

## ERS 2000R-FLEX GUARD

### LIQUID GRADE - PASTE GRADE

Versatile, high performance system for protection of concrete and steel, tanks, piping and floors.

High Impact/  
Vibration Resistance  
Superb Chemical Resistance  
Flexible  
Outstanding Adhesion  
Chemical and  
Mechanical Bond  
100% Solids no VOCs  
Suitable for Total and  
Permanent Immersion  
2 Year Storage Life  
Brush, Roller or Spray Applied  
Environmentally Friendly

- » **ERS-2000R** is a two component, 100% solids, highly cross-linked ceramic filled, Novolac epoxy coating system. The incorporation of recycled tire rubber provides flexibility and high impact resistance. Bridges micro-fractures in concrete.
- » **ERS-2000R** tolerates less than perfect surface preparation and even to damp substrates without primer. Effective against salts, alkalis, sewage and dilute mineral acids. Ideal for concrete in aqueous service in water / waste treatment; tanks, channels, wet wells and manholes. High performance alternative to coal tar epoxies for your toughest chemical attack problems.
- » **ERS-2000R** Paste Grade is readily applied by trowel or knife for restoring corroded wear to profile.
- » **ERS-2000AR** Flex Guard CM is a modified version with UHME and higher ceramic loading to produce a high slip finish with extreme abrasion durability.

- » Tank Linings and Coatings
- » Cooling Tower Pans
- » Secondary Containment
- » Pipe Lining and Coating

- » Pipewrap Systems
- » Railcar Tankers and Hoppers
- » Manholes and Wet Wells
- » Headworks and Grit Tanks

- » Channels
- » Aeration Units
- » Waste Pump Stations
- » Clarifiers

Universal use for erosion or corrosion protection from freshwater, saltwater, or wastewater.

#### TECHNICAL DATA

|                       |  |                  |           |
|-----------------------|--|------------------|-----------|
| Volume Capacity       | 231 cu in per gallon   |                  |           |
| Weight per gallon     | 10.33 lb.  |                  |           |
| Coverage per gallon   | 160 sf @ 10 mils DFT   |                  |           |
| Volume solids         | 100% (No VOC)  |                  |           |
| Applications required | 8-12 mils per coat vertical<br>18-24 mils flood coat on horizontals, typical |                  |           |
| Shelf Life            | 2 years  |                  |           |
| Mixing Ratio          | -Volume<br>-Weight   | Base             | Activator |
|                       |  | 3.0              | 1.0       |
| Color                 |  | 4.5              | 1.0       |
|                       |  | Gray on rust red | Amber     |

#### CURE TIMES

| Ambient Temp. | Pot Life  | Overcoat Window<br>Min — Max | Light Load | Aqueous Immersion | Full Service |
|---------------|-----------|------------------------------|------------|-------------------|--------------|
| 40° F         | 9 hr.     | NR                           | NR         | NR                | NR           |
| 50° F         | 3 hr.     | 8 hr. — 14 days              | 60 hr.     | 48 hr.            | 7 day        |
| 77° F         | 1 1/2 hr. | 4 hr. — 14 days              | 48 hr.     | 24 hr.            | 72 hrs.      |
| 95° F         | 45 min.   | 2 hr. — 18 hr.               | 28 hr.     | 18 hr.            | 12-24 hrs.   |

#### PUMP SPECIFICATIONS

| Pump Ratio | Minimum Output | Minimum Hose ID | Maximum Hose Length |
|------------|----------------|-----------------|---------------------|
| 56:1       | 5,600 psi      | 3/8 - 1/2-in    | 60-ft.              |

#### PHYSICAL PROPERTIES

|                      | Test Value T      | Test method |
|----------------------|-------------------|-------------|
| Compressive Strength | 10,000-13,000 psi | ASTM C109   |
| Pull Off Adhesion    | 2,800 psi         | ASTM D4541  |
| Rockwell Hardness    | 83-90 Shore D     | ASTM D2240  |
| Abrasion Resistance  | 80 mg             | ASTM D4060  |
|                      | (CS17 Wheel 1kg)  |             |

#### CHEMICAL RESISTANCE

|                                |                                 |
|--------------------------------|---------------------------------|
| Acetic Acid (up to 10%)        | Isopropyl Alcohol               |
| Alkalis                        | Mineral Spirits                 |
| Ammonium Hydroxide (up to 25%) | Organic Acids (Mild)            |
| Brine Water                    | Potassium Hydroxide (up to 50%) |
| Copper Sulfate                 | Sodium Chloride                 |
| Diesel Fuel                    | Sodium Hydroxide (up to 50%)    |
| Ethylene Glycol                | Sulfuric Acid (ip to 75%)       |
| Gasoline                       | Sewage                          |
| Hydrochloric Acid (up to 30%)  | Urea Solutions                  |
| Hydrogen Sulfide               | Water; potable, salt and waste  |

#### SERVICE TEMPERATURE

|              | Max continuous Exposure | Short Term Spike (30-60 min) |
|--------------|-------------------------|------------------------------|
| Dry Service  | -30°F – 220°            | 250°F                        |
| Spill/Splash | 190°F                   |                              |
| Immersion    | 150°F                   |                              |

Your Local **ERS** Representative

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#### USING ERS-2000R

**Surface preparation:** ERS-2000R should only be applied to clean, dry, and well-roughened surfaces. Depending on the surface, solvent clean or remove contamination by abrasive blasting, steam cleaning, high pressure water blasting, acid washing, or other suitable means. **SALT-X** should be used for seawater, salts, bromates, phosphates, gypsum or lime.

**Metal, steel, and iron:** Remove all oil, grease, or scale from the surface and then blast with an angular grit to give a minimum of 2-3 mil profile for the following services:

|                      |                            |
|----------------------|----------------------------|
| Non-chemical Service | SSPC-SP6 Commercial Blast  |
| Intermittent Splash  | SSPC-SP10 near White Metal |
| Immersion/Abrasion   | SSPC-SP5 White Metal Blast |

**ALUMINUM AND FRP:** Use an alkaline detergent cleaner to provide a clean, uniformly textured surfaced.

**Concrete:** All concrete surfaces should be primed with **ERS-1100** to avoid out gassing and to increase adhesion. Although **ERS-1100** can be applied to concrete that has cured a minimum of 7 days, it is recommended that it has aged at least 28 days before coating. Wash down old concrete to remove residues and neutralize the pH before surface prep. A second wash may be required for severe service. Sandblast, scarify or water blast to remove any form-release agent, curing agent, laitance, calcification or sealant. Two coats of **ERS-1100** may be needed to prevent bubbles on highly air-entrained concrete.

**Mixing Procedure:** (Mixing partial kits is not recommended.)

1. Empty all the hardener into the resin container.
2. Mix thoroughly with a mechanical mixer (or stirrer). Continue for 2 minutes after consistency is uniform. Keep blade low, to avoid trapping air.

**Thinning:** Thinning is not generally recommended. If thinning is necessary below 60°F, add 4-6 fl. oz. of MEK to the resin and mix thoroughly before adding to the hardener. Do not exceed 10% solvent by volume.

**Application:** Pour blended coating into rolling tray or a large basting pan to a depth of 3/8-in. or less to reduce exothermic, heat generation and shortened pot-life.

1. If the ambient temperature is 85°F or higher, pot life may be as short as 10 minutes. Keep the material cool or put the tray on ice to extend life.

2. **ERS-2000R** should not be applied below 40°F

3. **ERS-2000R** may be applied when the relative humidity is over 85% even if the substrate is damp. (Adhesion may be reduced)

4. Apply additional coats when the previous coat will string out (pigtail) and hold its shape when touched. Second and subsequent coats must be applied before the previous coat has completely cross-linked. If the overcoat window has expired, then brush blast before the next application.

5. The same procedure applies for overlapping seams of adjacent coating to create a continuous, monolithic film. Power brush / sand the seam, if blasting is not possible.

**Speed Curing:** The cure time can be reduced and performance enhanced by applying heat during curing.

**Clean up:** Use a mixture of MIBK and butyl acetate (50/50), MEK or MIBK and xylene (50/50) for clean up. Skin can be cleaned with denatured alcohol (ethanol.)

**Technical Support:** The ERS engineering team is always available to provide technical support and assistance. For guidance on any question, call your local ERS rep or the ERS Engineering Center.