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## Tardigrade ECAS 290

Two Component, Solvent Free, Epoxy Based, Self Leveling Antistatic Top Coating

### Description of Product

Tardigrade ECAS 290 is a solvent free, two component, self leveling and antistatic epoxy based coating material.

### Fields of Application

- On concrete and cement based mineral surfaces
- On automotive, pharmaceuticals, chemistry, electrical, electronics and similar markets manufacturing and storage areas
- In plane hangars and warehouses where flammable and explosive materials are stored
- In electrical equipment manufacturing facilities, server rooms, automation rooms, factories, surgery rooms and printing houses

### Advantages

- Antistatic properties
- Highly resistant to mechanical loads and chemicals
- Solvent free
- Conductive
- Excellent penetration and adhesion ability
- Liquid proof
- Semi-gloss surface

### Appearance

Mix (Part A +Part B): Ral Colors suitable for anti-static

\*Differences in color may occur under the influence of direct sunlight. This does not affect the physical and chemical resistance of the coatings.

### Packaging

Part A : 20 kg. net - Part B : 5 kg. net  
Total Set : 25 kg. net - Total Set : 27,55 kg. gross

Part A : 4 kg. net - Part B : 1 kg. net  
Total Set : 5 kg. net - Total Set : 5,90 kg. gross

### Storage

Store in original sealed containers in dry environment at temperatures between +10°C and +30°C. Do not put excessive loads on top of the products, which would damage the packaging.

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### 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 ECAS 290 Technical Data

Density	Mixed Resin: 1,35 kg/liter ( $\pm$ %3)
Viscosity	Mixed Resin: 1.000-2.000 mPa.s
Shore D Hardness	7 days: 75-85 (ASTM D2240-05)
Compressive Strength	28 days: > 90 N/mm <sup>2</sup> (ASTM D695-10)
Flexural Strength	7 days: > 40 N/mm <sup>2</sup> (ASTM D790)
Bond Strength	7 days : > 3 N/mm <sup>2</sup> (Concrete) (ASTM D7234)
Abrasion Strength	7 days: < 25 mg (CS 10/1000/1000) (ASTM D4060-14)
Electrostatic Behavior	$10^4 \leq R_g \leq 10^6 \Omega$ (IEC 61340-4-1)
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/mm<sup>2</sup>) with a minimum pull off strength of 2,0 N/mm<sup>2</sup>. 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.

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### 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. Substrate humidity should be maximum 4%. Substrate temperature must be at least +3°C above the current dew point temperature. The surface should be primed with the appropriate Tardigrade primer.

### 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 separately 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.

Before application, a reference area should be coated according to desired conductivity values. The surface primer should not be blunted with sand. After the mixing procedure, Tardigrade ECAS 290 is poured, spread evenly by means of a serrated trowel. After spreading the material evenly, turn the serrated trowel and smooth the surface in order to achieve an aesthetically higher grade of finish. Roll immediately in two directions with a spiked roller to ensure even thickness. For accurate and precise color matching, be sure to use the same production / serial number Tardigrade ECAS 290 in each field.

Mixed product should be applied in max. 30 minutes in about +23°C. Waiting time between coats should be minimum 10 hours in +23°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 systems change depend on ambient conditions. The duration of the chemical reaction and the duration of the work also change accordingly. Therefore, this detail should be considered properly during application. Under lower temperatures reaction times are longer which increases pot life, coating interval and working time. High temperatures increase chemical reactions and the above-mentioned time decreases accordingly.

After application, the material should be protected from direct contact with water minimum for 48 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.

To maintain the appearance of the floor after application, ECAS 290 must have all spillages removed immediately and must be regularly cleaned using rotary brush, mechanical scrubbers, scrubber dryer, high pressure washer, wash and

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vacuum techniques etc. using suitable detergents and waxes.

The earth return circuit procedure must be approved by the relevant regulations and by an authorized electrical engineer. At least 2 spot points are required for each room. Each earthing point can ground an area of about 300 m<sup>2</sup>.

Epoxy and polyurethane based floor systems should be applied 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**

Tardigrade ECAS 290 Part A + Part B mixture is used as a primary coating material in coating systems. Consumption varies depending on the usage of it in the system.

*\* Coverage increases as the viscosity gets higher at lower temperature.*

### **Health and Safety Information**

The following protective measures should be taken when working with the material: Wear safety gloves, goggles and protective clothing. Because of irritation, effects of the uncured material, components should not come in contact with the skin 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**

As being 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.