

FloArm Top HPU 3

(Formerly known as MYK INDUFLOOR PUMF 300 (I))

3 - 4 mm Heavy Duty Polyurethane Floor Topping.
(HD PUR Technology with High Resistance to Aggressive Chemicals.)



TECHNICAL DATA SHEET

Product Description

FloArm Top HPU 3 provides a smooth protective polyurethane resin floor finish combining outstanding wearing properties with high chemical resistance and having a matt finish. It is ideally suited in aggressive areas where a seamless, joint free finish is required and maximum cleanliness is essential. It is dense and impervious providing the ideal floor finish for applications in food processing, pharmaceutical and manufacturing industries including clean room, laboratory, packing areas, laboratories and warehouse applications and wherever a robust long lived floor is required.

Uses

FloArm Top HPU 3 is recommended for floor conditions requiring the maximum chemical resistance and where a smooth, even and easy to clean surface is required. Specific applications include:

- Chemical plants
- Dairy, Food and beverage production
- Electronic component manufacture & assembly
- Agrochemical and Oil industry
- Confectionery production
- Textile and film plants
- Pharmaceutical production
- Warehousing and storage

Features and Benefits

- Hard wearing - extremely durable and abrasion resistant with low maintenance costs
- Resistant to a wide range of chemicals and liquids
- Seamless – easily cleaned to maintain high standards of hygiene
- Low VOC
- Food Grade

Application Method

System of Application

- 1, Groove Cutting.
- 2, Surface Preparation.
- 3, Primer Application.
- 4, FloArm Top HPU 3 application.
- 5, sealing coat of FloArm Coat PUD clear - matt or glossy (optional)

This is a specialised application and an authorized applicator should be consulted prior to laying.

Preparation of Grooves (Chases):

Cut grooves with cutting machine at the floor approx. 6 Cm distance from the wall, Also make the grooves to in following grids pattern for large area for every 3m by 3m square. Also make the grooves in floor around all columns and all machines area. Grooves should be as thick as the floor thickness and twice the depth. Clean the prepared grooves with air gun and remove all loose particles, dust etc . Before application of primer FloArm Primer 1260 . Also please note that the grooves depth should be two times(double) than your product application thickness (topping).

Grooves preparation before the primer application is mandatory. Consult MYK arment technical cell for guide on groves design in your floor area.

Surface Preparation:

The concrete substrate must be sound and of sufficient compressive strength (minimum 20 N/mm²) with a minimum pull off strength of 1.5 N/mm² for a durable and lasting flooring. The substrate must be level, clean, dry and free of all contaminants such as dirt, oil, grease etc. The concrete or screed substrate must be hard, sound and free of dust and other barrier materials such as paint, lime coatings, plaster, curing agents, laitance, adhesive residues etc.that will inhibit adhesion to the substrate.

All previous floor coating if any must be mechanically removed to the maximum extent possible. It is acceptable to re-lay on floor coating that has a firm bond (pull out strength of 1.5 N/mm²)

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As with all surface coatings, proper surface preparation is vital to ensure the successful application and performance of FloArm Primer. The preferred method of preparation is vacuum shot blasting. Other methods, such as air impact hammer(sabblers)-provided that the substrate is not damaged, concrete surface planer, grit blasting, wire brush scarifier, surface grinder, drum sander and flame speller, can be satisfactory.

Chemical methods, such as acid etching, are not reliable and not recommended.

Dust and other debris should be removed using vacuum equipment.

NOTE: Any joints or cracks in the concrete base where differential movement is anticipated e.g. movement joints, should be brought through to the finished surface and suitably sealed.

New concrete slabs must be allowed to cure for at least 14 days.

The concrete or screed substrate has to be primed or leveled in order to achieve an even surface. High spots must be removed by e.g. grinding. Ensure moisture content of the concrete surface is below 4% - No rising moisture according to ASTM D 4263 (Polyethylene sheet) and above dew point.

Steel Plates:

Steel decking must be cleaned, sound and properly supported to prevent flexing. Deck Plate of less than 6mm thick is not recommended. Surface should be shot blasted to SA2.5 and primed using FloArm Primer 1260 Solvent Free Epoxy Primer.

Priming:

The concrete surface after proper and thorough surface preparation has to be primed with FloArm Primer 1260 (where heat resistance is required) or HPU scratch coat can be applied on prepared concrete surface. Care to be taken during filling of groove.

FloArm Primer 1260 as primer :

The primer is a solvent free epoxy resin system. It is designed for better adhesion with the substrate and the flooring system. The primer should be mixed in the given proportions supplied. The entire contents of the hardener should be poured into the base and should be mixed using a low speed drill machine with an attachment for about 3 minutes @ (150-200 RPM) to get a homogeneous mix. Once mixed, the primer should be applied immediately on to the prepared concrete surface. After priming, the surface has to be kept for drying - approximately 12-16 hrs depending on the ambient temperature before proceeding to lay FloArm Top HPU 3.



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Application of FloArm Primer 1260 as primer :

Do not apply to damp substrates. Do not apply when atmospheric condensation is occurring or likely to occur before full cure is obtained, i.e. when the substrate temperature is within 3°C of the dew-point. Pour the mixed material into an industrial paint tray and apply by roller taking care to avoid pounding. Apply the material around the edges of areas and into grooves. One or more coats of primer may be required depending upon the condition and porosity of the concrete substrate. Light broadcasting with silica quartz sand (0.5 - 0.7 mm) @ 100 gms per m² is advisable on the wet primer to assist bonding.

Note:

If 1 kg or more of mixed material is left in the mixing container for more than 10 minutes it will react strongly giving off considerable heat. This should be avoided but if it does occur then the container should be placed outside until reaction is complete.

Mixing and Application of topping System:

Application FloArm Top HPU 3 to be preferably done ideally during low or artificially controlled temperature.

Pre weigh Base and colorant will mix with special design mixer (slow speed Planetary double rotary) mixer first for 2 minutes till the pigment disperse properly then add entire qty of hardener in to it and again mix it for 30 seconds. Then add entire qty of filler component and mix it for two to three minutes till the homogeneous mass is obtained. After Mixing immediately spread it on the 1 day old primed concrete floor. And finish it with spike roller. As the pot life of the product is only 10 to 12 minutes only, Do not re-roll later. The work area should be protected during the installation process and during the initial curing time to ensure that no airborne debris can contaminate the surface of the wet resin as this will lead to unwanted blemishes in the hardened, cured surface.

Ensure that the covering of wet joints to be completed within the 10 minutes. Preferably select.

The product should ideally be stored in an air-conditioned room a few hours before application.

The troweling span as small as so that we can cover the wet joints within the surface drying. Application (spreading and spike roller application) needs to be done very fast once mixing is over.

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All movement joints in the sub-floor must be carried through the topping and properly sealed. Construction joints and cracks not subject to movement may be overlaid but should the floor move in any way, these defects will reflect through the system. Isolation joints will need to be allowed for in areas where high thermal movement is anticipated ,e.g. around ovens and freezers.

Curing:

Normally FloArm Top HPU 3 floors can be put into service after 48 hours air curing at 30°C temp.

LIMITATIONS:

FloArm Top HPU 3 should only be applied at temperatures above 5°C and where the atmospheric relative humidity (RH) is 90% or below. Floors should have a RH of 75% or less. For floors with an RH of more than 75%, the entire floor area should be treated with FloArm Primer 1250 applied and seeded with Fine Aggregate, in accordance with the current product data sheet, in place of FloArm Primer 1260 Solvent Free Epoxy Primer. The substrate should have a surface tensile strength of at least 1.5 N/mm². FloArm Top HPU 3 and primer FloArm Primer 1250 may be applied to substrates of a lower strength, but long-term performance may be impaired. Once the mixed material has exceeded its pot life, the viscosity and the characteristics of the product will change and any unused product should be discarded at this time.

CLEANING:

FloArm Top HPU 3 can be removed from tools and equipment by using FloArm Primer PU immediately after use. Any hardened material will need to be removed mechanically.

Specification:

The floor finish shall be FloArm Top HPU 3 installed at 3 -4mm in accordance with the manufacturers instructions.

Substrate Quality:

Concrete substrates should be cured concrete with surface moisture of less than 5% (min 21 days old) and have a minimum compressive strength (minimum 20N/mm²) with a minimum pull off strength of 1.5 N/mm².

For rising dampness / damp floor, a moisture insensitive primer may be required.



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Technical Data

Samples cured for 28 days at 30 °C

1, Mixed Density , Kg/m ³	approx. 1.75
2, Pot life @ 23 °C	20 minutes
3, Compressive strength (IS9162 1979)	approx. 51 N/mm ² (BS6319)
4, Tensile strength (IS9162-1979)	Approx. 7N/mm ²
5, Flexural strength (IS9162-1979)	Approx. 18 N/mm ²
6, Adhesive pullout bond strength in N/mm ²	> 1.5 N/mm ² (concrete failure)
7, Taber abrasion resistance (1000 g, 1000cycles) (ASTM D4060) weight loss, mg	: CS17 wheel: 125 : H22 wheel 1500
8. Shore D Hardness	75
9. Slip resistance (under BS 8204: Part 2: 2002(9), wet and dry)	satisfactory
10 .Impact resistance (under BS 8204: Part 1: 1999)	satisfactory
11, Water absorption	0 ml
12, Surface spread of flame (BS 476: Part 7)	Class 2
13. foot traffic @ 30°C	after 36 hrs
14. light traffic @ 30°C	after 48 hrs
15. full traffic @ 30°C	after 60 hrs
16. full cure @30°C	after 7 days
17. Surface resistivity (DIN EN1081)	>1 giga ohms

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Chemical Resistance

FloArm Top HPU 3 is resistant to a wide range of liquids and chemicals, for specific information please refer to the following "Chemical Resistance" chart.

Reagent	Concentration in%	PUMF
Ammonia, Aqueous	30	R
Potassium Hydroxide	25-50	R
Butanol		R
Castro oil		R
Citric acid	20	R
Hydrofluoric	3-4	R
Beer		R
Crude oil		L
Fats		R
Glycerine		R
Fatty Acids	100	R
Acetic acid	25	R
Aniline		R
Lactic acid	25	R
Methanol		L
Milk		R
Muriatic acid	36	R
Oleic acid		R
Phenol	5	L
Skydrol		R
Sulphuric acid	45	R
Urea	50	R
Hydrogen Peroxide	50	L
Sodium Carbonate	Saturated	R
Cottonseed Oil		R
Benzole-Alcohol Mix		R
R	Resistant	28 Days +
L	Limited Resistance	up to 7Days
N	Not Resistant	

Note: these results are based on immersion testing and MYK arment products may appear less resistant when compared with other manufactures surface swab test results.

Consumption

FloArm Top HPU 3:
3mm application :5.25 kg/m²

Cleaning & Hygiene:

Regular cleaning and maintenance will enhance the life and appearance of any floor. FloArm Top HPU 3 is readily cleaned with industry standard cleaning chemicals and equipment.

Color:

FloArm Top HPU 3 is available in six standard colours: Red, Yellow, Green, black, Olive Grey and Cream.

UV Resistance:

FloArm Top HPU 3 floor systems have been formulated to provide the very highest chemical and heat resistance. As a direct result some yellowing of the installed floor will occur in areas of direct UV exposure. This is most apparent in lighter colours.



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Packaging

- 20kgs pack (Base+Pigment paste + filler+hardener)

Storage and Shelf Life

In covered warehouse conditions, above 10°C and below 25°C and out of direct sunlight. Materials must be raised off the floor and kept dry. Application Conditions For best results materials, substrate and air temperature should be in the range 18 °C - 22°C. Whilst FloArm Top HPU 3 will cure out effectively over a wide range of temperatures the optimum appearance is most readily achieved under good site conditions .

Annotation

During mixing and application the following Precautions should be observed: ensure adequate ventilation and avoid contact of the material with the eyes nasal passages, mouth and unprotected skin. Avoid contact with the hands by wearing protective gloves and by using, if necessary, a suitable barrier cream. In case of contact with the eyes, rinse immediately with plenty of water and seek medical advice and after contact with the skin wash immediately with plenty of soap and water (do not use solvents). Prolonged contact with the skin should be avoided, especially where the user has an allergic reaction to resin-based materials .Always wear gloves and eye/face protection as necessary. Observe personal hygiene, particularly washing the hands after work has been completed or at any interruption whilst work is in progress. Care should be taken when removing gloves to avoid contaminating the insides. In case of accidents seek medical advice.

Health & Safety

For full information on Health and Safety matters regarding this product the relevant Health and Safety Data Sheet should be consulted. The following general comments apply to all products. As with all chemical products, care should be taken during use and storage to avoid contact with eyes, mouth, skin and foodstuffs,(which may also be tainted with vapour until the product is fully cured and dried). Treat splashes to eyes and skin immediately. If accidentally ingested, seek medical attention. Keep away from children and animals. Reseal containers after use.

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Product Categories Available



Legal Note

The information, and, in particular, the recommendations relating to the application and end-use of MYK Arment products, are given in good faith based on MYK Arment current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with MYK Arment's recommendations. In practice, the difference in materials, substrates and actual site conditions are such that no warranty in respect of merchant ability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the product's suitability for the intended application & purpose. MYK Arment reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local product data sheet for the product concerned, copies of which will be supplied on request.