DRIZORO® Construction Products

MAXEPOX® W

HIGH MECHANICAL PERFORMANCE EPOXY-BASED MORTAR FOR CONSOLIDATION AND RESTORATION OF WOOD STRUCTURES

DESCRIPTION

MAXEPOX® W is a two-component solvent-free epoxy-based product, with medium viscosity and low reactivity, specially designed for restoration jobs in wood structures by filling forms and fixing of fiber-glass or metal reinforcement bars.
Proposed system consists of removing the damaged wood area, and replace it by a new composite material composed of reinforcement elements embedded by the epoxy mortar, thus the mechanical properties are recovered.

APPLICATION FIELDS

- Repair of damaged wood beams by replacing and bonding of plates, bars and wood pieces.
- Fixing and anchoring of fiber reinforcing bars in wood structures.
- Consolidation, section rise and rebuilt of damages in wood beam heads.
- Consolidation of woofs, slabs and vertical structures composed of wood.
- Restoration of mechanical performance in wood structures with high architectonical, historic or decorative values.

ADVANTAGES

- Its low modulus elasticity makes it specially compatible with wood structures.
- Very good adhesion on wood substrates.
- High mechanical strength and non-shrinkage. Withstands repeated loads and vibrations.
- Good chemical resistance against oils, greases, fuels, diluted acid and alkaly solutions.
- Waterproof product after hardening.
- Non-toxic, solvent-free and non-flammable. Suitable for use in poor ventilated areas.

APPLICATION INSTRUCTIONS

Surface preparation
Surface must be structurally sound and clean, free of dust, coatings, efflorescences, oil, gypsum or any foreign material that could affect to product adhesion. All loose and soft wood decay must be removed. Metal surfaces such as bolts or rebars, must be dry and thoroughly clean of dust or corrosion, and must be degreased.
For bonding ***MAXEPOX® W*** with concrete or stone, consult our technical note *Preparation of concrete surfaces for application of epoxy-based coatings*.

Mixing
MAXEPOX® FIX is supplied as a pre-weighed two-component set. The hardener, component B, is poured into the resin, component A. In order to ensure the proper reaction between both components, make sure that all of component B is added.
Mix mechanically using a slow speed drill until achieving a homogeneous product in colour and appearance. Small quantities of product can also be mixed by hand. Do not mix for prolonged period nor use high-speed mixer, which may heat the mixture or introduce air bubbles.
Pot life for a 1 kg set is about 60 minutes at 20 ºC. Verify pot-life conditions in the Technical Data.
If a ***MAXEPOX® -W*** epoxy-based mortar is required, add dry and clean silica aggregate with a continuous size from 0,2 to 0,4 mm to the mixture of A +B, and mix again until achieving a homogeneous mortar. According with the desired consistency, aggregate ratio

varies from ½ to 1/6, being 1/5 the most usual ratio for standard uses.

Application
Cut and remove the damaged wood area until a sound wood substrate with good mechanical properties. Attempt to remove decay down to solid wood. Drill the holes for the reinforced bars in the sound wood. Remove all loose wood fragments in holes and blow out dust.
Apply ***MAXEPOX®* -W** pure by brush as a primer on rebar surface before placing them in the holes, as well as on the areas of the wood to be bonded and repaired.
Once forms have been placed, pour on it the mixture epoxy-mortar with the help of a spatula or trowel. If reinforcing plates are used, open grooves in sound wood and then, fill the gap with ***MAXEPOX®* -W** after plates have been placed in those.
In case of using de-moulding formworks, these should be protected with PVC or polyethylene plastic sheets and de-moulding agents in order to avoid adhesion of the epoxy product on forms.

Application conditions
Do not apply if both ambient temperature and substrate temperature are below 10 ºC or if lower temperatures are expected during the next 24 hours. Do not apply on frozen or frosted surfaces. Do not apply if rain is expected within the 24 hours after placing.
Applications at temperatures higher than 30°C leads a lot of heat because of the fact a high reactivity, foaming and increasing the volume.

Curing
Before putting into service allow a total curing time of 5 days at temperatures from 10 to 20°C, or 3 days at temperatures from 20 to 30°C for a total hardening process. Applications carried out at lower temperatures or with poor ventilation will require longer drying and curing times.

Cleaning
Tools and equipments can be cleaned with ***MAXEPOX®* *SOLVENT*** immediately after use. Once the product hardens, it can only be removed by mechanical methods.

CONSUMPTION

A 5 kg set of pure ***MAXEPOX®* -W** fills a volume of about 4,54 litres, that is approximately 1,1 kg/m^2 and mm thickness of pure epoxy.
If a epoxy mortar is made, a 5 kg set of ***MAXEPOX®* -W** mixed with 25 kg of silica aggregate, fills a volume of about 15 litres, that is approximately 2,0 kg/m^2 and mm thickness of epoxy mortar.
This estimative consumption may vary depending on the roughness and surface conditions. A preliminary test on-site will determine the coverage exactly.

IMPORTANT INDICATIONS

- Do not add cements, solvents or any other non-specified compounds to ***MAXEPOX®* -W**.
- Keep the resin/hardener proportions recommended.
- Never use leftovers from previous mixes.
- For other uses not specified in this Technical Bulletin consult our Technical Department.

PACKAGING

MAXEPOX®* - W** is supplied in two-components pre-weighed sets of 5 kg (3,15 kg component A and 1,85 kg component B). Sets of 25 kg are supplied by special request. ***DRIZORO® can also supply epoxy-fiber reinforced bars of 1 m length and diameter from 3 to 15 mm.

STORAGE

Twelve months in its original unopened packaging, in a dry and covered place, with temperatures between 5 °C and 30 °C. Protect against direct sunlight and frost. Prolonged storage at low temperature produce the crystallisation of the product. Should this happen, in order to return the product to normal conditions it must be heated at moderate temperatures, while being regularly stirred.

SAFETY AND HEALTH
When mixing and applying ***MAXEPOX®* -W**, do not work without the protection of rubber gloves and safety goggles. In case of eye contact, rinse immediately with clean water but do not rub. In case of skin contact, wash with abundant water and soap. If irritation persists, consult medical assistance. If

ingested, seek immediate medical assistance. Do not induce vomiting.
For further information, Safety Data Sheet of ***MAXEPOX® -W*** is available by request.

Disposal of the product and its empty containers must be made by the final user, and according to official regulations.

TECHNICAL DATA

Product characteristics		
Appearance and colour A + B	Translucent liquid	
A:B component ratio (by weigh)	3,15 : 1,85	
Binder:aggregate ratio (by weigh)	1:2 to 1:6	
Application and curing conditions		
Application temperature (T)	10 - 30	
Pot life at 10/20/30 °C (h)	4-5 / 1 / ½	
Final curing time at 20 °C (days)	5	
Characteristics for the cured product	Pure epoxy	Epoxy/aggregate, 1/5
Apparent density (g/cm^3)	1,1	2,0
Elasticity modulus (kp/cm^2)	30.000	60.000
Compressive strength (kp/cm^2)	700	800
Flexural and strength (kp/cm^2)	300	350
Resistance to water	Excellent	
Resistance to chemical attack	Excellent	
Consumption		
Consumption, (kg/m^2·mm thickness)	1,1	2,0

GUARANTEE

The information contained in this leaflet is based on our experience and technical knowledge, obtained through laboratory testing and from bibliographic material. ***DRIZORO®, S.A.*** reserves the right to introduce changes without prior notice. Any use of this data beyond the purposes expressly specified in the leaflet will not be the Company's responsibility unless authorised by us. We shall not accept responsibility exceeding the value of the purchased product. The data shown on consumptions, measurement and yields are for guidance only and based on our experience. These data are subject to variation due to the specific atmospheric and jobsite conditions so reasonable variations from the data may be experienced. In order to know the real data, a test on the jobsite must be done, and it will be carried out under the client responsibility. We shall not accept responsibility exceeding the value of the purchased product. For any other doubt, consult our Technical Department. This version of bulletin replaces the previous one.

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