SHIELD-TEC™

INDUSTRIAL EPOXY COATING APPLICATION GUIDE

Preparation & Installation Procedures

Steps

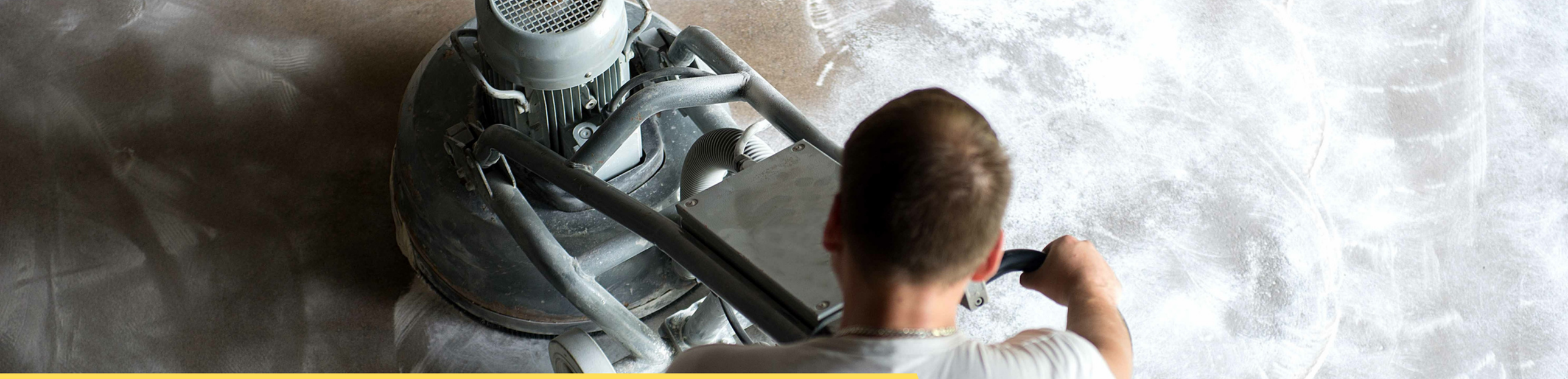
- Preparation
- Application
- Concrete Sanding
- Slip-resistance
- Moisture Testing
- Clean-Up

Contact Us

1-450-250-3058

www.polymerestechnologies.com

POLYMÈRES TECHNOLOGIES



SHIELD-TEC™ Epoxy Coating Application

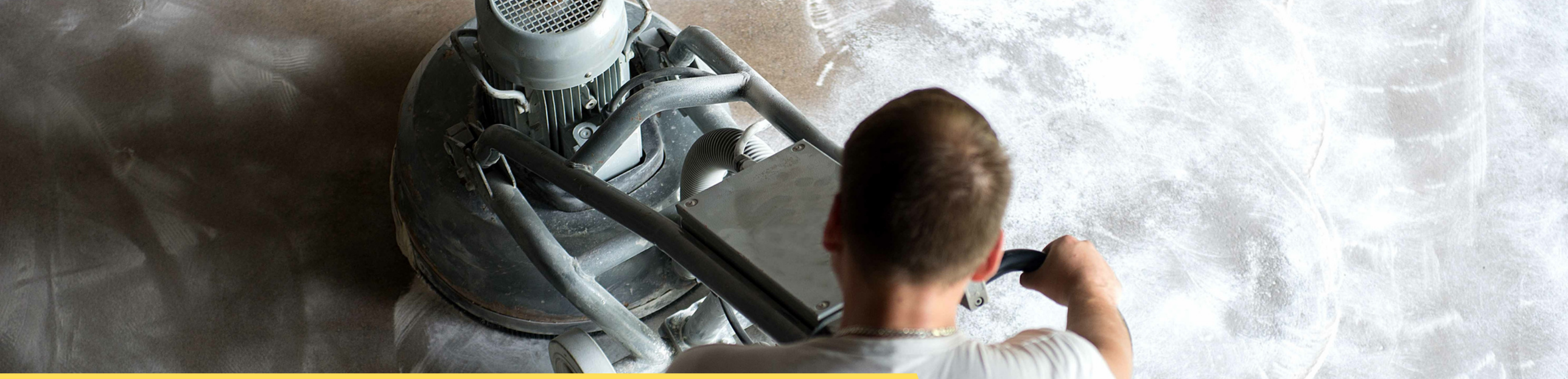
Preparation & Installation Procedures

Before proceding

READ THIS

Before applying the sealer/coating, ensure that the concrete slab is free from concrete accelerating agents such as siloxane, chloroprene, and acrylic. If concrete accelerants are present, diamond grinding is required to remove them. The presence of these accelerants will reduce the adhesion of coatings to the concrete slab surface.

If the concrete slab is new (a new project), wait for a delay of 30 days before applying any epoxy coating to ensure the concrete is completely dry and has the lowest possible humidity level. Always test your concrete before working with an epoxy coating resin. Before undertaking large-scale work, validate your application techniques by applying the coating(s) on a small surface area. It is strongly recommended that the applicator ensures the products meet their requirements.



SHIELD-TEC™ Epoxy Coating Application

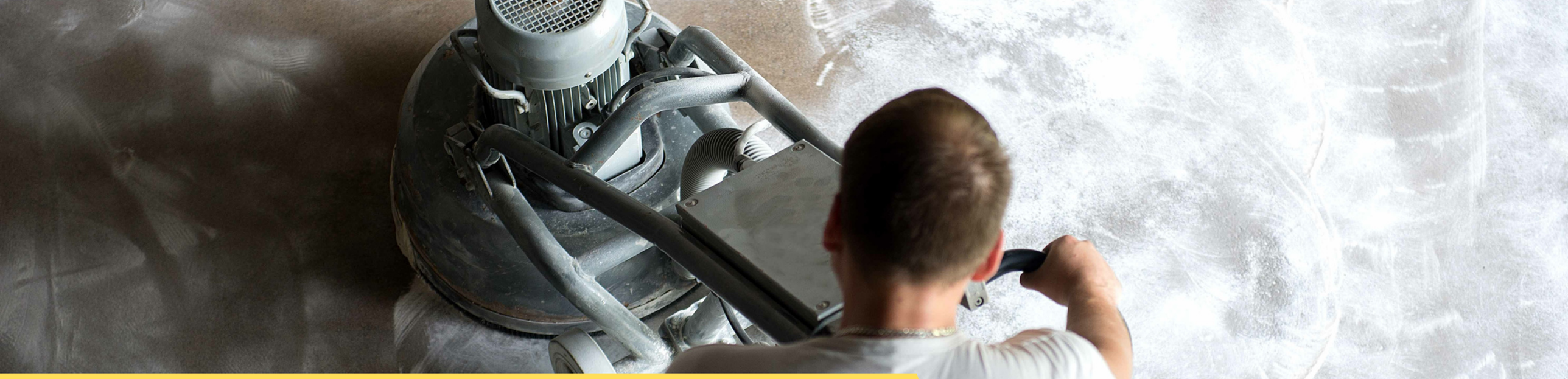
Preparation & Installation Procedures

A. Concrete preparation

To properly prepare concrete floors for coating with SHIELD-TEC™, follow these steps:

1. **Surface Preparation:** Utilize a Blastrac or grinder to mechanically prepare the concrete floor. This process ensures that the surface achieves a profile equivalent to ICRI - CSP 3. It involves:
   - Removing all existing paint, surface sealers, curing agents, dirt, laitance, and loose, friable material.
   - Eliminating grease and oils from old and contaminated concrete surfaces.
   - Properly preparing new concrete floors by removing dirt, grease, oils laitance, and loose material to produce the required surface profile.
2. **Dust Removal:** After surface preparation, eliminate all dust particles and residue from the floor using an industrial vacuum cleaner.
3. **Quality Check:** Ensure that the resultant floor meets specific requirements:
   - It should be clean and sound.
   - The concrete should possess a compressive strength of at least 25 MPa (3625 psi) at 28 days.
   - Additionally, it should exhibit a tensile strength of at least 1.5 MPa (218 psi) at the time of SHIELD-TEC™ coating application.

Following these steps guarantees that the concrete floor is suitably prepared for the application of SHIELD-TEC™ coating, providing optimal adhesion and performance.



SHIELD-TEC™ Epoxy Coating Application

Preparation & Installation Procedures

B.

To ensure proper handling and application of the selected product, follow these steps:

1. **Product Information Review:** Always acquire and review the most recent Product Data Sheet and keep the Safety Data Sheet accessible for the chosen product. This step ensures that you have up-to-date information on product specifications and safety guidelines.
2. **Material Calculation:** Calculate the required quantity of material for a two-coat application. Utilize published yield data considering factors such as surface profile, porosity, and wastage. This calculation ensures that you have adequate material for the intended application.
3. **Component Verification:** Confirm that Component A matches the Component B as indicated on their respective containers. This verification is crucial to ensure compatibility and proper functioning of the product.
4. **Full Unit Mixing:** Mix complete units of Component A and Component B. Avoid attempting to break down the components into smaller units or partial mixes. This practice guarantees proper chemical reactions and maintains the integrity of the product.

By following these structured steps, you can effectively handle and apply the selected product, ensuring optimal performance and safety throughout the application process.

SHIELD-TEC™ Epoxy Coating Application

C. Ensure that you have the essential tools readily available for moisture measurement, mixing, and installation of the epoxy.

Moisture Meter

Electric Drill - variable Speed

Jiffy Mixer - Resin mixing tool

Metal Spatulas

Flat squeegee, Spiked Shoes

6mm-15mm Roller/
Spike Roller

Microfiber General Purpose Towels

Resin Remover / Cleaning Product

Concrete Crack Filler - Epoxy Gel

SHIELD-TEC™ COATING SERIE

Micronized polypropylene particles - Anti-Slip Agent

SHIELD-TEC™ Epoxy Coating Application

D. Check the temperature and humidity of the installation area and the concrete floor before applying the epoxy.

SHIELD-TEC™ 801
Low viscosity
Epoxy Concrete Sealer Coat

SHIELD-TEC™ 802F
Colored Epoxy Flooring Coating

1. Moisture content of substrate must be < 4% when the coating is applied.
2. Concrete temperature must be at least 10°C (50°F) and at least 3° (5.5°F) above the measured dew point.
3. Condition the SHIELD-TEC™ epoxy coating to 18 - 30°C (65 - 86°F) for 24 hours prior to application.
4. Achieve and maintain the above temperature at all times.

Prepare and apply the SHIELD-TEC epoxy coating in accordance with the current Product Data Sheet, summarised as follows:

1. Begin by thoroughly stirring Component A RESIN and Component B HARDENER separately.
2. Combine the stirred components and mix them thoroughly for at least 10 minutes using a low-speed drill and paddle. Ensure minimal air entrapment, achieving a uniform consistency and color.
3. While mixing, scrape down the sides and bottom of the mixing pail with a metal spatula to ensure complete blending.
4. Mix only the quantity that can be used within its pot life, which varies depending on temperature. Keep the room temperature below 22°C/72°F for coatings with a working time of 60 minutes or less. Promptly apply the resin onto the floor after thorough mixing to avoid reducing the working time.
5. Pour the entire mixed material onto the floor, ensuring none remains in the pail. Do not leave upturned pails on the floor to drain.
6. Apply a prime coat onto the prepared concrete using a brush and a 19 mm (3/4 in) nap roller, ensuring uniform coverage without ponding. If using a flat squeegee to spread the material, back-roll afterward for the required coverage and finish.
7. Once the prime coat (EPOXY SEALER - SHIELD-TEC™ 801) is tack-free (typically within 12-24 hours depending on room temperature), apply the Colored Coating SHIELD-TEC™ 802F using a flat squeegee or roller. Back-roll to achieve even coverage. If the time between coats exceeds 48 hours at 22°C (71°F), lightly abrade the surface and clean the dust before applying the colored layer. Note that if the sealer has been applied in the morning, a new layer can be applied later that day if the epoxy sealer is slightly tacky or tack-free. If the surface is clean and free of dust or contamination, the SHIELD-TEC™ 802F can be applied directly on the SHIELD-TEC™ 801 epoxy concrete sealer.
8. For slip resistance, broadcast the Micronized polypropylene particles - Anti-Slip Agent into the SHIELD-TEC™ 802F wear coat while the epoxy remains wet/tacky. Ensure even distribution, then backroll the coating to cover the particles and create an even anti-slip surface.

Allow the epoxy coating system sufficient curing time, typically 3-5 days, to receive foot traffic, light traffic, and then full exposure to normal traffic and chemicals. Curing time depends on temperature, with colder environments requiring longer curing times. The recommended temperature for curing is 22°C/72°F. If the resin is applied at colder temperatures, allow more time before receiving foot traffic, light traffic, and full exposure to normal traffic and chemicals.

SHIELD-TEC™ Epoxy Coating Application

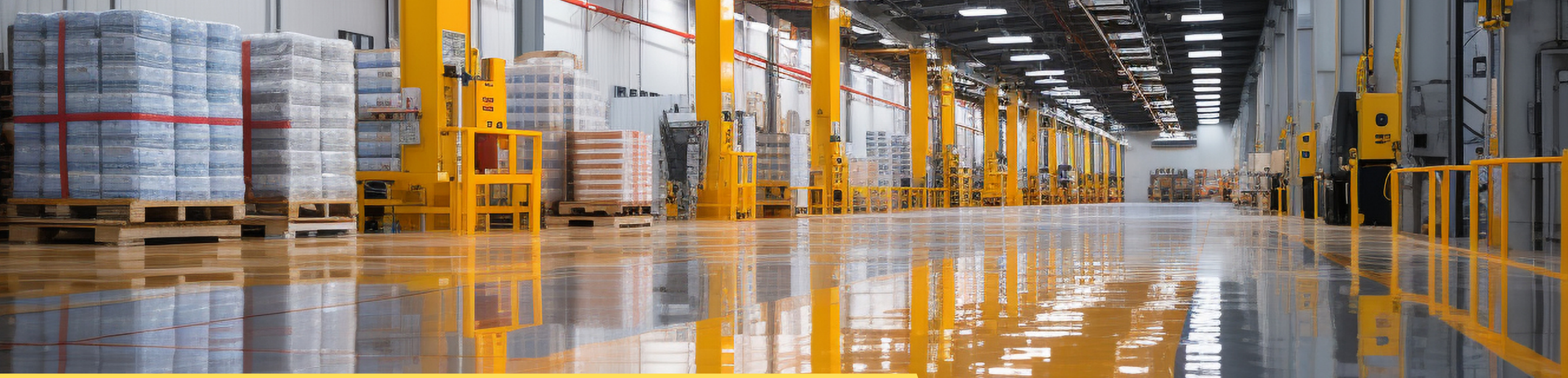
E. Application of Epoxy Resin Coating: Sealer Coat SHIELD-TEC 801F

	Low viscosity Penetrating Epoxy Sealer Coat SHIELD-TEC™ 801
2:1 Ratio - 60 Min working time	Prepare the epoxy sealer according to the manufacturer's instructions, ensuring proper mixing ratios and pot life.
•	Equipment needed: Mixing paddle, mixing container.
•	Apply the sealer coat evenly using a roller or squeegee, working in small sections to ensure thorough coverage.
•	Equipment needed: Roller or squeegee, spiked roller.
•	Allow the sealer coat to cure for 24 hours at 20-22°C before proceeding to the next layer.

SHIELD-TEC™ Epoxy Coating Application

E. Application of Epoxy Resin Coating: Colored Base Coat SHIELD-TEC 802F:

	Colored Base Coat SHIELD-TEC™ 802F: Before mixing Part A Resin and Part B Hardener, mix both A and B individually. Add the Part B -5L (clear) into the part A 10L resin. Mix the colored epoxy base coat as per the manufacturer's instructions, ensuring thorough blending of pigments.
2:1 Ratio - 60 Min working time	Equipment needed: Mixing paddle, mixing container.
•	Apply the base coat evenly over the sealed surface using a roller or squeegee, working in manageable sections.
•	Equipment needed: Roller or squeegee, notched trowel.
•	Allow the base coat to cure for 24 hours at 20-22°C before proceeding to the final layer.



SHIELD-TEC™ Epoxy Coating Application

F. Clean Up

Tool Cleaning Procedure with POLYCLEANER™ the Eco-Friendly Alternative to Solvents.

1. Preparation:

Ensure adequate ventilation in the cleaning area for comfort. Wear appropriate personal protective equipment (PPE) such as gloves and safety goggles. Remove any loose debris or dirt from the surface to be cleaned.

2. Application of POLYCLEANER™:

Apply POLYCLEANER™ directly onto the sticky or fully cured epoxy resin surface, covering it completely. Allow POLYCLEANER™ to sit for 24h to soften the resin.

3. Scrubbing:

Use a stiff-bristled brush or scrubbing pad to agitate the softened resin. Scrub the surface vigorously to loosen the resin from the substrate.

4. Removal of Residue:

Gently lift off the softened epoxy resin using a scraper or putty knife. Repeat the application of POLYCLEANER™ and scrubbing process if necessary to remove all traces of resin.

5. Rinse with Isopropyl Alcohol:

Thoroughly rinse the cleaned area with isopropyl alcohol to remove any remaining POLYCLEANER™ and resin residue. Ensure complete removal of cleaning solution.

6. Final Inspection:

Inspect the surface to ensure all epoxy resin has been effectively removed. Touch up any areas if needed and allow the surface to dry completely before further use.

7. Safety Precautions:

Always follow safety guidelines provided by the manufacturer. Keep the cleaning area well-ventilated. Avoid prolonged skin contact with cleaning solutions. In case of accidental ingestion or contact with eyes, seek medical attention immediately. This cleaning procedure ensures effective removal of sticky epoxy resin using POLYCLEANER™ eco-friendly alternative, maintaining a clean and safe working environment.

WARNING:
POLYCLEANER is for tools and cured epoxy removal only. Do NOT use on epoxy-coated floors.

SHIELD-TEC™ Epoxy Coating Application

D. Contractor’s responsibility

ASSUMPTION OF RISK.

CUSTOMER ASSUMES ALL RISK AND LIABILITY FOR THE RESULTS OBTAINED BY THE USE OF ANY POLYMÈRES TECHNOLOGIES INC PRODUCTS, INCLUDING, WITHOUT LIMITING THE GENERALITY OF THE FOREGOING, THE USE OF THE SHIELD-TEC™ LINE OF COATING PRODUCTS, AND THE USE OF ANY PROCESS, WHETHER IN TERMS OF GENERAL EFFECTIVENESS, SUCCESS OR FAILURE, AND REGARDLESS OF ANY ORAL OR WRITTEN STATEMENTS MADE BY WAY OF TECHNICAL ADVICE OR OTHERWISE, RELATED TO THE USE OF ANY POLYMÈRES TECHNOLOGIES PRODUCTS.

LIMITATIONS

Please note that only the applicator is responsible for determining the number of liters required to carry out their project. Calculation of the required liters, surface preparation of the substrate, calculation of the humidity percentage of the substrate, accuracy of the mixing ratio, homogeneous mixing of parts A and B, application of the coating using the roller, a serrated squeegee or not as well as the thickness applied remain the entire responsibility of the applicator.

The Contractor is responsible for having the relevant Product and Safety Data Sheets for products used on site. For additional information, contact POLYMERES TECHNOLOGIES Inc's Technical Services at 1-800-250-3058 or visit www.polymerestechnologies.com

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POLYMÈRES TECHNOLOGIES

SOLUTIONS FORMULATOR OF EPOXY, POLYURETHANE, ADHESIVES, AND MORE

6330, boulevard Laurier Ouest
Saint-Hyacinthe (Québec)
Canada J2S 9A7
Phone: 450-250-3058
Fax: : 450-250-3059
sales@polymerestechnologies.com
www.polymerestechnologies.com
6330, Boul. Laurier O., Saint-Hyacinthe (Québec) J2S 9A7