

TWO-COMPONENT EPOXY-POLIAMIDE PUTTY FOR UNDERWATER APPLICATION

GENERAL

The distinctive feature of this two-component EPOMASSA EP 171 is the possibility of underwater application on submerged substrates. The system ease of application and excellent protection are welcome features imparted to steel and concrete structures operating underwater or in waterlogged environments.

Also used as adhesive or sealant.

Zero shrinkage on curing.

APPLICATIONS

The EPOMASSA EP 171 is typically used on submerged concrete or steel structures in marine environments subject to galvanic corrosion associated with erosion and bacterial activity, as found in offshore platforms and zones of tidal variation.

Specific uses include offshore platforms, both above and below the water line, pipelines and underwater outfalls, piers, steel or concrete, water tanks, maintenance work in water transmission pipelines, etc.

The high resiliency and outstanding chemical resistance of the cured putty allow its use as adhesive and sealant in highly corrosive environments.

DESCRIPTION

The EPOMASSA EP 171 is available in two components that are mixed together in equal amounts prior to use:

The component A (yellow) contains the epoxy, the anticorrosion pigments, the fillers, the water barrier and other additives.

The component B (dark) contains the polyamide hardener, other pigments, fillers, plasticizer and part of the water barrier additive.

PACKAGING

EMBALAGEM	COMPONENTS	
	A	B
1 kg	500 g	500 g
10 kg	5 kg	5 kg
50 kg	25 kg	25 kg

STORAGE

The shelf life of the EPOMASSA EP-171 is 6 months when the original unopened containers are stored in dry areas at 25°C.

	COMPONENTS	
	A	B
Color	Yellow	Dark
Viscosity	Putty	Putty
Specific gravity	1.694	1.461
Solids	100%	100%
Shelf life	6 months	6 months

FEATURES OF THE MIXTURE TO 25°C A + B (1:1 BY WEIGHT)	
Specific gravity	1.57 g/cm ³
Pot Life	30 - 35 minutes
Hardening	
Tack-free time	2 hours
Cure time	24 hours
Cure shrinkage	Zero
Coverage	1.55 kg/m ² / mm

FEATURES OF THE CURED PRODUCT	
Color	Green
Hardness	Good
Flexibility	Good
Bonding to concrete, steel, galvanized metals, wood, painted surfaces	Good
Abrasion resistance	Good
Heat resistance	80°C (continuous)

INSTRUCTIONS FOR USE

SURFACE PREPARATION

Steel

y The surface of submerged marine steel structures should be mechanically cleaned of all marine life residues prior to being grit blasted. The grit blasting is done to a near white Sa 2 ½ condition in accordance with the standards SIS 05 5900-67, ISO 8501-1, or NACE 2. As an alternative, the steel substrate can be mechanically cleaned to a St 3 condition as specified in the SIS 05 5900-67.

y The EPOMASSA EP 171 is applied immediately following the blast cleaning, before the substrate develops any sign of rusting. The EPOMASSA EP 171 should not be applied on metal surfaces with indication of rusting.

Concrete

y All residues of marine life should be mechanically removed from the underwater concrete by hammering or brushing. Following that, the concrete surface is cleaned by either grit blasting or manual brushing. Non-submerged concrete structures that do not have marine life growth must be grit blasted or brush cleaned prior to receiving the EP 171.

MIXING THE TWO COMPONENTS

Equal weights of both components A and B are mixed together. Care should be taken not to mix large amounts of material at one time due to the short pot life (30 – 35 minutes) at room temperature. If necessary, the pot life can be increased by cooling the components A and B prior to mixing. The pot life is determined by the temperature of the material, not the temperature of the air or substrate. The two components A and B should be kneaded and mixed manually for two to three minutes until the mixture develops a uniform green color. To avoid material sticking to fingers, the operator should keep his hands wet during the mixing. The mixed material is too sticky and should be handled in polyethelene containers or polyethelene films.

The pot life of the two components mixed together is limited to 30 – 35 minutes.

APPLICATION

The mixed putty material is formed into a ball which is spread and squeezed by hand on the substrate to a thickness of 3 – 5 mm per coat. The final thickness is attained by multiple applications of 3 – 5 mm coats. Do not apply coats thicker than 5 mm, as they have a tendency to peel off and separate. The spreading should be done carefully to avoid the formation of wrinkles or voids.

On dry surfaces the material will not peel off and the coats can be applied thicker than 5 mm. However, to keep the material from sticking and to get a good smooth surface, the operator should keep his hands and tools wet during the application.

CLEANING

The tools and hands are cleaned with water or ethanol. Ethanol is particularly effective, provided the polymerization has not advanced too far.

SAFETY

HEALTH AND SAFETY AT WORK

Avoid all contact with skin or eye. The environment during the application should be well ventilated to reduce inhalation of vapors. Workers should wear adequate breathing apparatus in confined spaces. Open flames, welding operations and any other spark inducing activity are not permitted near the work area. Smoking should not be allowed.

Some people are sensitive to contact with resins, catalysts and solvents. To avoid discomfort all workers should wear gloves and goggles at all time when there is a possibility of spillage or any other contact with these products. The use of protective creams is encouraged as added protection. Over sensitive personnel showing any sign of discomfort should be removed from the work area.

Resin spillage / drippings on the skin can be removed with soap and water. In case of contact with the eye, wash thoroughly for 15 minutes with clean water and get medical help. Medical assistance is required in case of accidental ingestion. Do not induce vomiting.

ADDITIONAL INFORMATION

Oro produces and sells a large variety of products designed to protect steel or concrete substrates against corrosion. Our product line includes coatings and linings, special paints, and products used in surface treatment.

We also carry a complete line of auxiliary products like grouts, anchoring systems, carbon fibers and a complete system solution to the problem of the structural rehabilitation of steel or concrete structures.

Please call us for further information about our products, tutorial videos and technical brochures.



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