PENTENS ID FLOORSHIELD

Internal Car Park Floor Systems

Product Data Sheet

Description

PENTENS ID FLOORSHIELD system is a flexible polyurethane car park deck coating system which provides slip-resistant, chemical-resistant and abrasion-resistant floor finish. It is a specially designed system based on selected solvent-free polyurethane resins and curing agent, with graded aggregates to withstand chemical attack and abrasion. Selected special grade aggregates provide a textured finish to facilitate skid resistance that can be adjusted to suit your requirement.

Uses

- Parking structures
- Interior vehicular decks
- Pedestrian walkways

Advantages

- Environmentally friendly.
- Available in a wide range of colors.
- Reduces noise.
- Abrasion-resistant.
- Solvent-free (low VOC content).
- Fire resistance.
- Slip resistance.
- Resistant to cracking.
- Excellent bond strength.
- Chemical resistance.
- Optional 100% UV stable sealer.

System Specifications

i). Standard FLOORSHIELD System- FLOORSHIELD ID SFS

Ideal for parking lots, walkways, light traffic areas

- FLOORSHIELD SF
- FLOORSHIELD Oxide (30/60's mesh)
- FLOORSHIELD UV or UV matte

ii). Medium FLOORSHIELD System- FLOORSHIELD ID MFS

Ideal for vehicular driveways

- FLOORSHIELD SF
- FLOORSHIELD Oxide (20/40's mesh)
- FLOORSHIELD UV or UV matte

iii). Extra Heavy FLOORSHIELD System- FLOORSHIELD ID EHFS

Ideal for car park ramps and extra heavy traffic zones

- FLOORSHIELD SF
- FLOORSHIELD Oxide (16/30's mesh)
- FLOORSHIELD UV or UV matte

Technical & Physical Data

The figures that follow are typical properties achieved in laboratory tests at 20°C and 50% Relative Humidity.

Flexural Strength (N/mm²), (ASTM C580)	50
Water Vapor Barrier Permeance	0.12g/24hus/m² mmhg@ 32°C and 50% RH
Fire Resistance Part 3 (BS476)	Designated EXT.FF.AA
Temperature Resistance	Not over 70°C, hardens at any temperature
Hardness (Shore D)	68
Water Permeability	Nil-Karston test (impermeable)
Chemical Resistance (10% HCOOH, 60°C, 24hrs)	No changes on the surface of the sample
Slip Resistance	TRRL pendulum slip test dry 92 wet 46
Abrasion Resistance (per kg load using H-22 wheels)	Taber Abrader: 30mg loss after 1000 cycles of abrasion
Tensile / Elongation N/mm² / % (BS2782)	1 day 5.2 / 50.5 7 days 7.13 / 40.6 28 days 7.15 / 30.7
Tear Strength	MOAT 27 Method 5.4.1 Test result=192N
Bonding Strength (pull-out-strength) ASTM D4541	3.5N/mm² Failure in concrete

System Performance Guide

Fire Safety	4
Slip Resistance	4
Heavy Traffic	4
Impermeability	5
Cleanability	5
Wear Resistance	4
Chemical Resistance	4

5-Excellent, 4-Very Good, 3-Good, 2-Fair, 1-Poor

Range of PENTENS FLOORSHIELD Oxide mesh

30/60's	20/40's	16/30's
Fine	Medium	Rough

Instruction for Use

Surface preparation

All surfaces to be treated must be structurally sound and all previous coatings, adhesives, efflorescence or laitance should be removed by chipping, abrasive blast cleaning, high pressure water washing, mechanical scrubbing or other suitable means. All surfaces must be clean, free from dirt, grease, oil or other surface contaminants.

Any holes or excessive roughness should be filled with epoxy mortar (PENTENS E-502 filled with FloorShield Oxide). Any cracks which may be subject to further movement should be opened, cross-cut, doweled with threaded rods and filled with epoxy resin.

Application

Mix the two components of PENTENS FLOORSHIELD SF using an electrical mixer at a maximum speed of 400 rpm. Firstly, the resin Component A is mixed to eliminate any separation and then the hardener Component B is added into Component A. Mix for at least 2 minutes.

The mixed primer is then poured onto the prepared substrates and spread using a steel trowel or rubber spreader. Once the primer has been spread, roll using a short pile roller. This ensure more even coverage. Material consumption is 0.2kg/m².

Apply a layer of PENTENS FLOORSHIELD Oxide resin to the primer surface using a short pile roller. Dry FLOORSHIELD Oxide is then evenly scattered on the wet base coat so that the surface is fully blinded. This should give the surface a rough sandy appearance and takes 600-1000 g/m² of quartz. After about 12-15 hours, excess Oxide is removed by brushing and vacuum cleaning.

PENTENS FLOORSHIELD UV is a pigmented, solvent-free two-component epoxy resin. The exact mixing ratio of resin to hardener must be adhered to. The two components of PENTENS FLOORSHIELD UV are mixed using a forced-action pan mixer. Firstly, the resin Component A is mixed to eliminate any separation and then the hardener Component B is added into Component A. Mix for at least 2 minutes. Once the mix is homogenous, apply two coats onto the Oxide layer using roller. The material consumption should be 0.3-0.8kg/m²/ 2coats. Allow 6 to 8 hours of curing time between each coat.

At 20°C, the working life is about 20 minutes. Care must be taken to ensure that the material does not begin to harden while it is being worked, thus leaving unsightly joint lines. PENTENS FLOORSHIELD UV should be applied by batch. This will minimise the incident of colour shading which can result from the tiniest difference in colour (especially with light colours).

Actual coverage depends on specification. To ensure a fit for your project, please refer to PENTENS Technical Advisors.

Curing Period

	10°C	20°C	30°C
Light Traffic	30 hrs	16 hrs	10 hrs
Full Traffic	36 hrs	24 hrs	16 hrs
Full Chemical Care	12 days	7 days	5 days

Cleaning and Maintenance

Clean regularly using a single or double headed rotary scrubber dryer in conjunction with a mildly alkaline detergent.

Important Note

Keep away from fire sources. Do not smoke. Sufficient ventilation is recommended, otherwise wear respiratory equipment. Gloves and goggles must be worn to protect hands and eyes. In case of contact with eyes, rinse with plenty of water and consult a physician. Hand and tools must be cleaned with solvent or cleanser before polymerization.

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