RESSI EPO CHEM PRIME 402

Low viscosity chemical Resistant Epoxy Primer

RESSICHEM®
adding life and value to your property

Ressi EPO Chem prime 402 is a low viscosity chemical resistant epoxy primer based on specially modified Bisphenol-A Based Resins and a specially formulated Modified chemical resistant cycloaliphatic amine-based epoxy curing agent which is free from Nonyl phenol. This is specially formulated for concrete and metal surface. Its high chemical resistant nature makes it an ideal coating for a variety of metallic surfaces. This primer is also compatible with a variety of other substrates such as wood, ceramics, leather, glass, selected plastics and so on.

ADVANTAGES

- **Excellent Chemical Resistance:** Provides superior protection against a wide range of chemicals, making it ideal for industrial and harsh environments.
- **Low Viscosity:** Ensures deep penetration into porous substrates, enhancing adhesion and sealing capabilities.
- **High Compatibility:** Suitable for application on various surfaces, including concrete, metal, wood, ceramics, leather, glass, and selected plastics
- **Environmentally Friendly Formulation:** Free from Nonyl phenol, making it a safer choice for both users and the environment.
- **Enhanced Adhesion Properties:** Specially modified Bisphenol-A resins and aliphatic amine curing agents provide exceptional bonding strength.
- **Durability and Longevity:** Offers long-term performance by protecting substrates from chemical and environmental degradation.
- **Versatile Application:** Designed for use in diverse industries such as construction, manufacturing, and chemical processing.
- **Improved Surface Protection:** Acts as an effective barrier against moisture, chemicals, and other contaminants.
- **Quick Curing:** Efficient curing properties ensure faster project completion without compromising on quality.
- **Easy Application:** Can be applied using standard equipment and techniques, simplifying the application process for professionals.

SURFACE PREPARATION

Proper surface preparation is crucial for achieving optimal adhesion and performance of **Ressi EPO Chem Prime 402**. Follow these guidelines for preparing concrete and metal surfaces:

For Concrete Surfaces:

Surface Inspection: Ensure the concrete surface is structurally sound, clean, and free from contaminants such as grease, oil, dirt, loose particles, and curing compounds.

Cleaning: Use mechanical methods like grinding, abrasive blasting, or shot blasting to remove surface contaminants and create a clean, open texture. Wash the surface with clean water and allow it to dry completely.

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Moisture Testing: Check the moisture content of the concrete. The substrate must have a moisture content below 4% to ensure proper adhesion. For damp concrete, ensure the primer is suitable for such conditions or use specialized methods to reduce moisture levels. Incase high levels of initial moisture persists, Application of other chemical resistant moisture cure primers from the ressichem range can be used.

Crack Repair and Filling: of other Fill any visible cracks, joints, or holes with a suitable epoxy filler to provide a smooth and uniform surface.

Surface Profile: Achieve a concrete surface profile as per International Concrete Repair Institute (ICRI) guidelines for optimal adhesion.

For Metal Surfaces

Surface Inspection: Inspect the metal surface for rust, mill scale, grease, oil, or other contaminants that could interfere with adhesion.

Cleaning: Use solvent cleaning or detergent washing to remove grease, oil, and dirt. Follow this with a thorough rinse using clean water. Allow the surface to dry completely before proceeding.

Rust and Mill Scale Removal: Use abrasive blasting as per proper internaltional standards to remove rust, mill scale, and existing coatings. For less aggressive preparation, hand or power tool cleaning as per internaltional norms may suffice, but optimal adhesion is achieved with abrasive blasting.

Surface Profile: Achieve an anchor profile of 50-75 microns for proper mechanical bonding of the primer.

Passivation: After cleaning, apply the primer immediately to prevent flash rusting or oxidation of the metal surface.

General Notes

Temperature and Humidity: Ensure the substrate and ambient temperatures are within the recommended range (refer to the product technical table). Avoid application in high humidity or damp conditions.

Surface Dryness: Ensure all surfaces are dry and free from standing water before applying the primer.

Testing: Conduct a small adhesion test if surface conditions are uncertain to ensure compatibility and performance.

Proper surface preparation ensures optimal adhesion, durability, and performance of **Ressi EPO Chem Prime 402,** contributing to a long-lasting and effective coating system.

Mixing and Application:

The proper application of **Ressi EPO Chem prime 402** is essential to achieve the desired performance and durability. Follow this step-by-step methodology:

Mixing

Inspect the Components: Ensure the base and hardener components are free from contamination and at room temperature (20-35°C) before mixing.

Mixing Proportions: Follow the mixing ratio specified on the product label and this technical data-sheet. Typically, mix the base (Part A) and curing agent (Part B) in the recommended ratio by weight or volume.

Mixing Process: Use a low-speed mechanical mixer (300-400 RPM) fitted with a suitable paddle to mix the components. Add Part B (curing agent) into Part A (base) slowly and mix thoroughly for 3-5 minutes until a homogeneous mixture is obtained.

Application

Priming the Surface: Ensure the surface has been prepared as per the surface preparation guide-lines. The substrate should be clean, dry, and free of contaminants.

Application Tools: Apply the primer using a brush, roller, or airless spray equipment depending on the project requirements. Ensure the tools are clean and suitable for epoxy-based materials.

Application Process: Apply the primer evenly to the substrate, ensuring full coverage without leaving puddles or excess material. Maintain the recommended wet film thickness (WFT) specified in the product datasheet for optimal performance.

Second Coat (if required): Allow the first coat to cure as per the recommended time before applying a second coat, if specified.

Curing

Initial Curing: Allow the primer to cure in a controlled environment with the recommended tempera-ture and humidity. Avoid exposure to water, chemicals, or mechanical loads during curing.

Full Cure: The primer achieves full chemical and mechanical properties after the curing time speci-fied in the datasheet (typically 7 days at 25°C). Adjust curing time for variations in temperature.

HEALTH & SAFETY

Personal Protection: Wear appropriate personal protective equipment (PPE), including gloves, goggles, and respiratory protection, during mixing and application.

Ventilation: Ensure proper ventilation in enclosed or poorly ventilated spaces during application to avoid exposure to fumes.

Spills and Disposal: Handle spills immediately using absorbent material and dispose of waste in accordance with local regulations.

LIMITATIONS

Ensure ambient and substrate temperatures are within the recommended range (10-35°C) during application. Avoid application in extreme temperatures or direct sunlight.
Avoid applying in high humidity (above 85%) or when dew point conditions may cause condensa-tion on the substrate.
Conduct a small patch test if substrate or environmental conditions are uncertain to ensure proper adhesion and compatibility. By following these steps, Ressi EPO Chem Prime 402 will provide reliable, long-lasting performance across a wide range of applications.

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PACK SIZE

Ressi EPO Chem Prime 402 Is available in the following packag-

1.5 KG Pack :	Part A 1 KG Part B 500g
15 KG Pack :	Part A 10 KG Part B 05 KG
45 KG Pack :	Part A 30 KG Part B 15 KG

TECHNICAL TABLE

Property	Test Method	Result
Appearance Part A	Visual	Low viscosity, clear liquid
Appearance Part B	Visual	Low viscosity, clear liquid
Mix ratio (Part A: Part B)	Theoretical	100: 50
Mix Density	-	1.05 g/cc
Coverage per kg material @ 1 mm thickness	-	9 – 10 SFT
Flash Point	ASTM D 93	>117°C
Pot life (300g mix) @ 25°C	-	35 – 60 min
Gel time	-	4 hours
Hardening time	-	24 hours
Full Cure	-	7 days
Flexural Strength (MPa)	ASTM D 790	77.0 @ 7 Days
Compressive Strength (MPa)	ASTM D 695	102.0 @ 7 Days

***Note: At 40°C pot life will half so application should be planned accordingly.**
Typical Results under Laboratory Conditions

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CHEMICAL RESISTANCE CHART

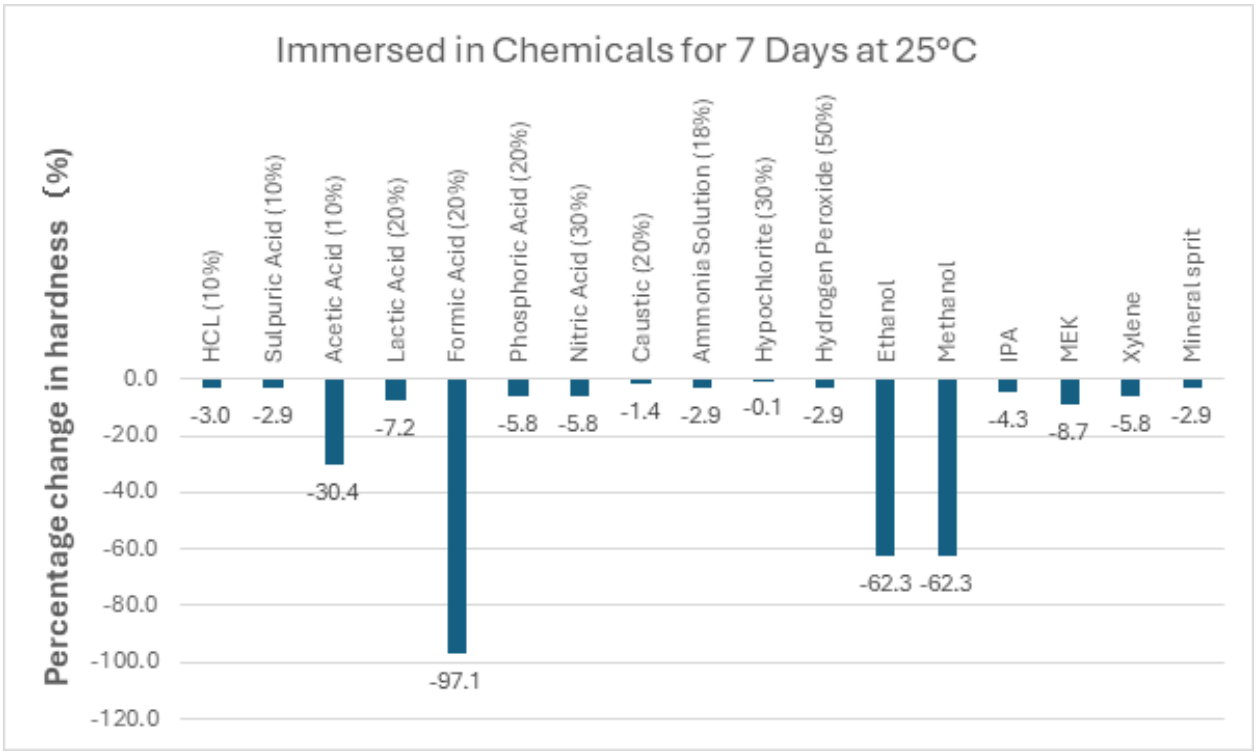
Chemicals Solutions	Chemical Resistance
HCL (10%)	★★★
Sulphuric Acid (10%)	★★★
Acetic Acid (10%)	★★
Lactic Acid (20%)	★★
Formic Acid (20%)	NR
Phosphoric Acid (20%)	★★
Nitric Acid (30%)	★★
Caustic (20%)	★★★
Ammonia Solution (18%)	★★★
Hypochlorite (30%)	★★★
Hydrogen Peroxide (50%)	★★★
Ethanol	★
Methanol	★
IPA	★★★
MEK	★★
Xylene	★★★
Mineral Spirit	★★★

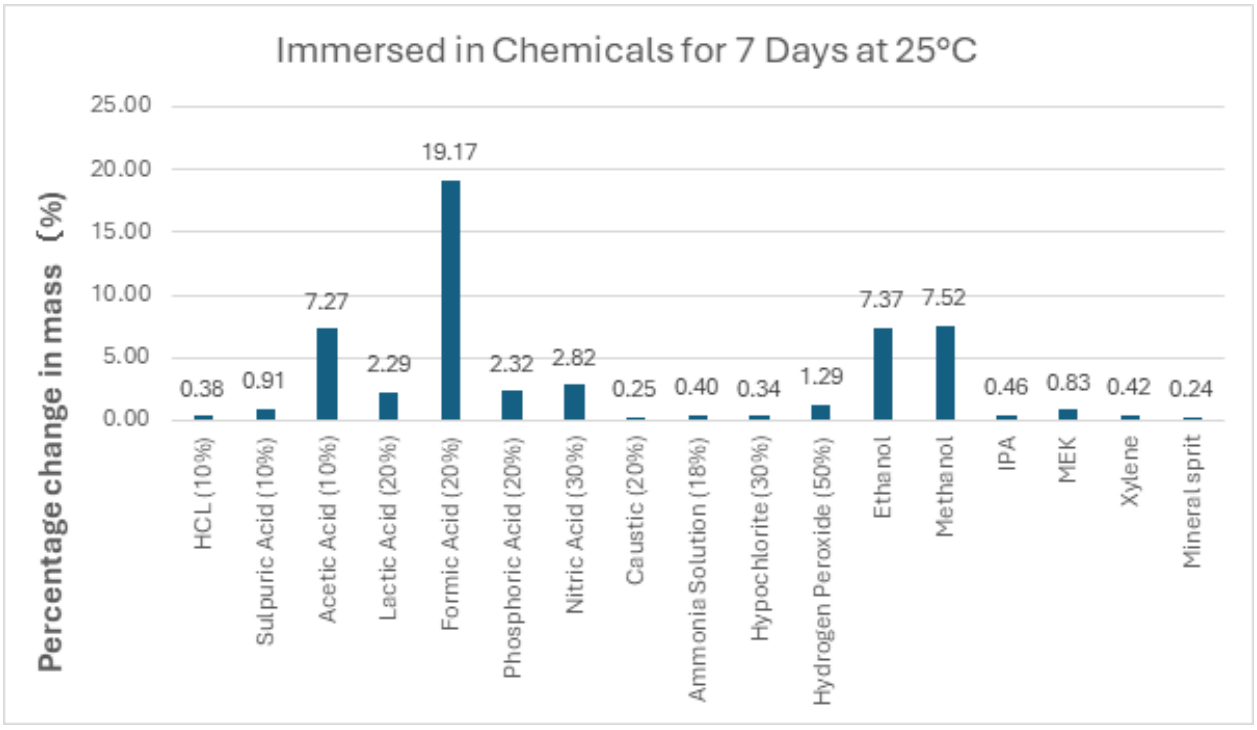
KEY
★ (Fair)
★★ (Good)
★★★ (Excellent)
NR (not Recommended)

CURED SYSTEM PROPERTIES

Property	Test Method	100/50
*Flexural Strength	ASTM D 790	81.2 MPa
*Compressive Strength - Ultimate	ASTM D 695	70.5 MPa

***Typical results under laboratory conditions.**


Immersed in Chemicals for 7 Days at 25°C
Percentage change in hardness (%)
0.0
-20.0
-40.0
-60.0
-80.0
-100.0
-120.0
HCL (10%) -3.0
Sulpuric Acid (10%) -2.9
Acetic Acid (10%) -30.4
Lactic Acid (20%) -7.2
Formic Acid (20%) -97.1
Phosphoric Acid (20%) -5.8
Nitric Acid (30%) -5.8
Caustic (20%) -1.4
Ammonia Solution (18%) -2.9
Hypochlorite (30%) -0.1
Hydrogen Peroxide (50%) -2.9
Ethanol -62.3
Methanol -62.3
IPA -4.3
MEK -8.7
Xylene -5.8
Mineral sprit -2.9


Immersed in Chemicals for 7 Days at 25°C
Percentage change in mass (%)
25.00
20.00
15.00
10.00
5.00
0.00
HCL (10%) 0.38
Sulpuric Acid (10%) 0.91
Acetic Acid (10%) 7.27
Lactic Acid (20%) 2.29
Formic Acid (20%) 19.17
Phosphoric Acid (20%) 2.32
Nitric Acid (30%) 2.82
Caustic (20%) 0.25
Ammonia Solution (18%) 0.40
Hypochlorite (30%) 0.34
Hydrogen Peroxide (50%) 1.29
Ethanol 7.37
Methanol 7.52
IPA 0.46
MEK 0.83
Xylene 0.42
Mineral sprit 0.24