PENTENS PU FLOOR-HD

Heavy Duty Polyurethane Flooring

Product Data Sheet

Description

PENTENS PU FLOOR-HD is a pigmented four-component polyurethane flooring material designed to provide excellent durability and resistance against thermal shock, abrasion, impact and chemical attack. It provides a matt and textured surface with good anti-skid characteristics for a safe working environment.

Uses

PENTENS PU Floor-HD has been designed for areas subject to heavy traffic, hot water and corrosive chemicals.

- Engineering workshops
- Assembly plants
- Chemical plants
- Food and pharmaceutical factories
- Heavy duty industries
- Fish markets
- Breweries
- Canning plants
- Dairy plants

Advantages

- Hygienic - will not support bacterial growth.
- High impact and thermal shock resistant.
- Seamless - prevents ingress of chemicals into the substrate and bacterial growth.
- High temperature resistance.
- Good chemical resistance.
- Heavy duty - suitable for vehicular traffic.
- Non-skid - prevents accidents in wet areas.
- Easy maintenance-facilitate house-keeping work and helps to lower maintenance costs.
- Color variety - available in a wide range of colors to suit individual needs.

Technical & Physical Data

Solids	100%
No. of Components	4
Recommended Thickness	9 to 12mm
Theoretical Coverage	2.50 kg/m²/per mm
Pot Life	10 minutes @ 30°C
Drying Time	Initial cure - 1 hour Foot traffic - 6 hours Full cure - 24 hours
Compressive Strength	>50 N/mm²
Flexural Strength	18 N/mm²
Tensile Strength	10 N/mm²
Hardness (Shore D)	75
Elongation	2.9%
Water Absorption	0%
Abrasion Resistance (Taber)	0.039g/1000cycle
Application Temperature	5°C to 45°C

Chemical Resistance

Acids	Very good
Alkalis	Excellent
Solvents	Very good
Salts	Excellent
Water	Excellent

Services Temperature

9mm	-15°C to 130°C
12mm	-40°C to 150°C

Packaging

PENTENS PU Floor-HD is 32kg per set.
Part-A is supplied in 3kg pail.
Part-B is supplied in 3kg pail.
Part-C is supplied in 14kg bag.
Part-D is supplied in 12kg bag.

Storage

The material should be stored in dry and cool rooms for up to 12 months. Protect the material against moisture and direct sunlight. Storage temperature: 5°C to 30°C. Products should remain in their original, unopened containers, bearing the manufacturer's name, product designation, batch number and application precaution labels.

Instruction for Use

Surface Preparation

Concrete surface should be clean and free from oil, grease and other contaminants. New concrete shall be allowed to cure for at least 28 days before applying primer. Preparation by captive blasting or diamond grinding will provide ideal surface for application of topping.

The preferred method of surface preparation is vacuum shot-blasting with angle grinding being used for edges, corners and inaccessible areas. Other methods such as scrabbling, milling, grinding or grit blasting can be used but are generally less satisfactory. Acid-etching is not satisfactory.

In the case of tiles, all traces of glaze must be removed and substrate should have a tensile strength of at least 1.5KN/mm^2. Suitable substrates are concrete, polymer-modified concrete screeds. Heavily contaminated substrates, especially for those that contain chemical residues are best removed as decontamination may be impossible.

Any significant high spots remaining after shot-blasting should be removed by grinding. Any holes or excessive roughness should be filled with epoxy mortar. Any cracks which may be subject to further movement should be opened out, cross cut, doweled with threaded rods and filled with epoxy resin.

If PENTENS PU FLOOR HD is applied on free edges, for example, around the perimeter, along channels or expansion joints, at doorways and around machinery plinths and columns, extra anchorage must be provided to help distribute mechanical and thermal stresses arising from shrinkage and temperature changes.

Primer

Application of PENTENS PU-01 polyurethane primer will enhance the adhesion of the screed materials to the concrete slab.

Mixing

Stir Part-A thoroughly, then pour Part-B into Part-A container and mix till homogeneous. Pour into a mortar mixer and add in Part-C and Part-D gradually while stirring. Continue until a uniform mixture is achieved.

Application

Pour the mixture of components A, B, C and D onto the hardened primed surface and spread evenly with steel trowel.

The wearing layer must not be applied if the air temperature is below 5°C or above 45°C or if it is expected to reach those levels within 1 hour of being exposed. The same consideration applies if the substrate temperature is within 3°C of the dew point.

The wearing layer PENTENS PU Floor-HD is a pigmented, solvent-free system based on a 4-component polyurethane resin. The exact mixing ratio of resins to fillers must be adhered to.

PENTENS PU Floor-HD should be applied once the primer or scratch coat starts to harden but before it is completely cured. It usually takes 12-14 hours for a primer or 8-12 hours for a scratch coat to cure completely.

Once the 4-component PU mix is homogeneous and reache 18°C, pour it onto the primer or scratch coat and spread using a trowel or rake with appropriate depth gauges. The mixture should then be treated with a spiked roller to assist flow and release any entrapped air. The material consumption should be 2.5kg/m^2/mm.

At 20°C, the working life will take about 15 minutes. Care must be taken to ensure that the material does not harden to prevent leaving any unsightly joint lines.

Healthy & Safety

Keep away from fire sources. Do not smoke. Sufficient ventilation is recommended, otherwise wear respiratory equipment. Gloves and goggles is a must. If the material comes into contact with the eyes, rinse immediately with plenty of water and seek medical advice. Hands and tools must be cleaned before polymerization with solvent or cleanser.