RTE-100 CRE
Chemical Resistant Epoxy

DESCRIPTION

RTE-100 CRE is a high-performance hybrid (Bis. F and Bis. A) 2-component epoxy. Featuring outstanding abrasion and chemical resistance. It is a low viscosity, low odor, 100% solids thermosetting epoxy designed especially for challenging flooring environments, such as industrial kitchens, commercial laboratories, and wine and spirit processing facilities subjected to heavy foot traffic, forklift traffic, and chemical attack, specifically food acids. This is a Thru-Product™ that can be applied directly to properly prepared substrates as a primer, body coat (with/without aggregate), and topcoat. It is VOC Compliant in all states and provinces in North America.

EPOXY HARDENER – SELECTION GUIDE Resintek Systems offers 3 types of hardeners depending on installation demands, ambient temperature, and surface temperature conditions. The hardeners are described as “S”, “F” or “H” which is added as a suffix, i.e. RTE-100 CRE, which denotes the standard hardener. When in doubt about which hardener to use contact a Resintek Systems representative. “S” – Standard Cure Hardener is designed for temperatures ranging from 50°F to 80°F (10°C to 27°C). This hardener is the most popular hardener product. “F” – Fast Cure Hardener is designed for temperatures ranging from 40°F to 60°F (4°C to 16°C). “H” – Hot Cure Hardener is designed for temperatures ranging from 80°F to 90°F (27°C to 32°C).

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Uses
- Animal Care and Housing Floors
- Automotive Show Room and Repair Floors
- Commercial Bakeries and Kitchens Floors
- Food, Beverage and Spirits Processing
- Hospital and Health Care Facility Floors
- Laboratories and Research Floors
- Manufacturing and Warehouse Floors
- Mechanical Equipment Room Floors
- Pharmaceutical Floor

LIMITATIONS
- This product is best suited for applications in temperatures between 60°F to 90°F (16°C to 32°C). See Resintek Systems Technical Bulletin: 7 Temperature and Relative Humidity Limits.
- Scratches in certain colors may appear white, such as blue pigmented products.
- Higher temperatures will result in shortened working times and faster drying time.
- Color may vary due to batch to batch variation, always "box" different batches to avoid it.

COLORS
Clear, 15 Standard Colors* and Custom Colors. Available in factory pigmenting or Resintek Systemst PigmentPack

*See Resintek Systems Standard Color Guide Acrylics, Epoxies, Polyaspartics, Polyurethanes (PigmentPack).

Advantages
- Complies with USDA, FDA, Food Safety Modernization Act. See Resintek Systems Technical Bulletin: 3 Food and Beverage Compliance.
- Slip Resistance (ADA) See Resintek Systems Technical Bulletin: 4 Coefficient of Friction.
- LEED® and Green Seal® requirements. See Resintek Systems Technical Bulletin: 5 LEED and Green Seal Information.
- VOC and EPA Compliant all states and provinces in North America. Cures to an inert finish. See Resintek Systems Technical Bulletin: 2 VOC Compliance.
- Strong and Tough Floor
- Excellent Chemical and Abrasion Resistance
- Good UV Resistance for an Epoxy (Hander "S" has the best UV color retention)
- Can be used as a "single Thru-Product": Primer, Body (with/without aggregate) and topcoat)
- Designed for new floors and for resurfacing old floors

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Physical Properties at 77°F (25°C)			
VOC (Volatile Organic Compounds), (VOC Calculated Per ASTM D3960)			0 gr./lt.
Standard Viscosity Clear, Mixed Epoxy and Hardener			650 cps
Standard Viscosity Clear, Mixed Epoxy and Hardener, at 50°F (10°C)			1200 cps
8320-S CrownShield (Standard Cure - Clear Only) Dilute 10% Acetone	50°F (10°C)	77°F (25°C)	90°F (32°C)
	300 cps	120 cps	60 cps
Mix Density Clear, Mixed Epoxy and Hardener			9.23 lbs./gal
Pot Life,1 gallon (3.79 liters) Mass, Pot Life is Reduced by Increases in Mass and Temperature			20 Minutes
Mix Ratio, by Volume			2:1
Minimum Application Temperature with "F" Fast Cure Hardener			40°F
Dry to Touch 40°F to 90°F (4°C to 32°F)			4 to 6 Hours
Recoat Time 40°F to 90°F (4°C to 32°F)			12 to 72 Hours
Light Traffic 40°F to 90°F (4°C to 32°F)			24 Hour Minimum
Full Cure 40°F to 90°F (4°C to 32°F)			7 to 14 Days
Shelf Life (shipped and stored) at 40°F to 100°F (4.4°C to 38°C)			1.5 Years
Packaging 3 and 15 gal. (11.4 and 56.8 liters)			

Mechanical Properties at 77°F (25°C)	
Surface Preparation ICRI 310.2R Concrete Surface Profile (CSP 2 and above) Depending on System to be Installed and Condition of Concrete.	
Compressive Strength, ASTM D695, 7 Days	12,000 PSI
Tensile Strength, ASTM D638	4,500 PSI
Tensile Elongation, ASTM D638	2%
Adhesion, ASTM D7234, Concrete Failure	>400 PSI
Hardness (Shore D) ASTM D2240	80-85
Water Absorption, ASTM D570 Resin & Hardener	0.15%
Abrasion Resistance, ASTM D4060 Resin & Hardener 500 cycles, Wheel No. CS17, 1000 gr. Load	0.026 gr.
Microbial (fungi) Resistance, ASTM G21 (Without the Anti-Microbial Agent)	Pass #1
Dynamic Coefficient of Friction, ASNI 326.3. Depends on texture of system selected, ranging from smooth to aggressive. BOT 3000E	>0.45(inclines) >0.42(level)
Moisture Vapor Emission Rate, ASTM F1869*	3 lbs.
Moisture Relative Humidity, ASTM F2170*	80% RH
Relative Humidity, F2170 Concrete Place NOT per ACI 302.2R must be tested per Crown Polymers Technical Bulletin: 6 Moisture Mitigation Negative Side Moisture Barrier and Consult Crown Polymers Representative	

Note: though testing is critical, it is not a guarantee against future problems. This is especially true if there is not a positive side vapor barrier or it is not functioning properly and/or concrete has contamination from oils, chemical spills, densifiers, excessive salts or other bond breakers.

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COVERAGE RATE PER GALLON
• Primer: 160 to 200 sq. ft. (14.9 to 18.9 sq. m.) to 10 mils (WFT)
• Coating: 100 to 160 sq. ft. (9.3 to 14.9 sq. m) 10 to 16 mils (WFT)
• Broadcast and Trowel: Varies Depending on the thickness of the system selected. 1/16 inch to ¼ inch and more.

HANDLING and SAFETY Warning! Eye and skin irritant. May cause dermatitis and sensitization. Always read and follow the product SDS. Avoid contact with eyes, skin, and clothing. Avoid breathing vapors, mist, and spray. Use good ventilation.

CONCRETE
Concrete must be structurally sound and free of curing agents, coatings, sealers, densifiers, and other bond breakers.
New Concrete:
• Place concrete per ACI 302.2R Guide for Concrete Slabs that Receive Moisture-Sensitive Floor Materials.
• Water Cement Ratio 0.4 to 0.5, and an approximate 4,000 psi (28 MPa) strength level.
•Requiring a positive side moisture barrier in direct contact with the concrete meeting ASTM E1745 Standard Specification for Plastic Water Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs.
• The moisture barrier needs to be placed per ASTM E1643 Standard Practice for Selection, Design, Installation of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs, Class A 15 mils (0.38mm)
Existing Concrete:
If field tests or laboratory analysis reveals inferior concrete flooring slabs containing contaminants from previously applied unreacted silicate materials that will interfere with the bond, use Resintek Systems epoxy primer. **See Resintek Systems Technical Bulletin: 20 Selecting a Primer.**
• Contaminants include, but are not limited to organic hydrocarbon materials, calcium chlorides, and aluminum stearates.
• Concrete flooring slab can lose their structural strength over time, caused by conditions beyond the control of the flooring manufacturer or the installation contractor.
• If the concrete substrate deteriorates sufficiently, it will no longer support the bond of the remediation floor system.

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Such conditions are detailed in ACI 201.2R "Guide to Durable Concrete" published by the American Concrete Institute. **See Resintek Systems Technical Bulletin: 1 Concrete Surface Preparation.**

CHEMICAL RESISTANCE DATA
See Resintek Systems Technical Bulletin: 9 Chemical Resistance Guidelines and Chart.

CHECK CONCRETE MOISTURE
The concrete must be dry before application of this floor coating material. Concrete moisture tests are required, either ASTM F1869 (calcium chloride) or ASTM F2170 (in situ RH probe). **Refer to appropriate Technical Data Sheet limits and Resintek Systems Technical Bulletin: 6 Moisture Mitigation Negative Side Moisture Barrier.**

CHECK TEMPERATURE & HUMIDITY
Floor and material temperature must be at or above the published Technical Data Sheet. Dew Point must be 5°F (3°C) or more below the surface temperature. Do not apply if humidity is at or above 85%. **See Resintek Systems Technical Bulletin: 7 Temperature and Relative Humidity Limits.**

SURFACE PREPARATION
Surface preparation per: ICRI Guideline No. 310.2R Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, Polymer Overlays, and Concrete Repair. The pH of the concrete substrate should be at 9 or above. All bond-breaking material must be removed. **See Resintek Systems Technical Bulletin: 1 Concrete Surface Preparation.**

APPLICATION EQUIPMENT Depending on system applied:
Disposable 3" brush for cutting in, variable low-speed drill (450 rpm) with Jiffy® type impeller mixing paddle, 3/8 inch nap non-shedding phenolic core roller and frame, and V-notched rubber squeegee.

OPTIONAL ANTIMICROBIAL
The antimicrobial additive is a non-heavy metal biocide that can be added during the manufacturing process. The antimicrobial agent can be added to the topcoat only for an economical application or it can be added to each step of the application, primer, body coat, and topcoat, which is recommended for abusive environments. See Resintek Systems Technical Bulletin: 11 Understanding the Optional Antimicrobial Additive.

MXING For ease of mixing and placement, the temperature of the "A" and "B" components should be between 70°F to 80°F (21°C to 27°C). Pre-mix the "A" and "B" components to ensure all raw material and pigments are dispersed uniformly. Box pigmented products if using different numbers for uniformity of color. **See Resintek Systems Technical Bulletin: 10 Mixing Guidelines.**

APPLICATION
After mixing all contents as instructed, immediately pour all liquid material onto the properly prepared concrete substrate, or next epoxy lift in ribbons and squeegee the material out evenly. Check for desired wet film thickness with a WFT Gauge. Back-roll and cross-rolling of material are critical. If broadcasting aggregate, broadcast into the wet material. Place trowel mortar mix within installation sequence. Lock coat, grout coat, or topcoat. Place all steps per Resintek Systems Installation Instruction.

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SKID-RESISTANCE
Skid-Resistance – Field (in situ) Wet Dynamic Coefficient of Friction (DCOF), ANSI A326.3. See Resintek Systems Technical Bulletin: 4 Coefficient of Friction.

SHIPPING and STORAGE
Ship and store material between 40°F to 90°F (4°C to 32°C). Store in a dry environment and out of direct sunlight.

SHELF LIFE
Shelf life is 1 year from the date of manufacturer, provide the containers are unopened.

CLEAN-UP
Clean-up mixing station, tools, and equipment as required. Use acetone, a VOC exempt solvent, for cleaning up. Observe all legal, and health, and safety precautions when handling or storing solvents and materials, particularly in confined spaces. Make sure the working areas are well ventilated at all times during placement and curing time.

DISPOSAL
Dispose of empty packaging and other waste in accordance with federal, state, provinces and local regulations.

MAINTENANCE
Inspect the installed floor by spot cleaning and spot repairing the damaged or cracked areas. To prolong life of the flooring system, a daily maintenance program is highly recommended to ensure the floor is safe for its intended purposes. **See Resintek Systems Technical Bulletin: 8 Care and Maintenance.**

TECHNICAL SUPPORT
For questions, contact a Resintek Systems Representative. Additional Support Documents are available from Resintek Systems, including brochures, application guidelines, videos and more. Visit resinteksyetems.com or contact Resintek Systems for additional resources.