



APPLICATION GUIDE INDUSTRIAL COATINGS CONCRETE

The most important aspects of a successful coating application are the preparation of the surface and the ability of the applicator to successfully transfer the coating from the container to the surface. This guide has been prepared to assist the applicator in achieving these goals.

SUITABILITY FOR COATING:

- If a concrete structure has excessive large cracks or spalling, (especially if rebar is exposed), a structural analysis needs to be performed by an engineering firm prior to coating. Additionally, even if the structure is found to be structurally sound and fit for coating, many municipalities have specific codes regarding the coating over exposed rebar and those regulations need to be reviewed prior to coating.
- Every concrete structure needs to be tested for moisture prior to coating. A moisture meter such as the ones manufactured by Protimeter or Tramex or their equivalents are recommended. If the moisture reading is 0-2, you can coat the structure with one coat. If the reading 3 – 10, you will have to apply two thin coats and greater than 10, it can not be coated.
- Concrete newer than 28 days old can not be coated as it has not sufficiently cure.
- Concrete with sealers or curing agents not not be coated.

SURFACE PREPARATION:

- New and existing concrete surfaces shall be free of oil, grease, curing compounds, loose particles, moss, algae growth, laitance, friable matter, dirt, and bituminous products.
- Shot blast all surfaces to receive coating with a mobile steel shot, dust recycling machine.
 - a. All surface and embedded accumulations of paint, toppings hardened concrete layers, laitance, power trowel finishes and other similar surface characteristics shall be completely removed leaving a bare concrete surface having a minimum profile of CSP 3-4 as described by the International Concrete Repair Institute.
 - b. All areas inaccessible to the mobile blast machines shall be mechanically abraded to the same degree of cleanliness, soundness and profile using diamond grinders, needle guns, bush hammers, or other suitable equipment.
 - c. Where the perimeter of the substrate to be coated is not adjacent to a wall or curb, a minimum 1/4 inch key cut shall be made to properly seat the coating, providing a smooth transition between areas. The detail cut shall also apply to drain perimeters and expansion joint edges.
 - d. Cracks and joints (non-moving) greater than 1/8 inch wide are to be repaired with EPOX-Z Mastic.
 - e. At spalled or worn areas, mechanically remove loose or delaminated concrete.
- Only a commercial quality pressure washer developing a minimum of 3,000 psi @ 3.5 GPM should be used. A rotary tip is preferred for Deep Cleaning Power and Increased Cleaning Speed.

- When power washing, use Simple Green detergent to ensure all soluble salts and emulsifiable contaminants are removed. The Simple Green must be allowed to sit on the surface for at least 15 minutes prior to washing it off completely with the power washer.
- Any detergent other than Simple Green must be approved in advance by EPOX-Z.
- If used over lead or asbestos materials all applicable state and federal regulations for proper surface preparation and encapsulation must be followed.
- **DO NOT USE MATERIALS CONTAINING SOLVENTS OR HAP's (Hazardous Air Pollutants) TO CLEAN SURFACES OR ON ANY SURFACE WIPES**

SPRAY APPLICATION EQUIPMENT:

- EPOX-Z EZ II Plural Component Spray Machine is the recommended machine. This machine is a customized version of the Graco XP-70. EPOX-Z EZ II Plural Component Spray Machine requires a 185 CFM Air Compressor.
- Any other machine must be approved in advance in writing by EPOX-Z.
- A single coat built up with a 50% overlapping pass allows greater control over quantities, thickness and finish. In certain conditions it may be advantageous to apply multiple thin coats rather than one thick coat. If the moisture meter shows a reading of 3 – 10, use two 8 mil coats. Allow a minimum of 24 hours between coats.
- During application, wet film thickness should be checked with a wet film gauge. Insert the teeth into the wet coating. The last tooth



coated indicates the thickness achieved. Recommend minimum of 15 mil thickness.

- EPOX-Z contains no solvents and does not exhibit any appreciable shrinkage. WFT should be equal to DFT.

- **DO NOT ADD ANY SOLVENTS, WATER, SUBSTANCES OR AGENTS OF ANY KIND TO EPOX-Z PRODUCTS. BE CERTAIN SPRAY LINES ARE FREE OF THE ABOVE SUBSTANCES PRIOR TO APPLICATION OF EPOX-Z PRODUCTS**

Hand Application:

Proper mixing for brush or roller applications is critical for achieving a consistent and uniform coating.

- A 9 inch or 18 inch suitable epoxy roller with ¼ inch or 3/8 inch nap is required. When using an 18 inch roller, make sure that that roller cover is securely attached to the roller or it will pop loose during coating.
- EPOX-Z is a two-part system. Mix Part A container with a ½" drill equipped with an industrial paddle. Mix at medium speed for 5 minutes. Then pour entire contents of Hardener Part B into the Resin Part A container. Scrape the sides and bottom of the container and fold coating into itself and continue to mix until a homogenous mixture is obtained.
- A fully loaded brush should be used. A laying on stroke should be used.
- Application rates at an ambient temperature of 60°F or higher. Apply a nominal 15 mils WFT Brush/Roller a nominal 15 mils WFT
- Surface temperature should be a minimum of 5°F above dew point. Protect uncured coating from running water until the coating is completely dry.

- During application, wet film thickness should be checked with a wet film gauge. Insert the teeth into the wet coating. The last tooth coated indicates the thickness achieved. Recommend minimum of 15 mil thickness.
- Any unmixed resin or hardener will not cure properly. Only adequate mixing will result in a successful coating.
- EPOX-Z has a theoretical pot life of 60 minutes @ ambient temperatures (72° F / 50% RH). In very hot climates or colder climates, this pot life may be reduced to as little as 30 minutes.
- Do not heat, thin or pour any materials, solid or liquid/ into EPOX-Z products.
- **DO NOT USE THE OLD KITS AS “PAINT BUCKETS” FOR HAND APPLYING EPOX-Z MATERIALS. THEY SHOULD BE THROWN AWAY AFTER THEIR INTENDED USE.**

CURING SCHEDULE:

Curing times are dependent upon a number of factors.

- Temperature
- Air Movement
- Humidity
- Thickness of EPOX-Z
- Method of application
- Anticipate a full cure time of 48 hours at 72°F.

Full Cure times have ranged in the field from as little as 12 hours to as long as 96 hours. Green Cure times range from 30 minutes to as long as 24 hours in the field.

CLEANUP OF SPRAY EQUIPMENT:

- Pump, mixer and hose should be cleaned according to the equipment manufacturers' specifications.



- Methyl Ethel Ketone (MEK) is the recommended cleaner for all EPOX-Z Products. MEK substitute may be used in geographical areas where MEK is not allowed.
- Do not allow EPOX-Z to cure in pump, lines or hoses.
- If work will be discontinued for more than 45 minutes flush all equipment as per manufacturers' instructions. Blow all solvents from the lines before beginning application.

STORAGE, HANDLING & SAFETY:

EPOX-Z, like most thermoset resins, possesses the ability to cause skin and eye irritation upon contact. Certain individuals may also develop an allergic reaction after exposure (skin contact, inhalation or vapors, etc.) which may manifest itself in a number of ways including skin rashes and an itching sensation. Handling this product at elevated temperatures may also generate vapors irritating to the respiratory system. Always read material safety data sheets before using these or any other chemicals. Consult SDS for more info.

Store product in a dry and clean environment in original unopened containers. Required storage temperature is between 60° F and 80°F. EPOX-Z Products have a shelf life of one year when stored properly.

WARRANTY AND DISCLAIMER: To the best of our knowledge, the technical data contained herein is true and accurate at the date of issuance and is subject to change without prior notice. User must contact EPOX-Z to verify correctness before specifying or ordering. No guarantee of accuracy is given or implied. Liability, if any, is limited to EPOX-Z published warranty information.

