Epoxy Flooring System for – Chemical Processing & Refineries

By Ressichem Private Limited

RESSICHEM®
adding life and value to your property

Why Epoxy Floorings at **Chemical Processing & Refineries ?**

Chemical processing facilities and refineries demand flooring systems with exceptional **chemical resistance, thermal stability, and mechanical durability**. These areas often face exposure to **acids, alkalis, solvents, fuels, and corrosive agents**, combined with the stress of heavy equipment movement.

The **Epoxy Flooring System for – Chemical Processing & Refineries** is a **high-build, heavy-duty system** engineered for **long-term performance in chemically aggressive and high-traffic industrial environments**. It ensures **maximum resistance to chemical attack, abrasion, and impact**, providing a seamless and protective surface for critical plant operations.

RESSICHEM®
adding life and value to your property

This system is suitable for

- Chemical manufacturing and blending zones
- Refineries and petrochemical plants
- Tank farms and mixing stations
- Laboratories and testing areas within industrial plants
- Pump rooms and containment areas

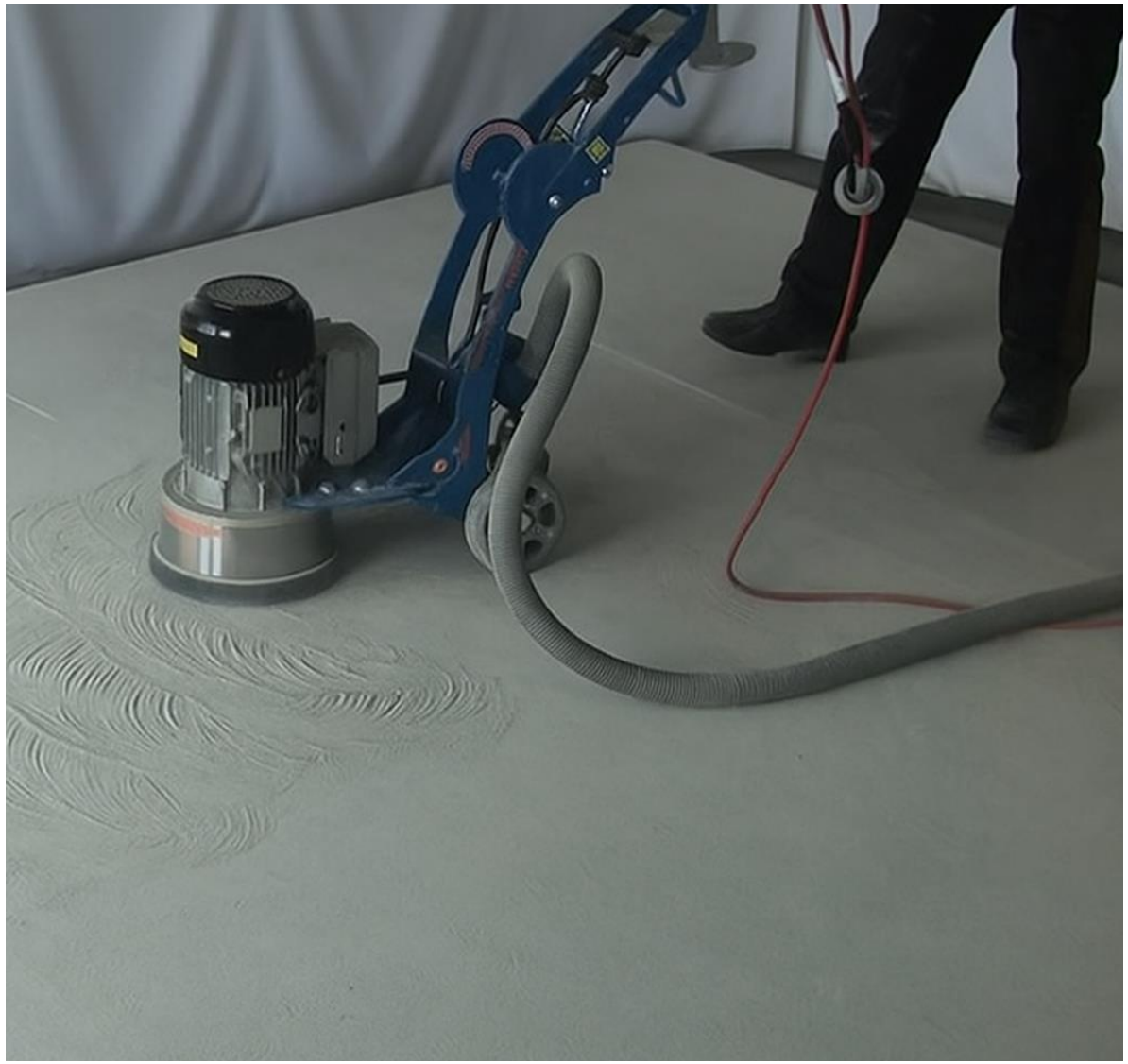
RESSICHEM®
adding life and value to your property

Step 1: Surface Preparation (1 of 2)

Accurate substrate evaluation and preparation are vital for achieving optimal adhesion and chemical resistance.

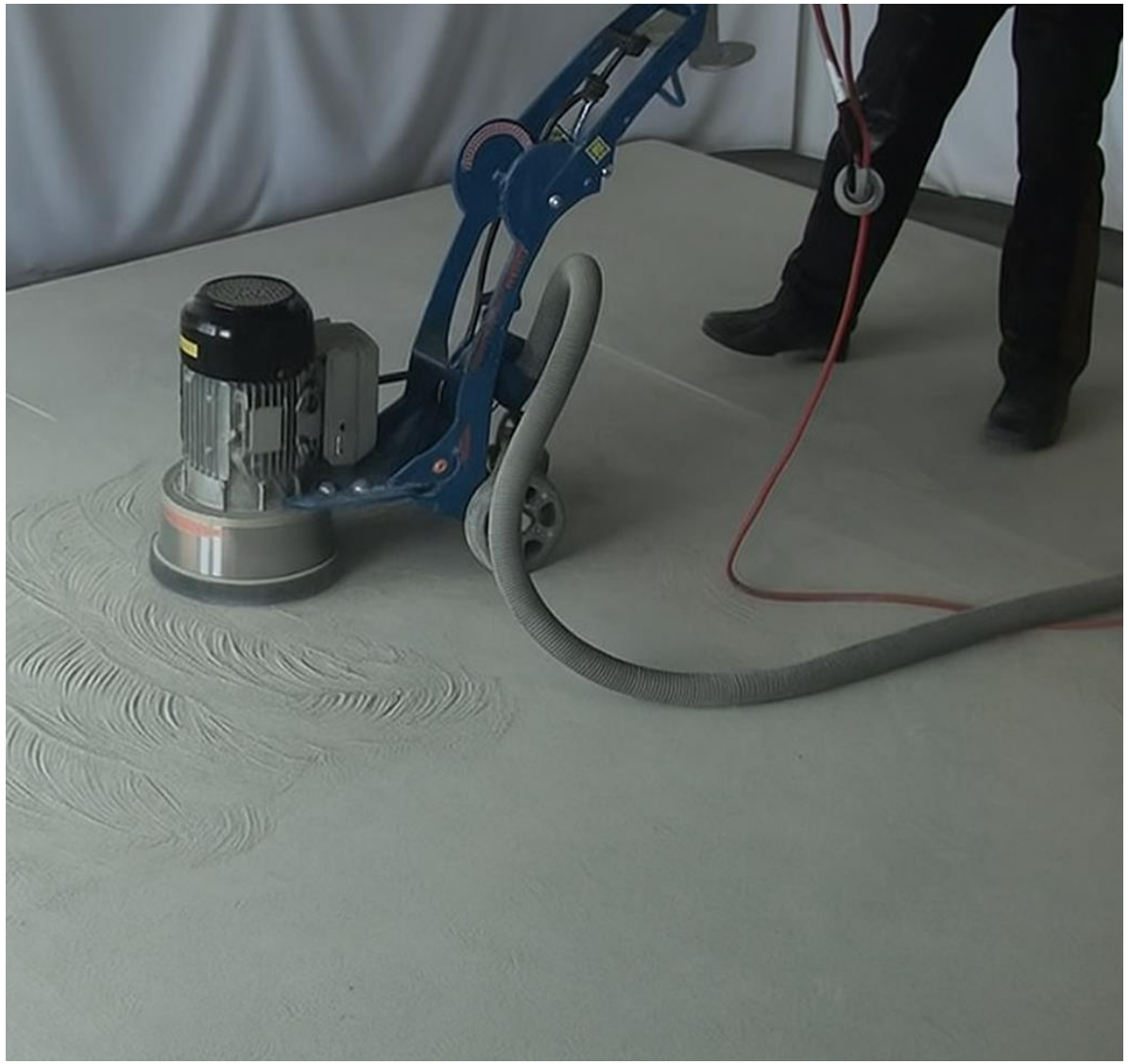
All necessary surface repairs, including crack filling or substrate restoration, must be completed prior to the application of any epoxy flooring materials. Ressichem offers a range of suitable crack fillers and repair compounds, including non-shrink cementitious grouts, specifically designed for surface preparation and repair.

- **Concrete strength verification** must be confirmed by the project consultant, in line with expected mechanical and operational loads.
- Perform testing using **destructive (core samples)** and **non-destructive (Schmidt Hammer)** methods to evaluate substrate integrity.



Step 1: Surface Preparation (2 of 2)

- For **major repairs (≥ 12 mm)**, apply **Ressi NSG 710**, a **high-strength, non-shrink cementitious grout**.
- For **minor repairs and surface voids**, blend **Ressi EPO Primer LV** with **Ressichem's washed, graded, and completely dried (zero-moisture) silica sand** to prepare an epoxy-sand repair mortar.
- Mechanically prepare the surface using **shot blasting or diamond grinding**. Ensure the substrate is **clean, dust-free, and completely free from oil or grease contamination**.
- This step is **especially important for older floors** where **oil staining or grease penetration** has occurred; thorough degreasing and cleaning must be performed before coating.



Step 2: Application of Ressi EPO Primer LV

Apply **Ressi EPO Primer LV**, a low-viscosity, solvent-free epoxy primer providing deep substrate penetration and superior bonding.

- Mix resin and hardener as per datasheet instructions.
- Apply using a **trowel or epoxy squeegee** to ensure complete coverage.
- Allow full curing before proceeding.

Step 3: Application of Ressi EPO Mid Coat S – CR

Apply **Ressi EPO Mid Coat S – CR**, a **chemical-resistant, high-build epoxy layer** that reinforces the substrate and forms the structural body of the flooring system.

- Apply using a **notched trowel or epoxy squeegee** for uniform build.
- Recommended **minimum thickness 1000 microns**, with **2000 microns preferred** for enhanced resistance to impact and chemical exposure.
- Allow curing before applying the topcoat.

Step 4: Application of Final Epoxy Topcoat – Ressi EPO Chem Plus

Apply **Ressi EPO Chem Plus**, a **mandatory, high-performance chemical-resistant topcoat** designed to withstand strong acids, alkalis, solvents, and fuel spills typical in chemical and refinery operations.

- Apply using a **trowel or epoxy squeegee** at a **minimum thickness of 1000 microns**.
- Spread evenly to achieve a seamless and chemically stable finish.
- Allow **48 – 72 hours** for light use and **7 days** for complete cure.

Step 5: Floor Markings *(If Required)*

If demarcation lines or safety markings are needed, apply **Ressi EPO Chem Might** in contrasting colors.

- Apply with a **roller** only after the main flooring system has fully cured.
- Ideal for safety walkways, containment boundaries, or equipment zones.

Note:

- The **total system thickness must be a minimum of 3000 microns** for heavy-duty protection.
- Always refer to **Ressichem Technical Datasheets (TDS)** for detailed product information and curing parameters.

System Summary Table

RESSICHEM®
adding life and value to your property

Parameter	Description
System Name	Epoxy Flooring System for – Chemical Processing & Refineries
Area Type	Heavy-Duty Chemical & Refinery Operations
Traffic Exposure	Heavy Equipment, Forklifts, Chemical Spillage
Primary Requirements	Chemical Resistance, Mechanical Strength, Thermal Stability
Primer	Ressi EPO Primer LV
Mid Coat (Compulsory)	Ressi EPO Mid Coat S – CR (1000 – 2000 microns)
Topcoat (Mandatory)	Ressi EPO Chem Plus (1000 microns)
Marking Coat (Optional)	Ressi EPO Chem Might (Contrasting Colors)
Silica Used	Washed, graded, and completely dried (zero moisture content) silica sand
Total System Thickness	Minimum 3000 Microns
Application Method	High-Build Trowel or Epoxy Squeegee (Roller Only for Markings)
Finish Type	Smooth, Semi-Gloss, Chemical-Resistant
Curing Time Before Use	48 – 72 Hours (Light Use) / 7 Days (Full Cure)
Key Benefits	Corrosion Resistance, Long Service Life, Heavy Load Tolerance, Easy Maintenance

System Summary Diagram

A) Cementitious Surface: (Concrete slab or screed)

B) Cracks and surface damage

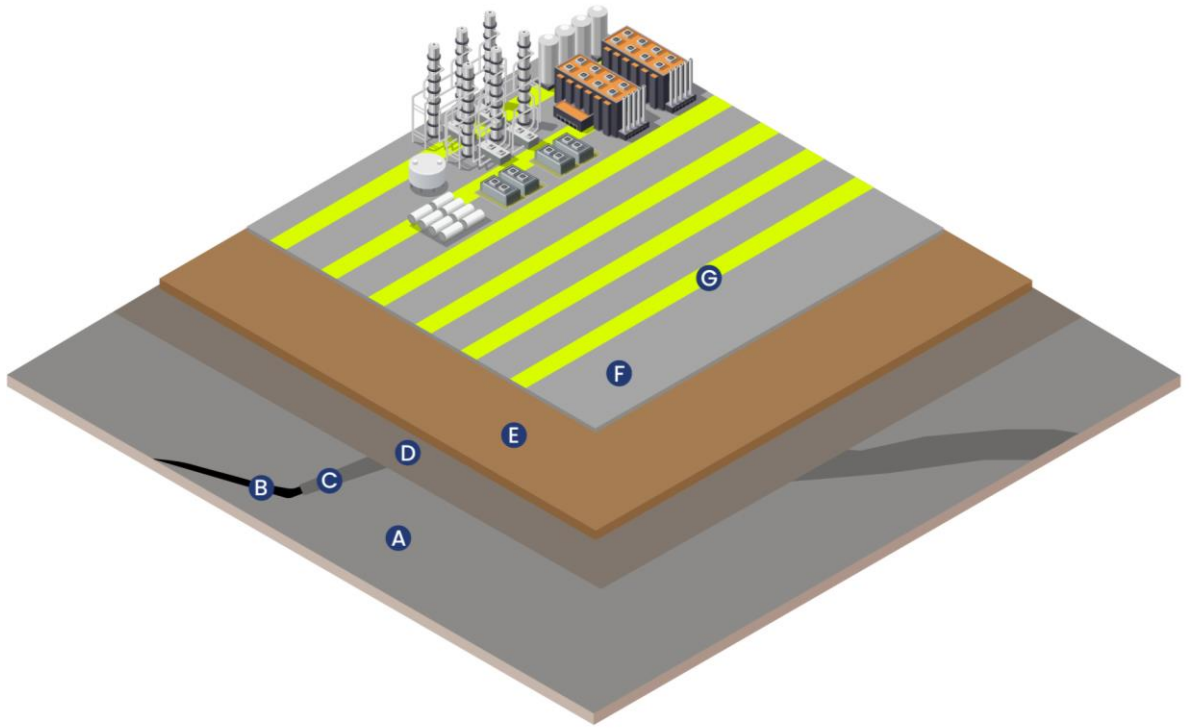
C) Crack Filler and Repairing Materials

D) Ressi EPO Primer LV

E) Ressi EPO Mid Coat S – CR

F) Ressi EPO Chem Plus

G) Ressi EPO Chem Might (Marking)



Thank You

Where To Find Us

D-83, S.I.T.E., Industrial Area, Manghopir Road,
Karachi - 75530, Pakistan.

UAN: +92-21-111-052-052

Tel: +92-21-32593800-02

Mob: +92-309-7772464

Email: info@ressichem.com

Website: www.ressichem.com

RESSICHEM®

adding life and value to your property