

# Syntech Epox Level

## Self-leveling two-component epoxy coating



Two-component coloured, high solids, self-levelling and/or multi-layer epoxy coating on concrete surfaces and cementitious substrates.

**CUSTOMS CODE:** 3907 3000

**COMPONENTS:** Two-components

**APPEARANCE:** Thick liquid + Thick liquid

**AVAILABLE COLORS:** RAL classic

**PACKAGING AND DIMENSIONS:** Can 10 kg [A] - Can 2.3 kg [B] - Kit: 1 Can 10 kg [A] + 1 Can 2.3 kg [B]

## FEATURES AND BENEFITS

- Excellent mechanical and abrasion resistance
- Wide range of colors available
- Uniform, glossy finish with possible non-slip finish
- Excellent mechanical and chemical resistance
- Excellent resistance to detergents and disinfectants.

## FIELDS OF APPLICATION

- Colored abrasion resistant coating
- Coating of floors subjected to intense traffic
- Coating of floors in laboratories, hospitals, sterile rooms and aseptic rooms
- Flooring of warehouses, shopping centres, museums, showrooms, storage and logistics areas
- Coating of floors of underground car parks, garages, hangars, automotive and aeronautical industries
- Coating of food industry floors
- Coating of floors in chemical and pharmaceutical industries

## ALLOWED SUPPORTS

Concrete - Floor screed - Resin coatings



# PREPARATION OF SUPPORTS

## Concrete

The surfaces to be coated must be stable, clean and free of substances that can affect the adhesion of the coating. As regards the characteristics of the support (maximum humidity, cohesion, resistance class, flatness, etc.) and the preparation of the surface that will host the resin system, we recommend the prescriptions reported in chapter 5 of the UNI 10966 regulation ("RESIN SYSTEMS FOR SURFACES HORIZONTAL AND VERTICAL - INSTRUCTIONS FOR DESIGN AND APPLICATION"). In any case, carefully clean and degrease the surfaces, removing dirt of any nature, paint residues or inconsistent parts. The concrete surfaces must be previously prepared by dry sanding with diamond tools, shot peening with closed cycle machines or closed cycle milling, depending on the degree of contamination of the support and the thickness of the final coating. Completely dedust the surfaces to be treated by vacuuming the dust. The humidity of the support must be  $\leq 3\%$ . Evaluate the most convenient type of mechanical preparation (sanding, shot peening, sandblasting, etc.). In the case of surface restoration, first use mortars and products from the FLOOR line or the REPAR line suitable for the purpose. Wait for the restoration mortar to dry before applying the resinous coating. The tensile strength of the support must not be less than  $1.5 \text{ N/mm}^2$ .

## Cracks and fissures

In the case of static cracks, for sealing use the GROUT CABLE structural grout or mortars from the FLOOR line, or epoxy products such as SYNTECH PRIMER EP-W or SYNTECH AS 21. The sealing of dynamic cracks or cracks larger than  $> 4\text{-}5 \text{ mm}$  must be evaluated on site. They can generally be grouted using elastomeric materials or worked as movement joints.

## Localized grouting and restoration

Any holes, deficiencies, repairs of portions of concrete can be carried out by applying our mortars from the FLOOR line or the REPAR line. Any small filling of holes and gaps can be carried out by applying SYNTECH AS 21 epoxy mortar.

## Resin coatings

The surfaces to be coated must be stable, clean and free of substances that can affect the adhesion of the coating such as dirt, grease, oil, etc. Sand the surfaces by mechanical sanding, with diamond discs and dust extraction. It is advisable to wash the surfaces and wait for complete drying before applying the finish.

## Primer on concrete and resin coatings

On the adequately prepared support, apply a coat of SYNTECH PRIMER EP-S consolidating epoxy primer as a gripping primer, using a brush or medium-haired roller. Pour the product by distributing it using a doctor blade or toothed spatula in a uniform and homogeneous way, taking care to achieve a constant thickness. Apply the primer to completely cover the surface in order to avoid subsequent formation of air bubbles coming from the substrate with consequent formation of small craters on the subsequent coating layer. To promote better adhesion of the epoxy coating, sow  $0.1\text{-}0.5$  Quartz on the surface of SYNTECH PRIMER EP-S while it is still fresh. Wait  $8\text{-}12$  hours, remove the excess quartz present on the surface, then apply the self-levelling coating.

On damp supports or those subject to capillary rising humidity, apply two or more coats of SYNTECH PAVIDAMP three-component epoxy primer as a primer.



## MODE OF USE

### Support humidity control

Before installing resin systems and coatings, always check the residual humidity content of the support. Check for the presence of residual humidity using the plastic sheet method according to the ASTM D 4263 standard: fix a heavy polyethylene sheet with a size of at least 45x45 cm to the support with adhesive tape. 24 hours after its installation, lift the sheet and check for signs of humidity. If testing with a carbide hygrometer, the moisture content of the substrate must be < 4% by weight. In case of residual humidity, apply two or more layers of SYNTECH PAVIDAMP three-component epoxy primer.

### Mixing

Thoroughly homogenize the individual components inside their container for at least 30 seconds by manual or mechanized stirring, taking care to use a clean tool free of potentially polluting substances. Combine the two components in the indicated mixing ratio. Add component B (hardener) to component A (base) and mix thoroughly until the product is completely homogenized. It is advisable to start mixing briefly with an electric drill at low speed and then intensify the stirring up to a maximum of 300-400 rpm. Avoid mixing times that are too long in order to limit the quantity of air incorporated into the product. Apply the product within its useful life. High temperatures significantly reduce the lifespan.

### Induction time

Before application, let the mixture obtained rest respecting the following induction times:

10°C: 20 minutes

20°C: 10 minutes

30°C: 5 minutes

### Self-leveling finish application (>2mm)

To create the self-levelling coating, add 20-30% by weight of QUARTZ 0.1-0.3 or QUARTZ 0.1-0.5 to the SYNTECH EPOX LEVEL emulsion just created, depending on the irregularity of the surface to be levelled. Mix thoroughly until you obtain a dough homogeneous and pour the product onto the floor, distributing it using a rake or toothed spatula in a uniform and homogeneous way, taking care to create a constant thickness and a continuous and coplanar surface. It is advisable to pass the bubble-breaking roller over the fresh product in order to eliminate any air bubbles created during the application phase of the self-levelling product. The correct action of the bubble-breaking roller allows for easy distribution of the product and avoids the formation of micro-holes which can jeopardize the uniformity and waterproofness of the coating.

### Application for multilayer system (< 2 mm)

To create the multilayer coating, add 50%-80% max by weight of QUARTZ 0.1-0.5 to the SYNTECH EPOX LEVEL emulsion just created. Mix carefully until a homogeneous mixture is obtained and pour the product onto the floor, distributing it using a doctor blade or notched spatula in a uniform and homogeneous manner, taking care to create a constant thickness of approximately 1 mm and a continuous and coplanar surface. On the still fresh surface, sow 0.1-0.5 QUARTZ. Wait 8-12 hours and remove the excess quartz present, then apply the next layer of self-levelling coating by adding 30-40% by weight of QUARTZ 0.1-0.5 to the SYNTECH EPOX LEVEL emulsion, taking care to create a constant thickness of approximately 0.5-0.6 mm and a continuous and coplanar surface. Wait 8-12 hours and apply the next layer of self-levelling coating by adding 20-30% by weight of QUARTZ 0.06-0.25 to the SYNTECH EPOX LEVEL emulsion. Mix carefully until a homogeneous mixture is obtained and pour the product onto the floor, distributing it using a smooth stainless steel or rubber spatula in a uniform and homogeneous way, smoothing it to zero and taking care to achieve a constant thickness of approximately 0.2-0.3 mm and a continuous and coplanar surface. It is advisable to pass the bubble-breaking roller over the fresh product at the end of each pass in order to eliminate any air bubbles created during the application phase of the self-levelling product. The correct action of the bubble-breaking roller allows for easy distribution of the product and avoids the formation of micro-holes which can jeopardize the uniformity and waterproofness of the coating.

### Painting

If you wish to paint the self-levelling coating to obtain a smooth and uniform finish, 12-24 hours after finishing the installation of the last layer of self-levelling coating, it is possible to apply a layer of colored epoxy finish in water dispersion, SYNTECH PAVICROM, diluted with a maximum of 15-20% of clean water using a short-haired roller in a homogeneous manner to avoid accumulations of material which could give rise to aesthetic defects. It is also possible to apply a layer of colored polyurethane finish SYNTECH PAVICROM PU or SYNTECH LAYER, if necessary suitably diluted with a short-haired roller. The application of the product must be carried out by crossing the passes and paying particular attention to the shots, regularly unloading the roller beyond the applied area in order to obtain a uniform film and eliminate any accumulations of product. To obtain a uniform finish it is recommended to always keep one side fresh during the painting phases. The application of different thicknesses, for example due to the overlapping of different rolls, can lead to a difference in the final gloss.

## APPLICATION METHODS



Pour out - Paint roller



## TOOL CLEANING

Syntech Diluente Epoxy



## KEY FEATURES

 Shelf-life: 12 months  
 Use wearing protective glasses

 Temperature of use: +10 / +35 °C  
 Use wearing protective gloves

## TECHNICAL SPECIFICATIONS

EN 12188  
Adhesion by direct traction on steel  $\geq$  **14 N/mm<sup>2</sup>**

EN ISO 2813  
Brilliance > **90 Gloss 60°**

EN ISO 6272-1 Class IR4  
Impact resistance >**4 Nm**

Working temperature **-20 / + 90 °C**

Dust-free time at 20°C **2 - 3 h**

Complete hardening at 20°C **7 day**

EN 13892-4  
Adhesion by direct traction  $\geq$  **4.5 N/mm<sup>2</sup>**

BCA EN 13892-4 CLASS AR 0,5  
Wear resistance **10  $\mu$ m**

EN 13501-1  
Reaction to fire **Class F**

Brookfield ASTM D 2196  
Viscosity **3.500  $\pm$  1000 mPas**

Touch hardening at 20°C **8 h**

Dir.2004/42/CE  
< **500 g/l**

## CONSUMPTION

### Self-leveling coating

SYNTECH EPOX LEVEL: 1 kg/m<sup>2</sup>

QUARTZ 0.1-0.5: 0.8 kg/m<sup>2</sup>

### Multilayer system

1st layer

SYNTECH EPOX LEVEL: 1 kg/m<sup>2</sup>

QUARTZ 0.1-0.5: 0.8 kg/m<sup>2</sup> + 2-3 kg/m<sup>2</sup> for waste sowing

2nd layer

SYNTECH EPOX LEVEL: 0.5 kg/m<sup>2</sup>

QUARTZ 0.1-0.5: 0.2 kg/m<sup>2</sup> + 2-3 kg/m<sup>2</sup> for waste sowing

### Finish

SYNTECH EPOX LEVEL: 0.3 kg/m<sup>2</sup>

QUARTZ 0.06-0.25: 0.05 kg/m<sup>2</sup>

## STORAGE AND CONSERVATION

Protect from freezing. Store the product in its original packing, in a fresh and dry environment, avoiding frost and direct sunlight. Protect from humidity.



## WARNINGS AND PRECAUTIONS

- Do not apply on inadequately prepared supports.
- Do not apply on dusty, weak, unstable and poorly cohesive supports.
- Do not apply on damp supports or surfaces subject to capillary rising humidity.
- Protect the product from water and atmospheric agents for the first 24 hours after its application.
- Respect the consumption and over-application times indicated.
- Make sure the primer coat is fully cured before applying the finish.
- Applications at different thicknesses could generate different degrees of finish.
- Use product coming from the same production batch to ensure color uniformity
- Use the entire quantity of components to avoid incorrect mixing ratios.
- Keep the mixed product away from heat sources.
- If using space heaters, use only electric ones. The use of hydrocarbon burners releases water vapor into the environment which could compromise the degree of finish of the product.
- In the case of overcoating in subsequent coats, observe the maximum overcoating time. Beyond the indicated time it will be necessary to mechanically sand the surface before applying the next layer.
- Do not dilute the product with water.
- The use of unsuitable thinners different from those indicated can create problems for the product both of an aesthetic nature (color change, sedimentation of the product, variation in the degree of gloss, formation of surface hazes) and in terms of technical performance. The use of incorrect thinners can also create problems during the application phase. Azichem srl therefore does not guarantee any product performance when its dilution is carried out with unsuitable products or products other than those indicated.

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