



# Epoxy Flooring System for – Cold Storage & Freezer Rooms

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By Ressichem Private Limited

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adding life and value to your property



# Why Epoxy Floorings at **Cold Storage & Freezer Rooms**

Cold storage and freezer environments demand **flooring systems capable of withstanding sub-zero temperatures, condensation, and thermal cycling** without compromising integrity. The epoxy flooring in such facilities must maintain its **adhesion, impact resistance, and dimensional stability** even under freezing conditions.

It is critical to note that **epoxy flooring materials must be applied under room temperature conditions**. The epoxy system achieves its full mechanical and chemical properties only after complete curing — typically **7 days after application**. Once fully cured, the area may then be gradually brought to its temperature-controlled environment.



# This system is ideal for:

- Cold storage warehouses and distribution centers
- Food preservation and processing facilities
- Freezer chambers and blast chillers
- Temperature-controlled pharmaceutical storage zones
- Meat, poultry, and dairy cold handling areas

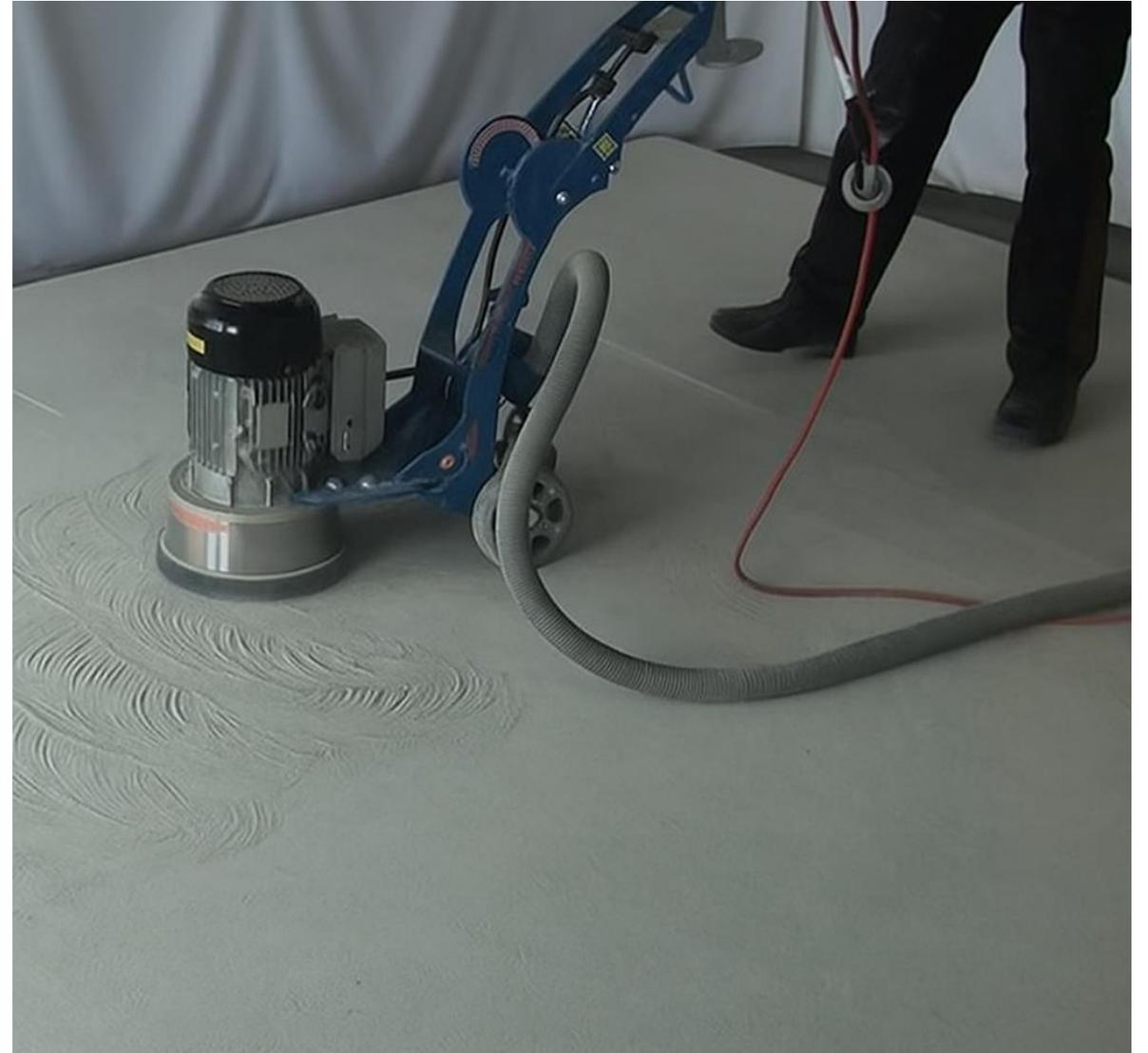


# Step 1: Surface Preparation (1 of 2)

Substrate evaluation and repair are critical to ensure long-term durability and adhesion, particularly under temperature fluctuations.

**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.**

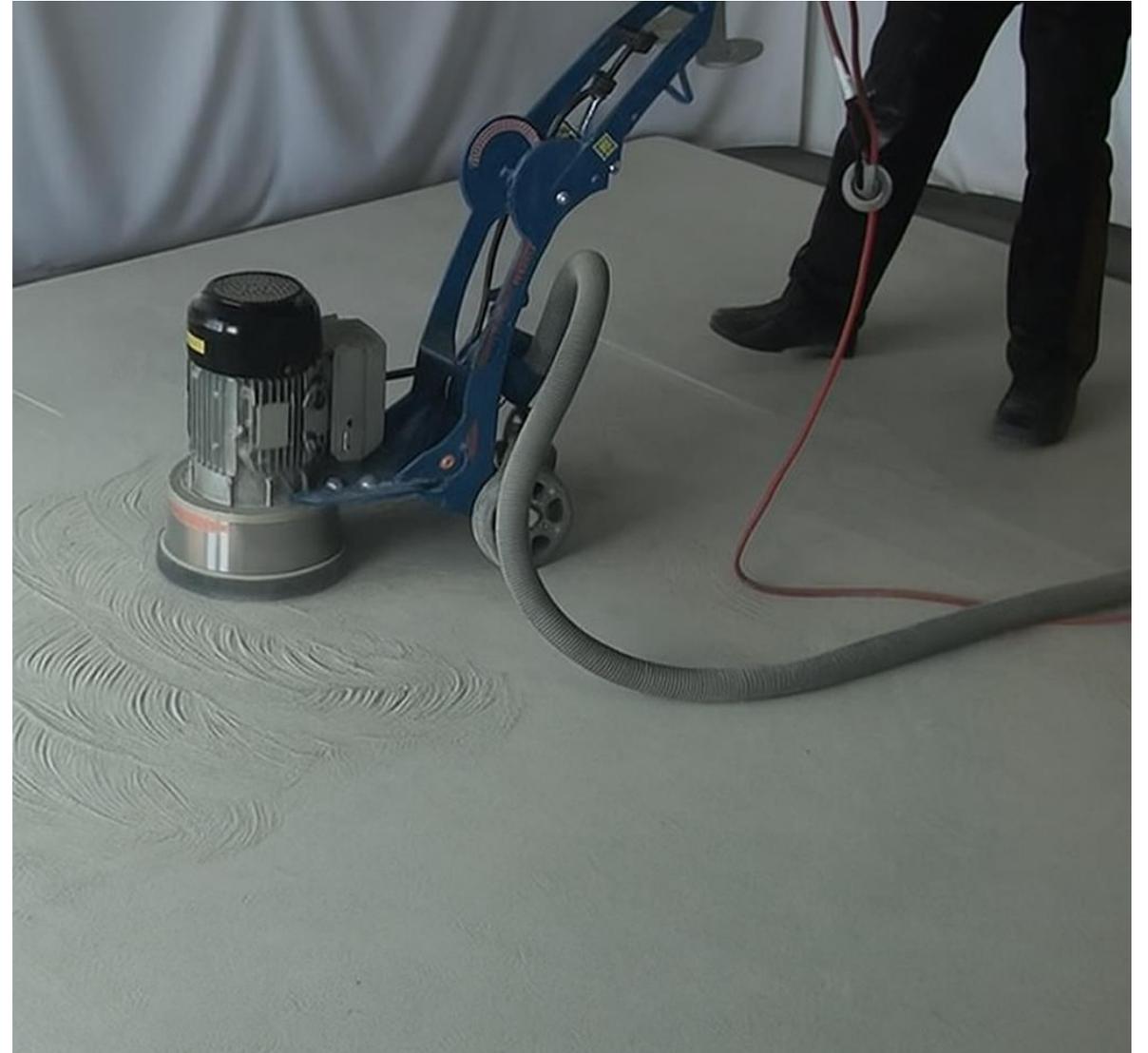
- **Concrete strength verification** must be performed by the consultant based on anticipated load and operational use.
- Test substrate integrity using **destructive (core sampling)** and **non-destructive (Schmidt Hammer)** methods.



# Step 1: Surface Preparation (2 of 2)

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- For **major repairs ( $\geq 12$  mm)**, use **Ressi NSG 710**, a **high-strength, non-shrink cementitious grout**.
- For **minor surface imperfections**, use a blend of **Ressi EPO Primer LV** and **Ressichem's washed, graded, and completely dried (zero-moisture) silica sand** to form a dense epoxy-sand repair mortar.
- Mechanically prepare the surface via **shot blasting or diamond grinding**.
- Ensure the substrate is **clean, dust-free, and completely free from oil or grease contamination**, as contaminants can lead to adhesion failure under cold conditions.
- For previously used or aged floors, ensure **complete removal of oil or grease penetration** before coating.



# Step 2: Application of Ressi EPO Primer LV

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

- Mix resin and hardener precisely as per the product datasheet.
- Apply using a **trowel or epoxy squeegee** ensuring uniform coverage.
- Allow the primer to cure completely before proceeding to subsequent layers.



## Step 3: Application of Ressi EPO Mid Coat S – GP

Apply **Ressi EPO Mid Coat S – GP**, a **high-build, general-purpose epoxy mid-layer** that enhances the mechanical performance of the flooring system and builds overall system thickness.

- Apply using a **notched trowel or epoxy squeegee** to ensure even distribution.
- Minimum recommended **thickness is 1000 microns**, though **2000 microns is preferred** for improved load bearing and durability under freezer conditions.
- Allow complete curing before applying the final topcoat.



# Step 4: Application of Final Epoxy Topcoat

Apply **Ressi EPO Floor Plus**, a durable, high-build epoxy topcoat designed for high mechanical strength and low-temperature resistance.

- For projects requiring custom colors and enhanced aesthetic finishes, use **Ressi EPO Floor Plus**.
- For cost-effective solutions in **standard grey**, use **Ressi EPO Floor Plus Econo** — offering identical performance with limited color availability.
- Minimum thickness: **2000 microns**.
- Allow **48–72 hours** before light foot traffic and **7 days** for complete curing before temperature control activation.



# Step 5: Floor Markings *(If Required)*

Where required, apply **Ressi EPO Gloss Might** in contrasting colors for demarcation or safety zones.

- Apply using a **roller** after full system cure.
- For economical solutions, **Ressi EPO Roll Coat** may be used in alternate colors.

## Note:

- The **total system thickness must be a minimum of 3000 microns**.
- Epoxy flooring must be applied **only in ambient (room temperature) conditions**. Once fully cured, **the temperature of the area can be gradually reduced** to operational levels.
- Always refer to **Ressichem Technical Datasheets (TDS)** for detailed product guidelines and curing information.



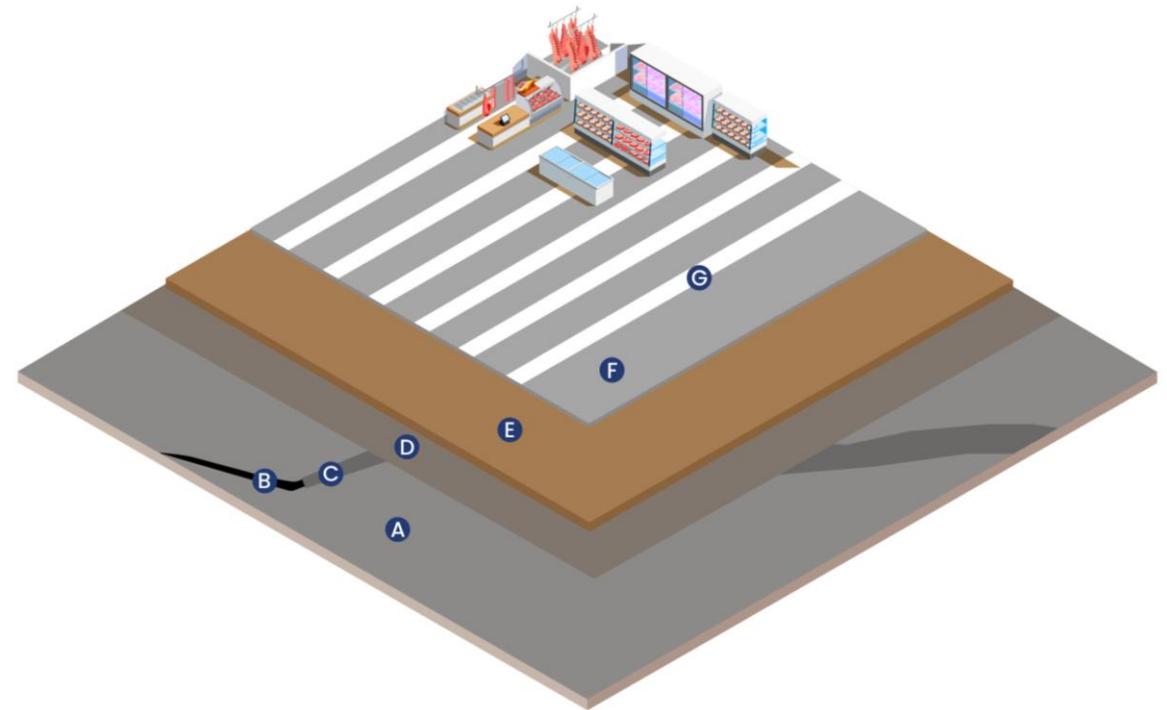
# System Summary Table



Parameter	Description
System Name	Epoxy Flooring System for – Cold Storage & Freezer Rooms
Area Type	Heavy-Duty Temperature-Controlled Facilities
Traffic Exposure	Heavy Equipment, Trolleys, Forklifts
Primary Requirements	Low-Temperature Resistance, Hygiene, Mechanical Strength
Primer	Ressi EPO Primer LV
Mid Coat (Compulsory)	Ressi EPO Mid Coat S – GP (1000–2000 microns)
Topcoat (Mandatory)	Ressi EPO Floor Plus / Floor Plus Econo (2000 microns)
Marking Coat (Optional)	Ressi EPO Gloss Might / Ressi EPO Roll Coat
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, Gloss, Low-Temperature Resistant
Curing Time Before Use	48–72 Hours (Light Use) / 7 Days (Full Cure)
Key Benefits	Low-Temperature Durability, Seamless Hygiene, Long-Term Performance

# 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 – GP
- F) Ressi EPO Floor Plus / Ressi EPO Floor Plus Econo
- G) Ressi EPO Gloss Might / Ressi EPO Roll Coat (Marking)



# Thank You

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