might hinder the adhesion.

OLD CONCRETE SURFACES: Uncoated, greasy floors are cleaned by emulsion wash. Thereafter laitance is removed by shot-blasting, scarifying, surface grinding or etching. Scarifying and shot-blasting are the best methods for removal of disrepair concrete or old flaking paint or composition layers.

The surface preparation method for both new and old concrete is chosen according to condition of the concrete and strain the floor will be exposed to. The best method for floors to be attacked by heavy abrasion, chemicals or hot water is scarifying or shot-blasting. Surface grinding is enough if the floor will be subjected to minor abrasion only. In general, surface preparation by etching is not recommended for composition floors within industry. Etching is mainly used for small areas when mechanical preparation methods are not applicable.

Etching is to be done with RENSA ETCHING etching liquid. Rinse the floor with water after etching and allow to dry.

All special jobs should be done before the application of the actual priming. E.g. cutting grooves at joints between steel and concrete. Cutting working and expansion joints open. Fitting up skirting and rounding of corners. Filling cavities and cervices, and possible levelling down the floor. Filling can be done with TEKNOPOX FILL or with stiff putty prepared by adding an adequate amount of dry sand (e.g. 0.1 - 0.6 mm) to undiluted varnish.

Priming

The priming is done with TEKNOFLOOR 300F epoxy varnish that has been diluted 30 - 50 % by TEKNOSOLV 9506 or TEKNOSOLV 9515. The quantity of the thinner depends on the density of the concrete. Pour the mixture on the floor immediately after mixing. Spread out e.g. with a short-piled mohair roller. Apply the varnish generously so that the surface is completely sealed and coated with a thin film of varnish. The number of priming coats depend on the quality of the surface of the concrete. The priming coating may have to be done several times.

Strew sand (grain size e.g. 1 - 2 mm) over the fresh varnish coat to prevent the screed from sliding on the surface at application.

Application method

Trowel, Roller box

Application

The screed is applied when the priming coat has dried for 6 - 24 hours, depending on the temperature.

Mix base and hardener of TEKNOFLOOR 400F and stir thoroughly by a slow-rotating drilling machine. Add the sand mixture and stir by a slow-rotating drilling machine or power mixer until homogenous. If a free-fall concrete mixer is used, TEKNOFLOOR 400F base and hardener can also be mixed and stirred in the machine before adding the sand.

When applying on LARGE INDUSTRIAL FLOORS pour the thoroughly stirred screed in a rollerbox applicator and spread out to the required coat thickness. The sand and TEKNOFLOOR 400F epoxy varnish shall be at room temperature (above +18°C) at application to ensure an even flow of screed from the rollerbox applicator. Smooth down the screed after 10 - 15 min. mechanically rubbing, whereupon achieving an uniform and tight screed surface.

On small surfaces pour the screed on the floor over the area that according to the spreading rate it should cover. Spread out as a uniform coat by an adjustable trowel and comb lightly by a steel trowel with coarse pitch indentation to smooth away trowel marks. Finish by mechanical or manual levelling.

Top coat: The screed is overcoated after 6 - 24 h depending on the temperature with TEKNOFLOOR 300F epoxy varnish diluted 30 - 50% with TEKNOSOLV 9506 or TEKNOSOLV 9515. Two applications are recommended for floors subjected to chemicals and damp strain.

Application conditions

The surface to be treated must be dry. During the application and drying period the temperature of the ambient air, the surface and the product shall be above +15°C and the relative air humidity below 80%. Additionally, the temperature of the surface to be treated and the product must be at least +3°C above the dew point of the ambient air.

Drying time	+23°C / 50% RH
- fit for light traffic	24 h
- fully cured	7 d
Overcoatable	The drying time is as previously mentioned when the temperature of the product as well as air and surface is +23°C. Increase in film thickness and rise in the relative humidity of the air in the drying space usually slow down the drying process.
Cleaning	TEKNOSOLV 9506

HEALTH AND SAFETY

Safety and precaution measures	See safety data sheet.
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Teknos Oy, Takkatie 3, P.O. Box 107, FI-00371 Helsinki, Finland

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Declaration of Performance No. 0005

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Surface protection products – Coating

Physical resistance (5.1)

Chemical resistance (6.1)

Abrasion resistance	Requirement: Weight loss less than 3000 mg
Capillary absorption and permeability to water	Requirement: $w < 0,1 \text{ kg/m}^2 \times \sqrt{h}$
Resistance to severe chemical attack	Requirement: Reduction in hardness of less than 50 %
Impact resistance	Class I: $> 4 \text{ Nm}$
Adhesion strength by pull-off test	Requirement: Rigid system with trafficking: $\geq 2,0 (1,5) \text{ N/mm}^2$
Reaction to fire	$B_{fl} - s1$
Dangerous substances	See safety data sheet

Teknos Group Oy Takkatie 3, P.O.Box 107 FI-00371 Helsinki, Finland Tel. +358 9 506 091

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