

Cempoxy – Ultra

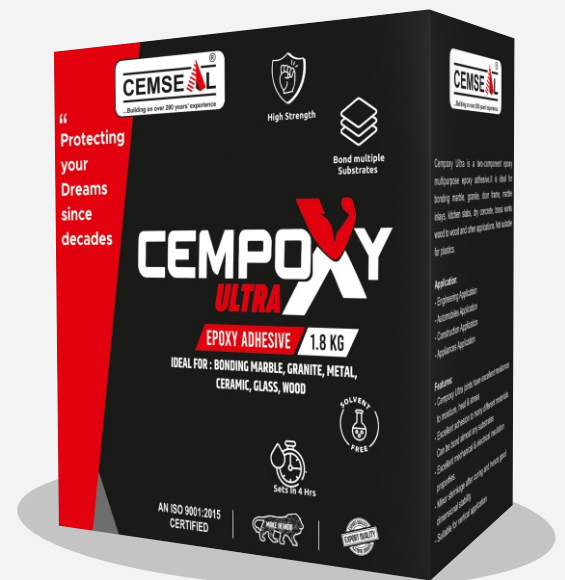
Multipurpose Epoxy Adhesive

DESCRIPTION

Cempoxy Ultra represents a two-component epoxy adhesive that offers exceptional bonding capabilities, capable of adhering anything from small components to large structural elements that doesn't have plastic/ polymer in it. This versatile system is composed of Epoxy resin and hardener, which must be thoroughly mixed in the recommended ratio to achieve the best results. Being a thermosetting system, Cempoxy Ultra involves the curing of the resin and hardener through polymerization to form a rigid thermoset mass. Although this mass may soften upon heating, it will not melt or flow. Notably, this adhesive does not contain any volatile substances like solvents or water, resulting in minimal shrinkage during the curing process. Thanks to its internally flexibilized composition, Cempoxy Ultra creates robust joints with excellent low creep properties, making it the ideal choice for various structural bonding applications.

Advantages

- FAST SETTING - Handling strength is achieved within 4 hours.
- High shear and peel strength
- Good electrical and thermal insulation properties
- Better pot life
- Water resistance
- Easy to apply
- Solvent free hence better mechanical & flexible strength to provide shock resistance
- Non-sagging nature helps in vertical applications
- Good solvent/Chemical resistance
- Better dimensional stability.
- Long lasting bond



Application

Cempoxy Ultra, a versatile structural adhesive, has found widespread use across numerous industries, making it an indispensable tool for engineers. Its applications span various sectors, including OEM, Wood Working Joinery, and Maintenance. This adhesive has demonstrated its value in countless scenarios, proving its effectiveness in areas like Wood Working, Automobile, Electronics, Electrical, Railway, Aeronautical, Construction, and various other engineering industries.

TECHNICAL INFORMATION

Specifics	Unit	Value
Mixing ratio	Weight/ Weight	100:80
Pot life @ 25° C	Minutes	35 to 45
Surface Dry of thin film @27° C	Minutes	60 to 90
Touch Dry of thin film	Minutes	150 to 180
Shear adhesion strength @ 28 days	Minutes	240 to 360
Adhesion Tensile Strength (MS-MS) at 35° C after 24 hours (tested at 30° C)	KG/ sq cm	> 160

Coverage

9 square meter per 1.8 KG on flat mating surfaces with 200 micron thickness.

CURING TIME versus TEMPERATURE

- Curing time depends on the weather temperature.
- Higher temperature results in faster curing.
- Care should be taken while subjecting the component to higher temperature

Surface Preperation

The strength and durability of a bonded joint rely significantly on the appropriate pre-treatment of the substrates to be bonded. As a minimum requirement, the surfaces to be joined should undergo thorough cleaning using an effective degreasing agent such as Acetone or Trichloroethylene. This step aims to eliminate all traces of oil, grease, rust, dust, and other contaminants from the surface. For achieving the best and most long-lasting joints, two effective methods are recommended: either mechanical abrading, like Sand Blasting, or chemical etching (pickling) of the degreased surfaces. If mechanical abrading is employed, it should be followed by a second degreasing treatment to ensure optimal results.

Mixing of Resin & Hardener

Resin & Hardener should be mixed thoroughly in volume 1:1 or in weight 100:80. The Resin and Hardener must be thoroughly mixed until they create a consistent and uniform blend.

Maintaining precise proportions during the mixing process is crucial to achieve the best possible results. Avoid using a high-speed mixer, as this could lead to a rapid temperature rise, negatively impacting the pot-life of the mixture. Instead, it is recommended to mix small quantities at a time, ensuring that the mixture can be used within the specified usable life. This approach will help ensure optimal performance and handling of the adhesive.

Application & Curing of Adhesive

Use a spatula to apply a thin layer of the mixture onto the pre-treated and dry surfaces that need to be joined. Once the adhesive has been applied, promptly position and align the components together, followed by clamping them. Maintaining even contact pressure throughout the clamping process is adequate to achieve a strong bond. Allow the bond to cure, which depends on the room temperature. Higher temperatures result in a faster curing process. Typically, at 30°C, the handling strength is achieved within 4 hours, and full cure will be attained in 18-24 hours.

SAFETY PRECAUTIONS

As with all chemical products, care should be taken during use and storage to avoid contact with eyes, mouth, skin and foodstuffs. Treat splashes to eyes and skin immediately. If accidentally ingested, seek immediate medical attention. Reseal containers after use.

TECHNICAL INFORMATION & SERVICES

Further information and advice including practical demonstration are freely available from the technical service department of Cemseal Industries Ltd.

Note

Prior to implementing our product in full-scale production, we strongly advise the customer to conduct their own tests to assess the product's suitability under their specific operating conditions. Please note that the circumstances related to the storage, handling, and usage of our product are beyond our control. Consequently, we cannot accept any responsibility for its usage by the customer.

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