

Floor Systems / Polyurethane Floor Coatings

# POLAN® 590

## Polyurethane Flexible Self-Levelling Coating

### DESCRIPTION

**Polyurethane** based, double component, solvent-free, **flexible, self-levelling floor coating** material with mechanical strength.

### APPLICATION AREAS

- Indoor and outdoor
- Horizontal applications
- Hygienic places such as hospitals and laboratories
- Food and medicine industries
- Swimming and decorative pools
- Places exposed to heavy vehicle and pedestrian traffic, such as shopping malls, factories, ateliers, warehouses, cold storage rooms.

### TECHNICAL PROPERTIES

<b>Components</b>	A: Polyurethane resin, B: Hardener
<b>Color</b>	Standard RAL colors (Except metallic, phosphorous colors and colors beginning with 4000)
<b>Mixture Ratio</b>	A: 20 kg, B: 5 kg
<b>Mixture Density</b>	1.45 ± 0.05 kg/L (23°C TS EN ISO 2811-1)
<b>Compressive Strength</b>	35 - 45 N/mm <sup>2</sup> (DIN 53504 TS 1967) 7 days
<b>Flexural Strength</b>	10 - 18 N/mm <sup>2</sup> (DIN 52371 TS 985) 7 days
<b>Bond Strength by Pull-off</b>	> 2 N/mm <sup>2</sup> (EN 1504-2) 7 days
<b>Tensile Elongation</b>	> 60% (DIN 53504 TS 1967) 7 days
<b>Abrasion Resistance (Taber)</b>	< 60 mg, 1000 cycle (EN 1504-2)
<b>Impact Resistance</b>	Class III (EN 1504-2)
<b>Capillary Absorption and Water Permeability</b>	w < 0.1 kg/(m <sup>2</sup> · h <sup>0.5</sup> ) (EN 1062-3)
<b>Solid Content (Mixture)</b>	By weight 100%, by volume 100%
<b>Hardness (Shore D)</b>	80 ± 5 (ASTM D 2240, DIN 53505)
<b>Pot Life</b>	30 - 40 minutes (23°C, 200 g, DIN 16945)
<b>Application Temperature</b>	Between +10°C and +30°C
<b>Dirt Pick-up Time</b>	1 - 2 hours (23°C TS 4317)
<b>Dry to Touch Time</b>	5 - 7 hours (23°C TS 4317)
<b>Time to Use</b>	72 hours (23°C TS 4317)
<b>Top Coat Time</b>	No later than 24 hours from primer application (23°C TS 4317)
<b>Complete Curing Time</b>	7 days (23°C TS 4317)

### ADVANTAGES

- Can be safely used indoor as it does not contain solvent.
- Flexible, covers cracks on the surface.
- Gives better results in surfaces that are exposed to resonance.
- Forms a seamless and jointless surface, resistant to aging.
- Resistant to salt water, solutions with salts, bases, diluted weak acids, gasoline and mineral oils.
- Has high mechanical and abrasion resistance.
- Hygienic, suitable for sterilised environments, does not require maintenance.
- Easy to clean thanks to its smooth surface.

**CONSUMPTION**

1.45 kg/m<sup>2</sup> for 1 mm dry film thickness (Varies depending on the absorption and roughness of the surface, and the application method. Do not consume less than 0.7 kg/m<sup>2</sup>)

**PACKAGING**

Sets of 25 kg (A+B) tin cans

**APPLICATION****PREPARATION OF THE SURFACE**

- The surface must be free of weakly adhered parts, clear of materials that prevent bonding, such as dust, oil, tar, paint, silicone, curing materials, detergents and mold oils and be rough to improve adhesion. The surface must be dry and porous to increase adherence. Repair the surface with an appropriate **REPOX** repair mortar if necessary.
- If the application surface is concrete, it must be cured (28 days) and have a minimum compressive strength of 25 N/mm<sup>2</sup> and tensile strength of 1.5 N/mm<sup>2</sup>. The humidity of the floor concrete should be maximum 4% and the floor temperature should be at least 3°C above the condensation point.
- Prime the surface with **POLAN A** or one of the **REPOX** surface primers.

**MIXTURE**

POLAN 590 is packaged as two components in appropriate quantities. First mix each component in itself. Add 5 kg of component B (hardener) to 20 kg of component A (resin). Mix for 3-4 minutes until a homogeneous consistency is obtained with a drill with a 300 - 400 rpm mixer tip. Take the whole mixture into a clean container and mix again. If a part of the product is to be used, pay attention to the mixing rates.

**APPLICATION**

- Spread POLAN 590 to the surface with a trowel to adjust thickness.
- Remove air bubbles with a spiked roller 10 minutes later. Wear spiked shoes.
- Apply in a single coat, but in multi-coat applications for correction purposes, apply the second coat before the coat acceptance period. Otherwise, there is no chemical adhesion between the layers and there is a risk of peeling of the top layer. If the coat acceptance time has passed, the bottom layer should be roughened by mechanical methods.
- For a rough surface, sprinkle aggregate according to the desired roughness at a maximum rate of 15% close to the gelation time.
- POLAN 590 can be applied both indoor and outdoor, use **POLAN AF** or **POLAN AFM** as a topcoat to provide UV resistance.

**CAUTION**

- Avoid application at temperatures below +10°C and above +30°C.
- Use a suitable drill in mixing POLAN 590, never mix by hand or with a trowel.
- Do not add water, solvent, etc. to the mixture. Do not thin with thinner or similar materials.
- Bring the materials to the application area at least 24 hours before in order for them to adapt to the ambient conditions.
- Working and curing times of polyurethane based products depend on the ambient and floor temperature. As the viscosity increases at low temperatures, the amount of consumption also increases. The chemical reaction slows down, thus extending the pot life and working time. At high temperatures, the opposite is true.
- If heating is required in the application area, use only electrical, warm air blowing systems so that it does not affect the surface appearance.
- Protect from water, rain, dew, frost and snow until it is completely dry.
- Do not walk on for at least 24 hours after the application. Avoid water contact and condensation 48 hours.

- After the application is finished, clean the equipment only with cellulosic thinner. Hardened grout can only be removed mechanically.
- The opened package should be consumed within a maximum of 24 hours under appropriate storage conditions.

**SHELF LIFE**

Expires in 6 months. Store unopened packages in a cool, dry environment, protect from sun, between +15°C and +25°C. Protect against freezing.

**HEALTH AND SAFETY**

As with all chemical products, avoid contact with food, skin, eyes and mouth during use and storage. In case of contact, wash immediately with plenty of water and soap, and if swallowed, consult a doctor immediately. During application, wear work clothes, protective gloves, goggles and masks in accordance with occupational health and safety rules. Do not bring food and beverage into the application areas. Do not approach the storage and application areas with fire. Ventilate the area. Store out of reach of children.

\* The application instructions and technical values given for the products have been obtained in our tests in accordance with international standards and our experience, at 23 ± 2°C temperature and 50 ± 5% relative humidity. These values may vary depending on ambient conditions. High temperatures shorten the durations, low temperatures extend them. Before starting the application, whether the product is suitable for the application and purpose should be tested by the user. FIXA Construction Chemicals is not responsible for application errors that may occur if the product is used outside of its intended purpose or if the application conditions and recommendations mentioned above are not followed. This Technical Data Sheet is valid until the next revision is published. FIXA reserves the right to change the values specified in this Technical Data Sheet, provided that a new version is published. It is the user's responsibility to check the currency of the document. For more information, please contact our sales department.