

FloArm SL Conductive

(Formerly known as MYK INDUFLOOR- SL Conductive)

Epoxy resin based ESD flooring system
(Surface resistance $5 \times 10^4 - 1 \times 10^6$ Ohms)



TECHNICAL DATA SHEET

Product Description

FloArm SL Conductive system consists of blended epoxy resins, curing agents and graded inert aggregates. They are flow applied floor toppings for use at a thickness of 2mm. When laid FloArm SL Conductive system provides a seamless, smooth, light reflective surface.

FloArm SL Conductive systems have been designed for use in areas where a static Conductive or a static Dissipative floor is required as a measure to control static electricity. Moreover, they provide a dense, impervious, coloured and chemical resistant floor surface which is hygienic and easy to clean.

Uses

- Computer Rooms, Electronic Assembly Units, Magnetic
- Tape Production Units
- Semi-conductor Production of Integrated Circuits
- Lasers, Biotechnology, Antibiotic Productions, Medical devices
- Printers, weaving mills
- Hospitals (OT) Immuno-deficiency Therapy
- Optical Lenses Photographic Films, Lasers
- Genetic Engineering, Bio Technology clean rooms
- Pharma manufacturing - Clean rooms,
- Mobile assembly, packing area etc,

Features and Benefits

Static control: provides an effective passage of static electricity to earth

Hygienic: provides a dense, impervious seamless floor surface which is easily cleaned

Durable: good abrasion resistance

Aesthetical appearance: available in a wide range of colours to enhance the working environment

Chemical resistant: good resistance to a wide range of chemicals

Application Methodology

Substrate Quality:

All floors to receive FloArm SL Conductive topping should be protected by means of a damp proof membrane. The absence of such membranes could lead to the problem of osmosis/rising dampness where soluble salts have concentrated. The area to be treated must be:

- Dry, firm, sound and have a good grip
- Free from separating and adhesion inhibiting substances such as dust, laitance, grease, oil, rubber marks, paint residues and similar.
- protected from moisture ingress from the rear

Cementitious Surfaces Quality:

- Concrete quality: min. M20/25
- Age: min. 28 days
- Tensile adhesion strength: $> 1.5 \text{ N/mm}^2$
- Residual moisture: $< 4\%$ (carbide hygrometer method)
- Protected against moisture ingress from the rear

Step no 1: Surface preparation:

The floor levels are very critical especially in case of antistatic epoxy flooring as unevenness influences the film thickness and thus the conductivity of the system. High spots must be removed by chipping or grinding. In case of the basic floor undulations (it should not be more than 10mm when checked with a 4 mt metal/wooden bar), the conductivity results may show variation.

The floor Undulation should be repaired with suitable Non shrink cement based repair material/or Epoxy based repair system. Use suitable means to prepare the substrate dependent on its condition such as e.g. sweeping, vacuuming, brushing, scrubbing, sand blasting, high pressure water jetting or shot blasting. Level irregularities with a smoothing material in order to ensure an even thickness of the conductive finished coating. In addition the following minimum substrate requirements are to be fulfilled.

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Step no 2: Product Priming:

Prepared substrates to be treated with FloArm SL Conductive system should be primed with FloArm Primer EP. FloArm Primer EP should be mixed in the proportions supplied by adding the entire contents of hardener can to the base can. Once mixed the FloArm Primer EP, should be immediately applied in a thin, continuous film using stiff brushes or rollers. Over application and puddles should be avoided. Porous floors may require two coats of FloArm Primer EP. FloArm Primer EP should be allowed to become tack free (over night Air dry) prior to application of Copper tape and subsequent FloArm SL Conductive Undercoat. Copper tape Fixing: - Make a suitable pattern to lay the copper strips of Copper band in a 5/5 m grid.

	5X5	

Note: "we do not guarantee the performance of 3rd party products for e.g (copper tape) etc, the applicator/end user has to verify the suitability of the same."

Earthing connection:

Earthing connection (where needed) should be placed at appropriate locations in consultation with MYK Arment Technical cell. Copper tape needs to be connected with this earthing connection.

Joints:

All existing expansion or movement joints should be bridged with earthing connections in order to secure the conductivity of the floor.

Step no 3: Mixing undercoat:

Proper mixing of the undercoat components is essential. Both the base and hardener shall be mixed in a mixing vessel. Solvents should not be added. It is important that all components are intermixed thoroughly with a forced action mixer or with a heavy duty slow speed drilling machine attached with a mixing paddle so that no traces of the components remain unmixed.

Step no 4: Applying undercoat:

The mixed undercoat shall be applied with a roller or brush on the primer at a material consumption rate of 6 m²/kg for FloArm SL Conductive under coat. Care should be taken to avoid over application or puddles. The undercoat provides a Conductive system passage to earth so correct application and strict adherence to coverage rates are critical to the final electrical properties of the completed floor. Adequate ventilation and air movement are necessary for complete curing of undercoat. Thorough covering of earthing connections is essential. The Resistivity of the undercoat needs to be measured before applying the top coat (after overnight Air Dry). the surface resistance (FloArm SL Conductive undercoat) should be: approx. $3 \times 10^3 - 9 \times 10^3$ Ohm

Step no 5: Product Mixing Topcoat:

Proper mixing of the components is essential. Base, Hardener, filler and colour paste are supplied in a predetermined mixing ratio. The resin should be stirred well before mixing with the color paste. Detain the Colour paste component into Base component. Ensure that the Colour-paste drains completely from its container and mix for 30 Sec with low speed mechanical drill with paddle till homogeneous mass is obtained. Add the hardener into the Resin and mix with slow speed mechanical drill with a stirrer for 2 to 3 Minutes until homogeneous mass is obtained, finally add the filler component in to the mixed mass slowly under constant stirring. Mixing of the components is to be carried out with a suitable mixer at approx. 300 rpm (e.g. drill with paddle). It is also important to stir from the sides and bottom to ensure that the hardener is evenly dispersed. Stir until the mix is homogenous (free from striations); mixing time approx. 3 minutes. The minimum temperature during mixing should be +15° C. Do not use mixed material directly from the packaging. Decant the material into a clean container and mix thoroughly once again.

Step no 6: Applying Topcoat:

When mixed, FloArm SL Conductive Topcoat should be poured immediately on to the surface and spread @ 2mm with a steel trowel or a float. Immediately after application the surface should be firmly rolled in perpendicular directions with a nylon spiked roller to help release any entrapped air in the material and help to spread any slight trowel marks.

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Technical Data

Basis	Epoxy Resin, Pigmented
Mixed Density	Approx . 1.63 g/cc at +23°C
Application temperature	Min. +15°C, max. +35°C
Pot life (IS 9162)	Approx . 30 minutes at +23°C Approx. 35 minutes at +20°C Approx. 15 minutes at +30°C
Minimum cure temperature	+12° C
Relative humidity at the time of application	< 75%
Foot traffic (ASTM C 722)	24 hours at +30°C
Overcoat	16 hrs up a max of 24 hrs at +23°C
Fully cured (ASTM C 722)	7 days at +30°C
Compressive strength After 7 days at +30°C (IS 9162)	> 50 N/mm ²
Flexural strength After 7 days at +30°C (IS 9162)	> 25 N/mm ²
Tensile strength After 7 days at +30°C (IS 9162)	> 16 N/mm ²
Pull-of adhesion strength, after 7 days +30°C (ASTM D 4541-95)	> 1.5 N/mm ² , Concrete failure
Surface Resistivity (EN 1081- 1988)	$5 \times 10^4 - 1 \times 10^6$ Ohms

Chemical Resistance:

The cured FloArm SL Conductive floor toppings are resistant to petrol, oils and fats, detergents, some aliphatic hydrocarbons and diluted alkalis. For further information on chemical resistance, contact MYK Arment technical team.

Specification Clause:

The areas indicated shall be applied with an epoxy resin based static Conductive floor topping, certified by Central Power Research Institute (CPRI), which shall provide an effective charge dissipation to the earth when applied over concrete or steel substrates. When measured for surface resistance in accordance with BS 2050: 1978 (A-1984) and DIN EN 1081, the static Conductive topping including under coat shall be in the range of $5 \times 10^4 - 1 \times 10^6$ Ohms. The surface resistance of the Conductive undercoat shall be in the range of $3 \times 10^3 - 9 \times 10^3$ Ohms.

Flooring system:

Primer :- FloArm Primer EP
Levelling coat : FloArm ESF-1 (Optional)
Application of copper tape
Undercoat :- FloArm SL Conductive Undercoat
Topcoat :- FloArm SL Conductive topcoat

Consumption

Undercoat: FloArm SL Conductive under coat: 15 m²/ 2.5 kg pack

Topcoat: FloArm SL Conductive top coat: 4.6 m² /15.75 kg pack @ 2mm thickness

Primer: FloArm Primer EP: 20 m² / 5 kg pack

Packaging

- FloArm SL Conductive TOP COAT is available in 15.75 kg kit packing size. (Base, Hardener, filler and colour paste are delivered in a predetermined mixing ratio.)
- FloArm SL Conductive Undercoat is available in 2.5 kg pack (Base and hardener are delivered in a predetermined mixing ratio)
- Copper Tape – 16mtr Roll, width -25mm
- FloArm Primer EP (primer) - available in 5 kg pack (Base and hardener are delivered in a predetermined mixing ratio)

Storage and Shelf Life

12 months when stored dry and cool place under shaded area above +10° C and below 30 ° C in the original unopened packaging.

Maintenance:

The service life of a floor can be considerably extended by good housekeeping. Regular cleaning may be carried out using a rotary scrubbing machine with a water miscible cleaning agent at temperatures up to 50°C.

Limitations:

FloArm SL Conductive system should not be applied to asphalt, unmodified sand/cement screeds, PVC tiles or vinyl. For information on other substrates MYK Arment technical team shall be contacted. FloArm SL Conductive system should not be applied at temperatures below 15°C.

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Annotation

- Higher temperatures shorten the pot life. Lower temperatures increase the pot life and curing time. Material consumption is also increased at lower temperatures.
- Colour: Minor colour variations due to production plants and raw material fluctuations are unavoidable. This should be considered when applying coatings. Neighboring sections should be completed with the same production units (see batch number on the packaging). Also the black conductive fibres are visible on the top finish surface of cured FloArm SL Conductive top coat.
- The bond between the individual coats to one another can be heavily impeded through the influence of dampness or contamination between the applied coats.
- When longer waiting times occur between application of the coats or where surfaces already treated with liquid resin must be re-coated after a long time, the surface must be well cleaned and abraded, after which a new sealing coat should be applied free from pores. It is not sufficient simply to overcoat.
- Protect surface protective systems from moisture (e.g. rain, melt water) for approx. 4 - 6 hours after application. Dampness produces a white discoloration and/or stickiness on the surface and can impede the cure. Discoloured and/or sticky surfaces should be taken off e.g. by abrading and renewed. If the FloArm SL CONDUCTIVE system is to be over-coated then full conductive system to be followed. Conductive coating must firstly be abraded and furnished with the conductive under coat layer (with Copper band (strip)) as otherwise adequate conductivity values cannot be achieved.
- Applications that are not clearly explained in this technical data sheet may only be carried out after consultation with and written confirmation from the Technical Services Department of MYK Arment.
- Cured product residues can be disposed of under the waste disposal code 57123 "epoxy resin".

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.



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Product Categories Available

