Tardigrade ERAC 920

Two Component, Solvent Free, Epoxy Resin Based, Fluid Anchoring and Adhesive Mortar

Description of Product

Tardigrade ERAC 920, is a two component, solvent free, epoxy resin based, fluid consistency anchoring mortar and adhesive mortar.

Fields of Application

- Pinning of scrap iron in concrete and stone structures
- Binding the old and new concrete
- Stabilizing the machinery, rails and studs
- Bolt and pin assembly
- Bonding metal parts to concrete surfaces

Advantages

- Easy application
- Solvent free
- High bond strength
- Provides excellent adhesion between old and new concrete
- Increases the mechanical resistance of the surface it is applied
- Protects reinforcement bars against corrosion

Appearance

Part A (Epoxy Resin)	: Liquid - Gray
Part B (Epoxy Hardener)	: Liquid - Pale Yellow

Packaging

Part A	: 25,50 kg. net	- Part B	: 4,50 kg. net
Total Set	: 30 kg. net	- Total Set	: 32,55 kg. gross
Part A	: 5,10 kg. net	- Part B	: 0,90 kg. net
Total Set	: 6 kg. net	- Total Set	: 6,90 kg. gross

Storage

Store in original sealed containers in dry environment at temperatures between +10^{o}C and +30^{o}C. Palettes should not be placed on top of each other during long term storage.

Shelf Life

Minimum 12 months from date of production if stored in original unopened containers. Once opened, product should be consumed within one week as it is stored under appropriate storage conditions.

Chemical Structure

Part A : Epoxy Resin Part B: Epoxy Hardener

Technical Specifications

All technical values were calculated based on +23°C and 50% relative humidity. Temperature and humidity changes would change technical values.

Tardigrade ERAC 920 Technical Data

Density	Mixed Resin: 1,55 kg/liter (± %3)
Viscosity	Mixed: 3.000 – 8.000 mPa.s
Shore D Hardness	7 days: 80 - 90 (ASTM D2240-05)
Compressive Strength	28 days: > 90 N/mm² (ASTM D695-10)
Flexural Strength	7 days: > 40 N/mm² (ASTM D790)
Bond Strength	7 days : > 3 N/mm² (Concrete) (ASTM D7234)
Abrasion Strength	7 days : < 40 mg (CS 10/1000/1000) (ASTM D4060-14)
Duration of Use After Mixing	40-60 minutes
Total Curing Time	7 days

Preparation of Substrate

Concrete substrates must be sound and of sufficient compressive strength (minimum 25 N/mm²) with a minimum pull off strength of 2,0 N/mm². The residual moisture content of the substrate must not exceed 4%, the substrate temperature should remain a minimum of +8°C and the temperature of the substrate must be at least +3°C above the current dew point temperature.

The substrate must be clean, dry and free of all contaminants such as dirt, oil, grease, coatings and surface treatments, etc. Capillary pores where in the concrete surface should be filled. Oil-contaminated substrates must be pre-cleaned with an emulsifying cleaning detergent in accordance with the supplier's instructions. Then the surface is cleaned using high-pressure water jetting. Excess water is removed from the surface by wet and dry vacuum cleaner.

Cleaned surface must be scraped with a suitable method either grinding, shot blasting or sanding and the surface must be roughed. After the mechanical cleaning, the dust layer should be swept with the help of industrial vacuum cleaners. If in doubt of the surface, apply a test area first. Do not apply on wet or frozen surfaces and surfaces with high humidity.

Application Conditions

During the application, ambient temperature should be between +10°C and +30°C. Relative Air Humidity should not exceed 80% and the substrate temperature should be between +10°C and +30°C. The residual moisture content of the substrate must not exceed 4%. The substrate temperature shouldn't be less than +8°C must be at least +3°C above the current dew point temperature.

If needed, before applying Tardigrade ERAC 920, the substrates should be primed with appropriate Tardigrade materials.

Mixing

Make sure that the product temperatures are between +10°C and +30°C before starting the mixing procedure. Prior to mixing, stir part A and B with a mechanical drill and paddle at a very low speed. Add component B gradually into component A and mix till you reach a homogeneous consistency (Approximately 3 minutes). Pour the contents into a clean container and mix for another couple minutes. Please avoid mixing on high speed and do not add any solvent, etc. into the mixture during the application procedure.

Application Procedure

With the above mentioned ideal surface and weather conditions;

Avoid application under excessive wind and/or rain when the ambient temperature is below +10°C or above +30°C. When necessary, heaters and dryers should be used to measure the ambient humidity and substrate temperature and the workability of the product. A surface which does not have sufficient waterproofing should not be coated.

For adherence of old concrete to new concrete;

The prepared mixture is applied to the old concrete by brush or trowel. Depending on the ambient conditions during application, new concrete can be poured after a waiting period of 5 to 40 minutes.

For anchoring applications;

Oil, moisture and adherence reducing agents must be removed from the holes by using wire brush and compressed air. Tardigrade ERAC 920 should be filled into holes up to 2/3 of their depths by using mortar gun and iron should be placed in the hole by rotating clockwise. After that the mortar must overflow from the edges, otherwise, more mortar should be added in to the hole.

In vertical anchorage applications, at least 6 mm larger diameter drill bit than reinforcement should be used to open holes at desired depth. Holes should be cleaned appropriately and anchoring bars should be placed by rotating them clockwise.

For general purpose bonding applications;

Tardigrade ERAC 920 should be applied to each of the parts to be glued. Then the parts should be bonded to each other by pressing them. Do not move them until they are completely dry.

Mixed product should be applied in max. 30 minutes in about +23°C. Waiting time between coats should be minimum

10 hours in +23^{o}C and maximum 48 hours. If waited more than 48 hours, the surface should be grinded. The product would be completely cured in a minimum of 7 days to reach its maximum mechanical and chemical resistance. In case heating is needed, do not use gas, oil, paraffin or other fossil fuel heaters. Use only electric powered warm air blower system. Reaction times of resin based system change depend on ambient and substrate temperatures as well as relative humidity. Under lower temperatures reaction times are longer which increases pot life, coating interval and working time.

After application, the material should be protected from direct contact with water for a minimum of 24 hours. Within this period, contact with water can cause a surface carbonation and/or surface tackiness, both of which must be removed. In such cases, overall coating should be removed from the floor and renewed. Epoxy and polyurethane flooring systems, should be performed by expert contractors and applicators.

Cleaning of Tools

Clean all tools and application equipment with thinner immediately after use. Hardened/cured material can only be mechanically removed.

Coverage

The consumption of Tardigrade ERAC 920 A + B vary depending on the mixture, anchorage and mounting adhesive level. **Coverage increases as the viscosity gets higher.*

Health and Safety Information

The following protective measures should be taken as per Occupational Health and Safety (OHS) regulations when working with the material. Safety gloves, goggles and protective clothing should be worn. Due to irritation effects of the uncured material, components should not come in contact with the skin, mouth or eyes. In cases of contact the affected area should be washed with plenty of water and soap. If swallowed, seek medical attention immediately. Do not drink or eat at the application site. Keep out of reach of children. For detailed information please refer to the safety information form (safety data sheet).

Product Liability

Tardigrade Construction Chemicals Inc. is just responsible for the quality of the Tardigrade labelled products. All the data referred herein are gathered as a result of practical and scientific studies. Tardigrade cannot be legally obligated or responsible for any damage unless correct product is used accurately in suitable areas and under right conditions.

Legal Notes

All the information and references herein regarding Tardigrade labelled products are provided in good faith, if kept and interfered in accordance with normal conditions, recommendations, and with knowledge and experience. Along with products, areas of use and surfaces can cause many differences. It is necessary to make sure that the right products with Tardigrade trademark are applied on suitable surfaces under normal conditions. Moreover, all the above given information and instructions regarding technical compatibility with commercial factors must be strictly followed. The manufacturer cannot be held responsible for any damage or problems that may arise if not followed. The applicator / user is obliged to carry out the relevant checks to ensure about these details. The specifications of the Tardigrade branded products may be changed if necessary. The property rights of third parties must be observed. All the technical requirements for sale and shipping are valid when the order is approved.