Pidiguard 161 EP

Epoxy Polyurethane (EPU) protective coating for steel, metal and concrete.

Description

Pidiguard 161 EP is a high-performance Epoxy–Polyurethane hybrid protective coating designed for easy application and long-lasting corrosion protection on steel, metal and concrete surfaces.

Pidiguard 161 EP combines the strong rust protection of epoxy with the superior weather resistance and flexibility of polyurethane technology. The special nano-polymer reinforcement enhances the protective barrier, allowing effective corrosion protection even at lower film thickness compared to conventional epoxy coatings. This makes it especially suitable for brush application, helping users achieve reliable protection without specialized equipment.

Pidiguard 161 EP provides excellent resistance to sunlight, rain, humidity, and coastal environments. Unlike ordinary epoxy coatings, it maintains its color better under UV exposure. Its flexible film helps withstand expansion, contraction, and vibration of steel structures, reducing the risk of cracking and premature failure.

Areas of Application

- Anti-corrosion coating for steel, metal and concrete.
- Protective lining for ponds and wastewater treatment tanks.

Rate of Uses

***Theoretical consumption without allowance for loss.**

- 0.17 – 0.25 L/m² (for 2–3 coats), recommended at a total dry film thickness of 100–150 microns.
- 1 can set (1 L) covers approximately 3.3 - 5 m².
- 1 gallon set (3.785 L) covers approximately 12.5 - 19 m².
- 1 drum set (15 L) covers approximately 50 - 75 m².

Method of Application

1. **Surface Preparation**

Steel surfaces

- Surface must be clean and free from dirt, rust, grease, oil, and loose particles.
- New surfaces, as well as old steel, zinc, and aged galvanized surfaces, shall be prepared using power tools in accordance with ST2 standard.
- Old painted surfaces in good condition must be clean to remove dirt, grease, and salt contamination with water and surfactants.

Concrete surfaces

For New concrete:

- The concrete prior to laying plastic sheets to block moisture from underground.
- Then it should be left for curing concrete to solid and dry for about 3-4 weeks.
- Clean the surface free from dust, dirt, grease and most importantly, the surface is completely dry.

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For Old concrete:

- To remove the old paint film which loosely adhesion to as much as possible by scraping with a shovel or grinding machine to enhance adhesion.
- Then, clean the surface free from grease and oil with suitable solvent.
- Before primer coating should clean all surfaces free from dust, dirt, grease and most importantly, the surface is completely dry.
  (Check moisture content must be less than 14%).

2. Priming

Concrete Surface

- Apply **Dr. Fixit Denzi Block** as a primer for 1 coat to prevent rising moisture from the concrete floor. Allow it to dry for 1 - 2 hours before applying the next layer. (Coverage rate depends on the surface porosity.)

3. Mixing

- Mix Part A using a drill mixer at low speed (250-300 revolutions per minute) until a homogenous paste is obtained, prior to mixing with Part B.
- Pour Part B into the container containing Part A.
- Mix Part A and Part B using a drill mixer at low speed (250-300 revolutions per minute) for approximately 1-2 minutes**.**
- Allow the mixture to stand for 1 minute prior to application.

4. Application

- Apply the mixed **Pidiguard 161 EP** by brush (apply in the same direction) over the prepared surface as per approved method/procedure. A minimum of two coats is recommended.
- Allow 2–3 hours of drying time between coats, depending on job site weather conditions.
- Apply the second coat in a direction perpendicular to the first coat.
- Allow the product to fully cure for 7 days.

5. Cleaning

- Clean all tools and equipment with Traxtite Cleaning Fluid or AAA Thinner immediately after application.

Precautions and limitations

- If when opening Part A there is settling or skinning, use a drill mixer at low speed (250-300 rpm) mix until homogenous paste is form prior to apply Part B.
- Do not dilute with any thinners.
- Work in well-ventilated area.
- Apply in the recommend coverage rate for desirable dry film thickness.
- Protective gloves and safety goggles should be worn to avoid contact with skin and eyes during application.
- In case of contact with eyes, rinse immediately with clean water and seek medical attention.
- In case of skin contact, wipe off with a cloth soaked in acetone, then wash thoroughly with soap and clean water.
- Do not expose the containers to direct sunlight or mix the product under strong sunlight.

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Technical Information

Properties	Test Standards	Results
1.Appearance - Part A - Part B	-	 Viscous Liquid Clear Liquid
2.Colour - Part A - Part B	-	 Grey, White, Black, Red, Blue Clear
3.Mix Ratio by weight	-	4:1 (Part A: Part B)
4.Specific Gravity (After mixing) @25°C	ASTM D-3800 – 79	1.12 g/ml Mix Part A+ Part B by weight
5.Solid Content by volume (%)	ISO 3233	>60%
6.Viscosity (After mixing) @25°C	W-TP-001	425 Cps
7.Pot Life at 25 °C	-	8-10 hours
8.Drying Time @25±5°C, RH 50±20% - Surface Dry - Touch Dry - Hard Dry - Full Cured	ISO 9117-4:2012 (Method A)	 36 mins 1 hour 22 mins 2 hour 37 mins 7 days
9.Recoatable Time @40°C	ISO 16927:2014	4 hours
10.Pull Off Adhesion	ISO 4624	24 mPa
11.Prohibited substance -Lead -Mercury -Cadmium, hexavalent chromium and antimony	TIS 691-2547	 < 0.06 <0.05 <1.0
12.Salt spray test @1,440 hours	ASTM B117-19	Pass Specimen is normal, no blistering. No rust on the surface.
13.Impact Resistance	ASTM D2794-93	Paint film is not cracking and peeling at 1 kilogram · metres
14.Elongation at Break	ASTM D2370	20 %
15.Tensile Strength	ASTM D2370	3 MPa
16.Surface resistivity	-	$(7.21 \pm 0.31) \times 10^{13}$ Ω
17.Flashpoint	ASTM D 3278-20	2.0 °C
18.Water Quality (Drinking Water)	TIS 257- 2006	Pass

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Packaging

- Set consists of Part A + Part B
  - 1 L (Part A: 0.8 L, Part B: 0.2 L)
  - 3.785 L (Part A: 3.028 L, Part B: 0.757 L)
  - 15 L (Part A: 12 L, Part B: 3 L)

Storage

- Shelf life is 12 months from the date of manufacture when stored in unopened containers.
- Store in a cool, dry place away from direct sunlight.

Health and Safety Precautions

- Wear rubber gloves and safety goggles during application.
- In case of skin contact, wash thoroughly with soap and water.
- Keep out of reach of children.
- Do not smoke during application.
- Do not inhale vapors.

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