MICROVERLAY® SYSTEM

Microcement

DESCRIPTION

Microverlay® System is a resin-cement system specially formulated for continuous decorative smoothing both for interiors and exteriors, on both new and existing substrates.
It is a two-component cementitious and polymer based system.
With only 3 mm of thickness and with the countless types of finish (cloudy, textured, uniform spatula, wood effect, acidified ...) it allows to renew floors and walls, transforming them into unique surfaces with a high aesthetic impact.

FIELD OF USE

Microverlay® System is suitable for various and innumerable fields of use, thanks to the four versions of the cement mixture of which it is composed:

- Microverlay® Base and Microverlay® Medium, characterized by coarser grain sizes, ideal for primers and flooring, to create non-slip surfaces even outdoors or to create surfaces with high resistance to pedestrian traffic.
- Microverlay® Finish, characterized by a fine grain, ideal for wall finishes and for creating special decorative effects.
- Microverlay® Base Stardust: created in dialogue with architects and designers, it allows you to create a decorative coating of great aesthetic impact, which can also be applied to floors, thanks to its extraordinary qualities of resistance - as well as to walls and furnishing accessories.

Depending on the substrate and the desired effect, various product combinations can be used (Microverlay® Base + Microverlay® Base; Microverlay® Base + Microverlay® Medium; Microverlay® Base + Microverlay® Finish; Microverlay® Base + Microverlay® Medium + Microverlay® Finish; Microverlay® Medium + Microverlay® Medium; Microverlay® Medium + Microverlay® Finish; Microverlay® Base Stardust + Microverlay® Finish).

Microverlay® System, by means of suitable primers, is also applicable on various types of substrates (tiles, concrete, wood, plastic, glass), both horizontal and vertical (flooring and cladding of civil homes, bathrooms, show rooms, shops, public places, external sidewalks, poolside ...), but it is also widely used in the coating of design objects (tables, chairs, furniture and other objects) and, thanks to its water repellency, in the coating of surfaces in contact with water (shower cubicles, sinks). Furthermore, Microverlay® System can be applied in all situations that require products with low environmental impact, as the various components are formulated on a water basis.

It should be noted that Microverlay® System is not suitable for vehicular traffic.
The surfaces in Microverlay® are handcrafted creations: small defects and non-uniformities must be understood and accepted and also understood as merits of unique works.

The products that make up Microverlay® cycle are formaldehyde free.

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Certified company UNI EN ISO 9001:2015
Rev. 07/12/2020

TECHNICAL AND PERFORMANCE FEATURES

Microverlay® product complies with UNI EN 13813: 2004 and UNI EN 15824: 2017.

Performance characteristic	*Test method*	*Product performance*
Compressive strength	UNI EN 13892-2:2005	C40
Flexural strength	UNI EN 13892-2:2005	F7
Wear resistance	UNI EN 13892-4:2005	AR4
Impact resistance	UNI EN ISO 6272-1:2003	5,9 N·m
Penetration resistance (Brinell)	UNI EN 1534:2011	0,74 N/mm²
Strength adhesion	UNI EN 13892-8:2004	B1,5
Permeability to water	UNI EN 1062-3:2008	$0{,}088 Kg/m2.\sqrt{h}$
Depth of water penetration	UNI EN 12390-8:2009	Absent
Permeability to water vapor	UNI EN ISO 7783:2012	1,12·10¯8 kg/m·h·Pa
Reaction to fire	UNI EN 13501-1:2009	$A2_{FL}$ - s_1
Thermal conductivity λ	ASTM E1530-11	0,58 [W/(m · K)]
VOC Emission	UNI EN ISO 16000-9:2006	A
Release of corrosive substances	-	NPD
Sound insulation	-	NPD
Sound absorption	-	NPD
Drift slip	UNI EN 13036-4:4:2011	PTV 37
Slip resistance - on Microverlay Base + Base system - on Microverlay Base + Medium system - on Microverlay Base + Finish system	DIN 51130:2014	 R13 R12 R9
Resistance to severe chemical attacks		
Swimming pool water: - hardness (UNI EN ISO 868 Shore D) after 28 days - alterations at the end of exposure - change in appearance after 30 days at 23±2°C	 UNI EN 13529 UNI EN 13529 UNI EN ISO 2812-1	 59 None None
Potassium hydroxide in an aqueous solution) (30g/Lt): - hardness (UNI EN ISO 868 Shore D) after 28 days - alterations at the end of exposure - change in appearance after 30 days at 23±2°C	 UNI EN 13529 UNI EN 13529 UNI EN ISO 2812-1	 58 None None
Ammonium chloride in aqueous solution (100 g/Lt): - hardness (UNI EN ISO 868 Shore D) after 28 days - alterations at the end of exposure - change in appearance after 30 days at 23±2°C	 UNI EN 13529 UNI EN 13529 UNI EN ISO 2812-1	 60 None None
Sodium hydroxide in aqueous solution (10%): - hardness (UNI EN ISO 868 Shore D) after 28 days - alterations at the end of exposure - change in appearance after 30 days at 23±2°C	 UNI EN 13529 UNI EN 13529 UNI EN ISO 2812-1	 59 None None
Hydrochloric acid in aqueous solution (3%): - hardness (UNI EN ISO 868 Shore D) after 28 days - alterations at the end of exposure - change in appearance after 30 days at 23±2°C	 UNI EN 13529 UNI EN 13529 UNI EN ISO 2812-1	 59 None None
Acetic acid in aqueous solution (5%) - hardness (UNI EN ISO 868 Shore D) after 28 days - alterations at the end of exposure - change in appearance after 30 days at 23±2°C	 UNI EN 13529 UNI EN 13529 UNI EN ISO 2812-1	 56 None None

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Octadecenoic acid (100%)		
- hardness (UNI EN ISO 868 Shore D) after 28 days	UNI EN 13529	54
- alterations at the end of exposure	UNI EN 13529	None
- change in appearance after 30 days at 23±2°C	UNI EN ISO 2812-1	None
Sodium hydroxide (20%)		
- hardness (UNI EN ISO 868 Shore D) after 28 days	UNI EN 13529	58
- alterations at the end of exposure	UNI EN 13529	None
- change in appearance after 30 days at 23±2°C	UNI EN ISO 2812-1	None

PREPARATION OF THE SUPPORT

- On already existing and mature concrete or sand-cement screeds, smooth and, if necessary, shot peening. Then treat the surface with Plam Apripori Isoplam® suitably diluted and rinse the surface.

- On new concrete or sand-cement substrates, take care to leave the surface rough and porous in order to allow better adhesion of the products of Microverlay® System. Let the surface cure for at least 28 days before applying the first coat of Microverlay® (Base or Medium).

- On existing ceramic surfaces (tiles), fill the joints and smooth. Apply two coats of Vapor Barrier, three-component epoxy (in which to drown the Fiberglass Mesh), and then proceed with the spreading of the first coat of Microverlay® (Base or Medium). Alternatively, apply two coats of Deco Primer Plus and then proceed with the application of the first coat of Microverlay®.

- On surfaces with different degrees of absorption, apply two coats of Vapor Barrier, three-component epoxy (in which to drown the Fiberglass Mesh), and then proceed with the spreading of the first coat of Microverlay® (Base or Medium). Alternatively, apply two coats of Deco Primer Plus and then proceed with the application of the first coat of Microverlay®.

- On surfaces with rising damp or on bathroom surfaces, spas and in humid environments apply two coats of Vapor Barrier, three-component epoxy (in which to drown the Fiberglass Mesh), and then proceed with the application of the first coat of Microverlay® (Base or Medium).

- For all other types of surfaces (wood, plastic, glass…) contact the Technical Department which will indicate the most suitable treatment to prepare the substrate (Deco Primer Finish, Plamfix 79 …).

In any case, repair parts that may be damaged and deteriorated by using Ipm Epoxy Kit. Any cracks, holes, shallow concavities, any splinters, joints and gaps must be previously filled. Remove all residues of dirt, oil, grease, paint, etc.
It is recommended to always carry out samples on site before carrying out the work.

DOSAGE AND CONSUMPTIONS

Mix 1 tank of Microverlay Liquid Polymer of 17 Lt with 2 buckets of the cement component (Microverlay® Base/Base Stardust/Medium or Microverlay® Finish).
Indicative consumption for single product application:

MICROVERLAY® BASE / BASE STARDUST / MEDIUM (per coat):
Liquid Polymer 0,425- 0,340 Lt/mq
Microverlay® Base/Base Stardust/Medium 1,25-1,00 Kg/mq
That is, the indicative dosage ratio of **base or medium with the polymer** is 3:1 (3 parts of powder+1 part of liquid)

Ex: 2 packs of Microverlay® Base/Base Stardust/Medium (2x25kg)+1 pack of Liquid Polymer (17Lt) = 40-50 sqm

It is recommended to apply at least 2 coats of Microverlay® Base/Base Stardust/Medium, in ord to obtain a surface with greater resistance performance.

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MICROVERLAY® FINISH (per coat):
Liquid Polymer 0,120-0,100 Lt/mq
Microverlay® Finish 0,250 -0,200 Kg/mq
That is, the indicative dosage ratio of **finish with the polymer** is 2:1 (2 parts of powder with 1 part of liquid)

Ex: 2 packs of Microverlay® Finish (2x17.5 kg) +1 pack of Liquid Polymer (17Lt) = 140 -170 m2

It is recommended to apply at least 1 coat of Microverlay® Finish, in order to obtain a surface wi greater aesthetic performance.

APPLICATION

The temperatures of use must be between 10°C and 30°C. Do not use in extreme temperatures or in strong wind conditions.
Microverlay Liquid Polymer must be stored in a cool place. The product must be mixed 3 minutes before use and must be stirred periodically during use.
During processing it is recommended to wear Shoe Covers to avoid dirtying the surface.
The overall final thickness must not exceed 3 mm.

Application of Microverlay® Base/Base Stardust/Medium.
Thoroughly mix Microverlay Liquid Polymer and then slowly add Microverlay® Base/Base Stardust/ Medium, mixing for a couple of minutes to remove lumps. Pay attention to this phase as any lumps (not carefully dissolved during mixing) that may arise during processing could cause streaks and unsightly effects.
Within 25-30 minutes (at an average temperature of about 20°C) apply the compound smoothing it evenly on the surface with Steel Trowel until a maximum thickness of 1.5 mm is obtained. Allow the surface to dry until you can walk on it.
It is recommended to apply at least two coats of Microverlay® Base/Base Stardust/Medium if resistance performance is required (for example on all treadable surfaces).
Between the various product applications it is recommended to wait 4 to 8 hours.
Sand between applications with sandpaper or with a sandpaper disc grit 36-60 for the Base (120 if Base Stardust), 120 for the Medium and vacuum the residues.

Application of Microverlay® Finish.
Thoroughly mix Microverlay Liquid Polymer and then slowly add Microverlay® Finish, mixing for a couple of minutes to remove lumps. Pay attention to this phase as any lumps (not carefully dissolved during mixing) that may arise during processing could cause streaks and unsightly effects.
Within 25-30 minutes (at an average temperature of about 20°C) apply the compound smoothing it evenly on the surface with steel or plastic trowel. It is important at this stage that the spatula blade is not damaged or dirty so as not to create unsightly scratches. Allow the surface to dry until you can walk on it.
If applied to the floor, it is recommended not to exceed the quantity of Microverlay® Finish and not to apply further coats: it must be applied smooth and then simply used as a filler. If applied to the wall, on the other hand, it can be given a second coat to obtain a smoother, cloudy effect or particular decorative effects.
Between the various product applications it is recommended to wait 4 to 8 hours.
Sand between applications with sandpaper or with 180-220 grit abrasive paper disc and vacuum up the residues.

The grits of the abrasive papers indicated may vary according to the degree of dryness of the substrate and according to the type of machinery/tool used for sanding.

Notes: Any joints already present must be carried over after the application of the products of Microverlay® System.
Do not enter the newly created surface with bare feet, nor lean on it with bare hands, nor place anything on it: in fact, the prints of hands, feet or objects could be highlighted. Do not dirty the surface in any way, nor drag it or drop objects of any kind on it.

COLORING

The cementitious mixtures of Microverlay® Base/Base Stardust/Medium/Finish Isoplam® are supplied in three standard colors: white, gray and light gray.

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It is possible to obtain other colors using Plam Color, a water-based dye specially formulated and containing pigments stable to UV rays. Plam Color must be carefully mixed with Isoplam® Microverlay Liquid Polymer before it is mixed with Microverlay® powders.
The tone and intensity of the final coloring will vary according to the quantity of Plam Color used, the color (white, gray or light gray) of the Microverlay® cement mixtures used and the protective agent used.

To obtain the coloring of the samples present in the Microverlay Color Folder, it is necessary to respect the dosage of 100 g of Plam Color per 1 Kg of Liquid Polymer and to follow the instructions given in each sample regarding the type of resin used.
To have even more intense colors, the dosage of Plam Color can be doubled (up to 200 gr for each Kg of Liquid Polymer).

It is recommended to color all the quantity of Microverlay Liquid Polymer necessary to carry out the work, before starting the mixing with the cementitious bases (Microverlay® Base/Base Stardust/Medium/Finish) in order to obtain a uniform color over the entire surface.
Plam Color is available in 25 colors as per Isoplam® Color Chart.

It is also possible to color the Microverlay® coating with Plam Acid Isoplam (previously diluted 1:1 with water) after the surface is completely dry and before the resin coating.

RESIN COATING

It is recommended to apply a protective resin after 4-5 days from the realization.
The type of product to be applied will be chosen based on the intended use of the surface and its location. Isoplam® has a wide range of products (Plam Sealing, Plam Pol, Plam Pol Water…) for the protection of Microverlay® surfaces. It is recommended to always contact the Technical Department to choose the most suitable product.
Once the resin is finished, it is recommended to apply a light layer of Plam Poly Wax Isoplam®, an opaque polyurethane wax.

MATURATION

The surface made of Microverlay® can be walked on at least after 24 hours.
Being a cement-based product, the package made with the Microverlay® System requires a curing time of about 28 days: therefore, be very careful, during this period, not to subject the surface to stresses that could ruin it.

CLEANING AND MAINTENANCE

Surfaces made of Microverlay® are intended as decorative surfaces and should be treated as such.
Particular attention must be paid above all to creations on floors and those that could come into contact with water, detergents or oils (shower cubicles, sinks, pool edges, kitchen tops…).
It is therefore recommended to immediately remove any products that may stain (drinks, oils, acids, personal hygiene detergents containing alcohol and for cleaning ...), to wash the surfaces with Wax Clean Isoplam® or with specific Wow Isoplam® detergent and never to use aggressive substances.
Periodically, a very thin layer of Isoplam® Plam Poly Wax can be applied.
It is recommended to put felt under the legs of chairs, tables and desks.
Consult the Cleaning and Maintenance Manual which can be downloaded from the Isoplam website.

PACKAGING

Microverlay® Base, Microverlay® Medium and Microverlay® Base Stardust are packaged in sealed plastic buckets of kg. 25.
Microverlay® Finish is supplied in sealed plastic buckets of 17.5 Kg.
Microverlay Liquid Polymer is supplied in sealed plastic buckets with special 17 Lt or 5 Lt. dosing cap.

STORAGE AND SECURITY

Store in a cool, dry place at temperatures between 10°C and 30°C.
Keep containers tightly sealed.
The shelf life of Microverlay Liquid Polymer is at least 12 months and the shelf life of Microverlay® Base/ Base Stardust/Medium/Finish is 6 to 8 months, protected from humidity, and in the original sealed

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packaging. The packaging date is shown on the package (the batch number indicates, in sequence, year/ week/day).
Consult the safety data sheet of the products before using them.

IMPORTANT
The products of the Isoplam® Microverlay® System are formulated to be used as in the application indicated above. The addition of any other product to the system compromises the final result of the surface. All the information contained in this sheet is based on the best practical and laboratory experiences. It is the customer's responsibility to verify that the product is suitable for the intended use. The manufacturer declines all responsibility for the results of incorrect applications. It is always advisable to carry out tests on small surfaces before application. The data can be changed at any time. This sheet replaces and cancels the previous ones.
The products of the Isoplam® Microverlay® System are intended for professional use. Anyone who uses these products without being enabled does so at their own risk. Isoplam Srl periodically organizes courses for its customers who request them.

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