

PAVILITIUM

LIQUID CORTICAL STRENGTHENER BASED ON SILICATES WITH DENSIFYING ACTION FOR CONCRETE INDUSTRIAL FLOORING



DRACO

FLOORING

LINE

PROTECTIVE AND
CONSOLIDATING
BREATHABLE TREATMENT



PAVILITIUM is a non-film forming consolidating liquid in aqueous solution based on lithium silicate. **PAVILITIUM** penetrates the cortical layer of concrete to depths between approx. 10 mm to over 30 mm producing a crystallization reaction. The nano molecular silicates present in **PAVILITIUM** react with the calcium hydroxide (free lime) present in the concrete creating a crystal lattice that densifies, consolidates and increases the mechanical strength of the cortical layer of the concrete industrial flooring. This reaction of penetration, cross-linking and crystallization of the alkali in the cementitious matrix produces an increase of the surface mechanical strength of the industrial flooring both in terms of abrasion and compression. It also improves chemical resistance, reduces absorbency, and ensures a dust proof surface.

BENEFITS

- ✓ **PAVILITIUM is non film-forming solution based on nano-modified lithium silicate. It exhibits high penetration and is suitable for consolidating and protecting concrete surfaces such as industrial flooring and ramps with the following features**
- ✓ **Highly densifying action that increases the surface strength of the concrete:** PAVILITIUM penetrates the cortical layer of the flooring and reacts with the free lime to form a permanent lattice that increases the compressive strength as well as the abrasion and impact resistance of the concrete surface.
- ✓ **It reduces absorption by the surface:** the densifying and consolidating action of PAVILITIUM saturates the pores of the concrete, thus reducing its absorption and hence enhancing the chemical resistance of the flooring.
- ✓ **Non film-forming treatment that creates an attractive "polished" finish:** the use of PAVILITIUM in the treatment of concrete industrial flooring and RC surfaces in general provides a highly attractive finish giving the surface a polished appearance.
- ✓ **Prevents the occurrence of efflorescence:** the consolidating action of PAVILITIUM on the surface of the concrete flooring protects it from the formation of unattractive salt bloom from free lime efflorescence.
- ✓ **It increases the resistance of the flooring to freeze thaw cycles and weathering:** the greater mechanical strength and reduced surface absorbency of industrial flooring treated with PAVILITIUM confers high resistance to freeze thaw cycles and de-icing salts.
- ✓ **It is effective to create a dust free surface:** the penetration and crystallization of PAVILITIUM ensures a dust free flooring with no "film" effect, thus making it easier to clean.
- ✓ **It protects the flooring from the alkali - aggregate reaction:** the special nano- modified lithium silicates present in PAVILITIUM effectively prevent alkali - aggregate reactions thus protecting the flooring from bloom.



USES

PAVILITIUM is ideal for the non film-forming treatment of concrete surfaces such as:

- ✓ Consolidating and protective treatments for dust free concrete industrial flooring and ramps both inside and outside.
- ✓ Consolidating treatments that both polish and protect concrete floors to enhance cleanability and durability even when deteriorated.
- ✓ Densifying, protective polishing treatment for smoothed concrete floors with a "Venetian Terrazzo" effect.
- ✓ Consolidation and protection of concrete surfaces, RC and pre-stressed RC in general.
- ✓ Sealing of concrete pores for floor protection.

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APPLICATION PROCEDURE

PAVILITIUM may be applied 2-3 days after the concrete has been poured. The surface must be sound, clean, dry and free from dust and film-forming agents of any kind. **PAVILITIUM** shall be applied in one or two (criss-crossed) coats on small areas of 10/15 m² at a time.

Distribute **PAVILITIUM** on the surface directly from the container or with a low pressure pump (max 5 bar) and lay it evenly over the area to be treated with a rubber water squeegee. Leave it act for about 10/15 minutes and then rub in a circular motion using a felt sponge (on large surfaces it is best to use round felts pads applied on floor-cleaning machines or single-brush scrubbers); exert a continuous friction for at least 30 minutes. The surface must be kept constantly "wet" with **PAVILITIUM** in order to allow the solution to penetrate the cortical layer. Avoid the formation of wet and dry areas ensuring a uniform wetting condition. When the product starts to dry and friction becomes difficult, add more product up to about 300 g/m²; carry on the operation by adding water while continuing to rub uniformly, then rinse thoroughly and wash the floor. Within 12 hours after the last coat, rinse the floor and remove any excess product using a scrubber dryer or other suitable systems.

RECOMMENDATIONS AND WARNINGS

Temperatures

- ▶ Do not apply below 5 ° C. Protect from frost.
- ▶ Avoid application during the hottest hours during the summer and / or in the presence of strong wind.

Glass and aluminium

- ▶ Protect glass and aluminium surfaces.

Floor signage

- ▶ Any signs on the floor must be removed by sanding.

Bleeding

- ▶ Bleeding, when water seeps from the cast, creates an accumulation of alkali on the surface causing an immediate reaction thus rendering the treatment ineffective. This problem can be avoided by applying **PAVILITIUM** before there is any bleeding.

Contraction joints: Precautions

- ▶ When applying **PAVILITIUM** after cutting the contraction joints it is necessary to thoroughly remove any cement dust produced while cutting, before applying the product. The dust produced while cutting must on no account mix in with the **PAVILITIUM** product.

Excess product

- ▶ Pooling and excess product, particularly on interior quartz dusted flooring, can lead to the formation of vitreous white spots. We therefore recommend that you always rinse the surface at the end of treatment and within 6-12 hours of the last application.

Setting and curing times

- ▶ Thanks to the fast penetration of this product, you can walk over the surface treated with **PAVILITIUM** within a few hours of application. Complete cure inside the concrete requires 36 days. Cement-based coatings can be applied immediately after **PAVILITIUM**, once rinsing has been performed. The application of other coatings (resin, wood, etc.) should be carried out after 36 days.

Dusted industrial flooring

- ▶ We recommend the use of high-quality polymer-modified hardeners such as our **QUARZPLATE** and **CORINPLATE** products.

PACKAGING AND STORAGE

PAVILITIUM is available in:

- 10 kg and 20 kg canisters.

If kept in its original packaging and properly stored under cover in a dry place at a temperature not below +10°C the product maintains its characteristics for a year.



PRODUCT FEATURES

APPEARANCE AND COLOUR	Clear liquid
DENSITY	1,05 g/cm ³
pH	11
DRY MATTER CONTENT A 105°C - UNI EN 480-8	20%
CHLORIDE CONTENT - UNI EN 1015-17 (≤ 0.05%)	< 0,05% by weight
VISCOSITY - UNI EN ISO 3219	40,0 mPa*s
REDUCTION IN WATER ABSORPTION BY CAPILLARY SUCTION - EN 13057	2,5 kg/m ² ·h ^{0.5} (non treated) 1,1 kg/m ² ·h ^{0.5} (treated with 0,4 kg/m ² of PAVILITIUM)
TEMPERATURE OF USE	from 5 to + 40°C
CONSUMPTION (*)	floors with quartz approx. 150 - 250 g/m ² floors with no quartz approx. 250 - 400 g/m ²
MINIMUM WAITING TIME FOR PRODUCT PENETRATION AT 20°C - 65% RH	30 min
PACKAGING	10 kg canister 20 kg canister
SHELF LIFE	12 months

(*) Depending on the temperature and absorbency level of the substrate

PERFORMANCE OBTAINED ON SUPPORT TREATED WITH PAVILITIUM

Characteristics	Non treated support	Support treated with PAVILITIUM
Material loss with Taber abrasion (abrading wheel H22/ 500 g, 100 rotations (mg) - EN ISO 5470-1	55	30
Capillary absorption (kg/m ² ·h 0.5) - EN 13057	2,4	1,2

The technical data shown above are obtained with a dosage of 350 g/m²

CERTIFICATION - EN 1504 -2

PRODUCTS AND SYSTEMS FOR THE PROTECTION AND REPAIR OF CONCRETE STRUCTURES

Characteristics	Test method	Product performance
Abrasion resistance	EN ISO 5470-1	> 30%
Capillary absorption and water permeability	EN 1062-3	$w < 0,1 \text{ kg/m}^2 \times \text{h}^{0,5}$
Chemical resistance (absorbent medium)	EN 2812-1	no defect
Chemical resistance (severe attack)	EN 13529	no defect
Thermal compatibility	EN 13687-1	>1,5 N/mm ²
Resistance to impact	EN ISO 6272-1	Class III: > 20 Nm
Direct pull-off adhesion	EN 1542	> 1,5 N/mm ²
Reaction to fire	EN 13501-1	euroclass A1
Rubbing resistance	EN 13036-4	N/A
Penetration depth	-	> 10 mm
Hazardous substances	-	assenti

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