

VARAFLOOR HD

HEAVY DUTY, CHEMICAL AND ABRASION RESISTANT EPOXY RESIN FLOOR SCREED

DESCRIPTION

VARAFLOOR HD is a three pack solvent-free epoxy resin system. It consists of an epoxy resin, modified amine hardener and a filler which consists of specially graded and selected chemically inert aggregates.

It is trowel applied at a minimum of 5 mm thick. This thickness provides an impervious topping which is highly chemical resistant. The finished cured floor has a slightly granular texture of uniform self colour.

Colour range: Light Grey. Other colours on request.

USES

VARAFLOOR HD provides a floor topping with exceptionally high strength and resistance to attack from mechanical wear and produces a safe non-slip finish. It is impervious and resistant to chemical spillage. Ideally suited for Chemical handling and process areas, steelworks and heavy engineering plants, food and drink factories, dairies, oil refineries, paint workshops, battery rooms, plating factories.

Also widely used for areas of lighter duty where good durability and low maintenance costs are required.

The surface of **VARAFLOOR HD** can be sealed with **VARAFLOOR HP**, epoxy resin floor coating for easier cleaning in heavy duty situations

ADVANTAGES

- **Chemical Resistant** : Resistant to a wide range of chemicals.
- **Wear Resistant** : Exceptional resistance to abrasion processing areas.
- **Non-slip** : Non-slip surface to both pedestrian traffic and vehicular traffic.
- **Easily laid** : Designed for easy laying to a fair finish.
- **Seamless** : Eliminates potential sources of failure.

TYPICAL PROPERTIES

Curing Characteristics

VARAFLOOR HD	30° C
Pot life	60 mins
Initial hardness	24 hrs
Full Cure	7 days
Pot life	45 minutes
Maximum overlay time	2 hrs.
Temperature limitations	Recommended application range is 5° C – 40° C.

Mechanical Characteristics

Property	Test Method	VARAFLOOR HD	Average Concrete
Compressive strength(N/mm ²)	ASTM C-579	75	25
Flexural Strength(N/mm ²)	ASTM C-580	15	8
Tensile Strength (N/mm ²)	ASTM D-638	7	4
Bond strength to(N/mm ²) concrete	Pull of Test	2.5	Failure in concrete

CHEMICAL RESISTANCE

Fully cured blocks of **VARAFLOOR HD** have been tested in a wide range of aggressive chemicals commonly found in industrial environments. Tests were performed by constant immersion at 20° C and 35° C. The blocks were visually inspected and tested for shore D hardness in accordance with **ASTM D2240**.

ACID

Hydrochloric 25%	Excellent
Sulphuric 10%	Excellent
Phosphoric 50%	Very Good
Nitric 10%	Good
Lactic 10%	Very Good
Citric 10%	Excellent

Alkalis

Sodium Hydroxide 50%	Excellent
Ammonia(.800) 10%	Excellent

Solvent/Organic

Butanol	Good
White Spirit	Excellent
Oil/Grease/Petrol	Excellent
Xylene	Excellent
Acetone	Nonresistant
Skydrol	Good

Aqueous Solutions

Conc. Bleach	Excellent
Salt.Urea	Excellent
Salt Sugar	Excellent

"Good" indicates that **VARAFLOOR HD** is suitable for areas of occasional spillage where they are washed away and not allowed to stand. The above are results of laboratory controlled tests and expected to be typical in practice.

INSTRUCTION FOR USE

Surface Preparation : It is essential that **VARAFLOOR HD** is applied to sound, clean and dry surface in order that maximum bond strength is achieved between substrate and the flooring system.

New concrete floors : Should at least 21 days old (at 20° C). Laitance deposits on new concrete floors are best removed by light grit-blasting, or mechanical scabbling. On smaller areas acid etching using **VARACLEAN** may be considered. Afterwards the floor should be thoroughly washed with clean water and allowed to dry.

Old concrete floors : Floors should be prepared by scabbling or grit blasting particularly where heavy contamination by oil and grease has occurred or existing coatings are present. If contamination has been absorbed into the concrete they should be removed by chemical degreaser or further mechanical methods.

All dust and debris should be removed prior to laying **VARAFLOOR HD**.

Steel surfaces : Should be degreased and grit-blasted to SA2½ (BS 4232 second quality) immediately prior to application.

Priming : All surfaces to be treated with **VARAFLOOR HD** should be primed with **VARAPRIME EP 10** Add the entire contents of the primer hardener can to the primer base can and mix thoroughly. Once mixed immediately apply the primer in a thin continuous film to the clean prepared surfaces. Work the primer into the surface using a stiff brush, avoid over application and puddling. On porous floors the **VARAPRIME EP 10** will be absorbed very quickly leaving characteristic light coloured dry patches. It is recommended that a second priming coat is applied. This not only helps to ensure adhesion but prevents air release from the porous substrate which may cause bubbles in the final applied screed.

Mixing : It is important that **VARAFLOOR HD** is mixed correctly. Use a suitable forced action mixer such as Mixal Cretangle or similar. A free fall mortar mixer is not suitable. The entire contents of the hardener can should then be poured into the base container and mixed thoroughly until homogeneous. Place the aggregate in the mixer. Add the mixed base and hardener slowly. Continue mechanical mixing for a further 2-3 minutes, until all the components are thoroughly blended. Once mixed, the material must be used within the specified pot life (see under "Properties").

Application : Spread the mixed **VARAFLOOR HD** to uniform thickness on the primed surface. When it is tacky (see properties for maximum overlay time). Tamp the material with a wooden float to ensure complete compaction and finally finish to a closed

even texture using a steel trowel. **Solvent/Organics** rods are used to maintain a minimum compacted thickness of 5 mm. The material must be applied within the pot life after mixing. After this time unused material should be discarded.

Expansion Joints : Expansion joints in the existing substrate should be continued through the **VARAFLOOR HD** topping and filled to the required level with suitable sealant.

Coving : **VARAFLOOR HD** can be used to form coving round the walls upto height of 250 mm. It can also be used to form stair nosings.

Sealing : **VARAFLOOR HD** is impervious but in constantly wet operation areas, or where a high degree of cleanliness is required be sealed with **VARAFLOOR HP**. The **VARAFLOOR HD** must be at least 3 days old and high spots such as trowel marks rubbed down.

Cleaning : All tools and equipment should be cleaned immediately with **VARASOLVE EP**

PACKAGING AND COVERAGE

VARAPRIME EP 30 pack size 1 kg.

Approximate coverage rate 5 - 8m²

VARAFLOOR HD pack size 33 kgs.

Approximate coverage rate 3.0m² at 5mm thickness.

The above coverage rates are given for guidance only as actual quantities used will vary on nature of substrate and conditions on site.

Storage : **VARAPRIME EP 30** and **VARAFLOOR HD** have a shelf life of 12 months if stored in a dry place under 35° C.

HEALTH AND SAFETY

VARAFLOOR HD should not come in contact with skin and eyes or be swallowed. Avoid prolonged inhalation of solvent vapours. Some people are sensitive to epoxy resins, hardeners and solvents. Gloves, goggles and barrier cream should be used. Ensure adequate ventilation and if working in enclosed areas, suitable breathing apparatus is recommended.

If resin comes in contact with skin, it must be removed before it hardens, with a resin removing cream, followed by washing with soap and water. **DO NOT** use solvent. Chemical Degreaser should be washed from skin immediately with soap and water. Should accidental eye contamination occur with any of the above products, wash well with plenty of clean water and seek medical advice. If swallowed, seek medical attention immediately - **DO NOT INDUCE VOMITING.**

Flash Point : **VARASOLVE EP** -33° C.