610-874-8436
ers@wasinc.com

ENGINEERED RESIN SOLUTIONS

EXTERME SERVICE

ERS 5400-CHANNEL GUARD HP

LIQUID GRADE-PASTE GRADE

Ultra high performance in the most aggressive chemical and abrasive environments, even at elevated temperatures.

- Exceptional Chemical Resistance
- Extreme Abrasive Resistance
- Extraordinary Performance at Elevated Temperatures
- Outstanding Adhesion
- Suitable for Total and Permanent Immersion
- 100% Solids
- 2 Year Storage Life
- Brush, Roller or Spray Applied
- Environmentally Friendly

» **ERS-5400** is a two component, 100% solids, Novolac epoxy, ceramic filled coating system, engineered for maximum heat and chemical resistance. It provides unrivalled protection and durability against a broad range of organic and inorganic acids, alkalis, solvents, salts and hydrocarbons.

» **ERS-5400** Liquid Grade is user friendly and readily applied by brush, roller or spray. Maintenance professionals everywhere, are turning to **ERS-5400** for their toughest chemical attack problems.

» **ERS-5400** Paste Grade is designed for knife or trowel application to restore corrosion to profile, for tube sheet refurbishment and ERS pipewrap systems.

- » Steel Structures
- » Stacks
- » Baghouses
- » Scrubbers
- » SDA Turning Vanes
- » Condenser Tube Sheets
- » Channel Boxes
- » Pump Impeller and Volutes
- » Tank Linings
- » Chemical Pipe Linings
- » Pipe Wrap Systems
- » Railcars
- » Secondary Containment
- » Tube Sheets

The finest chemical protection system for elevated temperatures in aggressive environments. For plant, equipment, machinery and structures.

TECHNICAL DATA

Volume Capacity	231cu in per gallon		
Weight per gallon	11.39 lb.		
Coverage per gallon	160 sf @ 10 mils. DFT		
Volume solids	100% (No VOC)		
Applications required	2-3 coats at 10-12 mils each 3-4 coats at 10-12 mils each for high temperature or severe chemical service		
Shelf Life	2 years		
Mixing Ratio	-Volume	3.0	1.0
	-Weight	5.0	1.0
Color		Light Gray	Amber

CURE TIMES

Ambient Temp.	Pot Life	Overcoat Window Min	Overcoat Window Max	Light Load	Aqueous Immersion	Full Service
50° F	2h.	8 hr.	24 hr.	28 hr.	72 hr.	14 days
77° F	1h.	3 hr.	12 hr.	12 hr.	30 hr.	7 day
140° F	25 min.	30min.	1 hr.	1 hr.	2 hr.	4 hr.

Discoloration >200°F (93°C), no impact on performance

PUMP SPECIFICATIONS

Pump Ratio	Minimum Output	Minimum Hose ID	Maximum Hose Length
56:1	5,600 psi	3/8 - 1/2-in	50-ft.

PHYSICAL PROPERTIES

	Test Value T	Test method
Compressive Strength	14,500 psi	ASTM D695
Pull Off Adhesion	2,800 psi	ASTM D4541
Rockwell Hardness	85	ASTM D2240
Abrasion Resistance	32 mg	ASTM D4060 (CS17 Wheel 1kg)

CHEMICAL RESISTANCE

Ammonium Hydroxide	MEK
Aromatic & Aliphatic Solvents	Nitric Acid (up to 30%)
Black Liquor	Organic Acids (many)
Butyl Acetate	Phosphates
Chlorinated Solvents	Phosphoric Acid (up to 100%)
(except Methylene Chloride)	Potassium Hydroxide
Chlorides	Salts
Hydrochloric Acid (up to 100%)	Sodium Hydroxide (up to 50%)
(38% hydrogen chloride)	Sodium Hypochlorite (up to 50%)
Hydrofluoric Acid (up to 35%)	Sulfides
Hydrogen Sulfide	Sulfuric Acid (To 98%) White Liquor

SERVICE TEMPERATURE

	Max continuous Exposure	Short Term Spike (30-60 min)
Dry Service	450°F (232°)	500°F
Spill/Splash	360°	
Immersion	300°	

Your Local **ERS** Representative

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USING ERS-5400

Surface Preparation: ERS-5400 should only be applied to clean, dry and well-roughened surfaces. Depending on the surface, solvent clean or remove contamination by abrasive blasting, stream 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 severeservice. 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. Thoroughly mix the resin before adding hardener.

2. Empty all the hardener into the resin container.

3. 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 60ºF, add 4 – 6 fl. oz. of MEK to the resin and mix thoroughly before adding 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 85ºF 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-5400 should not be applied below 40ºF.

3. ERS-5400 should not be applied (nor should blasting commence) if the relative humidity is over 85% or if the substrate is less than 5ºF above dew point.

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 theovercoat 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.