

ResinTech EWS, SINGLE BROADCAST

1/16" (60 MIL AVE.) SINGLE BROADCAST EPOXY SYSTEM

DESCRIPTION:

ResinTech Extreme Wear System offers a seamless 1/16" finished thickness, showcasing a sophisticated floor coating option. This detailed manual suggests using ResinTech's Transparent Universal Epoxy (TUE) as the main base coat for the application. Yet, alternative High-Performance Polyaspartic (HPP) might be chosen in various scenarios or if quick curing becomes essential. Various textures are possible, allowing customization depending on the preferred smoothness or textured appearance.

RECOMMENDED USES:

- Parkade Re-coat Applications
- Automotive Service & Wash Bays
- Car Washes
- Commercial Kitchens
- Loading Docks
- Mechanical Rooms
- Food & Beverage – Canning, Bottling, & Distribution
- Educational Environments – Laboratories, Locker Rooms, Restrooms, Pool Decks & more
- Medical/Pharmaceutical – Laboratories, Locker Rooms, Water Therapy rooms, Restrooms, Corridors and more

HIGHLIGHTS:

- Durable & Abrasion Resistant
- Decorative
- Seamless & cove optional
- Easy to clean
- High Chemical Resistant to most acids, bases, fuels, solvents, & alcohols
- Low Odor & Low VOC
- Overnight return to service
- Available in clear and all standard solid industrial colors

POTLIFE & CURE TIMES

(72°F / 50% RELATIVE HUMIDITY):

Temperature	TUE	HPP
Pot Life	35 minutes	15-20 minutes
Working Time	45 minutes	15-20 minutes
Tack Free	12-14 hours	2-3 hours
Recoat	4 – 24 hours	0.5 -1 hours
Foot Traffic	14-18 hours	3 hours
Heavy Traffic	36 hours	5-7 hours
Full Cure	6 – 7 days	5 days

CURED COATING PROPERTIES (DRY FILM):

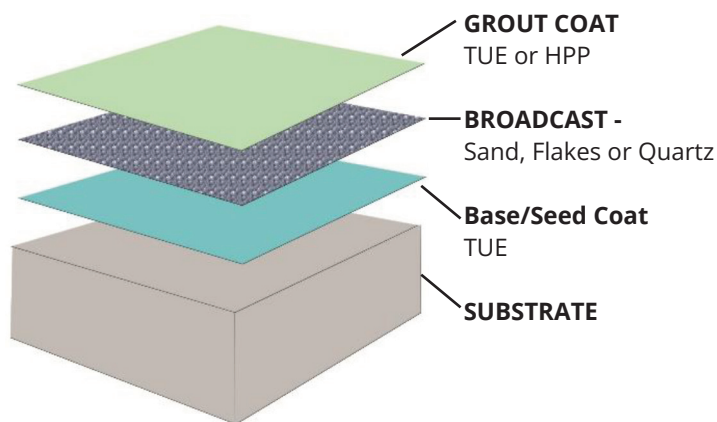
Property	Test Method	Results
Abrasion Resistance, <i>mg/loss</i> *Taber Abraser	ASTM D4060	25 mg (TUE)
Compressive Strength, psi (MPa)	ASTM D695	13,000 psi (89.7 MPa)
Flexural Strength - psi (MPa)	ASTM D790	6,500 psi (44.8 MPa)
Tensile Strength, psi (MPa)	ASTM D2370	8,586 psi (59.2 MPa)
Impact Resistance - Tested on concrete block	ASTM D3134	Pass
	ASTM D2794	160 in.lbs.- no delamination/chipping
Shore D Hardness	ASTM D2240	85 – 90
VOC's-Volatile Organic Compounds	ASTM D3960	<2 g/L
Flammability	ASTM E648	Class 1 (Self Extinguishing)
Water Absorption	ASTM D543	0.2%
Adhesion to Concrete	ASTM D4541	Concrete Fails

* CS-17 Taber Abrasion Wheel, 1,000 gram load, 1,000 revolutions Results are based on conditions at 77°F (25°C), 50% relative humidity.

APPROXIMATE COVERAGE:

Coverage will vary depending on the application thickness, floor profile and absorptency of the concrete.

Layer	Coverage
Base/Seed Coat	10 – 20 mills (80 – 160 sq.ft./gal)
Sand Broadcast	0.4 – 0.5 sq.ft. per lbs. (100 sq.ft. per 50 lbs. bag) per broadcast
Grout Coat	16 – 20 mills (80 – 100 sq.ft./gal)
Optional– Topcoat	Varies based on desired texture & sheen



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CHEMICAL RESISTANT:

Refer to the product used as the final wear surface/topcoat for chemical resistance.

NECESSARY TOOLS AND EQUIPMENT:

- Plastic Sheeting, Ram Board or similar to cover floor for mix station
- Painters tape
- 2" wide chip paint brushes
- 4" or 6" wide 3/8" nap trim paint rollers and frames
- Quartz blower or extra 5 gallon pails for seeding Quartz
- Paint or Jiffy mixing paddle
- Low speed 1/2" drill (Variable Speed 650 rpm or less)
- Gauging tool:
- 1/16" X 1/16" V-Notch Squeegee for metering 12-15 mils
- Flat blade Squeegee for grout coat
- 5 gallon pails for mixing
- Premium, Non-Shed 3/8" Nap Paint Roller Covers
- Paint Roller Frame with Extension Pole
- Spiked shoes or Soccer Cleats
- Cleaning Solvent (Acetone, MEK, Xylene)

NOTE: The mix station and all application equipment should be ready for immediate use prior to mixing any product due to the epoxy pot life once mixed. Only mix enough epoxy to be placed within 15 minutes allowing for proceeding batches to tie into the wet edge for an additional 15 minutes at 72°F. Higher temperatures and humidity will shorten pot life.

INSPECT THE SUBSTRATE:

Ensure the substrate is structurally sound, solid, and free of any bond breaking contaminants, such as oil, paint, densifier / sealers, curing compounds, wax, silicone, etc.

CHECK FOR MOISTURE:

Testing concrete moisture via both the Calcium chloride (ASTM F1869) and In-situ Relative Humidity (ASTM F2170) methods is highly recommended to accurately determine both the Moisture Vapour Emission Rate (ASTM F1869) and the available Moisture Content (ASTM F2170) at the time of testing. Using only one test method will not give all of the necessary information and may not identify other potential risks that may pose a risk for delamination, chemical attack, etc.

Results must be below 3 pounds (ASTM F1869) as well as between 8.5 to 11.5 pH and below 75% relative internal concrete humidity (ASTM F2170). Testing taking place in non-acclimated interior environment(s) will void the results. ResinTech's TUE, in

conjunction with proper testing and mechanical preparation, will reduce the moisture vapour emission rate to an acceptable level within the tolerance of subsequent coatings when testing determines osmotic moisture vapour levels up to 15 lbs. and between 8.5 to 14 pH (ASTM F1869) and up to 100% RH (ASTM F2170). NEVER USE SILICATES FOR MOISTURE VAPOUR REMEDIATION.

ResinTech Products is strictly a product manufacturer and does NOT offer any testing or analysis but may be able to offer guidance to an appropriate testing lab or third party inspector. When in doubt, hire a qualified third party testing firm.

SUBSTRATE PREPARATION:

CONTAMINATION OF SUBSTRATE: Concrete is porous and can become contaminated with oils, chemical from spills, etc. which act as a bond breaker. Determine if a potential bond breaker exists and a proper course of remediation.

OIL CONTAMINATION: Xylene or Acetone may be used to remove oils, such as petroleum, synthetic and food oils, from the surface of the concrete prior to mechanical preparation. Wood substrates contaminated with oil may require removal and replacement of the oil contaminated area with new wood to ensure proper adhesion.

CHEMICAL CONTAMINATION: Chemical contamination should be determined and may require additional testing. Once the type of contaminant is determined, contact ResinTech's representative for recommendations while following local regulations regarding contaminant and disposal.

NOTE:

- DO NOT USE MURIATIC/HYDROCHLORIC ACID TO PREPARE CONCRETE AS CHLORIDE CONTAMINATION CAN OCCUR
- When etching, ensure all Green Clean Pro has been thoroughly removed with potable water with no remaining soapy residue or cement slurry.
- DO NOT USE on "Green" concrete (less than 30 days old), Hard Trowel Finished concrete or previously sealed/coated/painted concrete to including any type of curing compound

TEMPERATURE AND HUMIDITY:

Substrate temperature and materials must be maintained between 50°F (10°C) to 85°F (29.4°C) with less than 80% Ambient Humidity for 48 hours prior to an 24 hours after installation. Do not install coatings when the Dew point is within 5° of the temperature.

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MECHANICAL PREPARATION:

Achieve a CSP 3 to 6 (Concrete Surface Profile) in accordance with ICRI Guideline 310.2R2013, as published by the International Concrete Repair Institute in order to maintain long term adhesion to the substrate.

Recommended preparation methods below:

- **Diamond Grind:** Use 16 to 30 grit metal soft bond diamonds with an appropriate industrial, weighted head floor grinder to thoroughly remove the concrete surface until uniformly white.
- **Steel Shot Blast (Shot size S-230 to S-460 grit recommended):** Uniformly profile and clean concrete substrates overlapping each pass until white, clean concrete exists. Use magnetic broom to remove excess shot, sweep to remove large debris and vacuum to remove fine dust. Avoid stationary blasting as micro-cracking the concrete surface may potentially causing future coating delamination.
- **Scarify:** Sweep to remove large debris and vacuum to remove fine dust. Scarify to uniformly remove the concrete surface until white. Thoroughly vacuum all dust and debris. Ideal preparation method for weak concrete surfaces, previously coated floors, adhesive residues or applications greater than 125 mils thick.

*Key in all termination points using a diamond cutting blade prior to any above preparation method.

Please refer to ICRI Guideline 310.2R2013 for more in-depth preparation details and recommendations.

Should verification of proper adhesion be desired or when applying ResinTech's Extreme wear system over an existing coating, follow ASTM D 4541 using an Elcometer to determine a direct tensile pull-off strength greater than 250 psi (1.7 MPa) to pass the test. It is highly recommended that a 10 foot by 10 foot test area be applied of the entire desired coating system and allowed to cure for no less than 1 month prior to performing an in-situ direct tensile bond test to determine adhesion strength values.

JOINTS:

Cut all joints open with a Diamond cutting blade and fill with mix of TUE and ResinTech's cement filler prior to priming the substrate. As TUE is not as flexible as a moving joint, honoring of the joint at the surface after the resurfacing layer is applied then fill with an appropriate joint filler can lessen joint telegraphing.

CRACKS & OTHER SURFACE REPAIRS:

Surface defects may be repaired prior to ResinTech's Extreme wear system:

ResinTech's TUE – Self Leveling Slurry (30 mils to 500 mils)

ResinTech's-100 – Epoxy Mortar System for curbing, sloping, deep repairs, etc. (>1/8" to 1" thick)

Please contact ResinTech for more recommendations for crack repairs, joint wall rebuilding, etc.

RADIUS OR CANT COVE:

Prime wall surface with ResinTech's TUE used a paint brush or trim roller. Cove must be applied into fresh, wet primer otherwise the cove mix will slide across the cured primer surface.

- Mix 1 quart ResinTech's TUE Part A with 1 quart of Silica Fume (i.e. Cab-O-Sil or similar) to a homogenous, lump free consistency then mix in pint of TUE Part B for 60 seconds. Once the Cove Matrix is mixed, add in 4-5 parts by volume (10 to 12.5 quarts) of Color Quartz mixing for an additional 1-2 minutes or until thoroughly blended. Slowly add in the Color Quartz while the drill is running to avoid dry pockets of Color Quartz in the mixture. Immediately begin troweling the cove blend onto the wall and finish.

Do NOT mix more material than can be placed, finished and tied into with subsequent batches within a 15 minute period at 75°F substrate temperature.

PRIMING:

Priming is encouraged and is necessary on highly absorbent substrates. Should moisture vapour/alkalinity remediation be necessary, please refer to the 2 coat application method of TUE with a Sand Broadcast into the second coat then continue with the remainder of the EWS from the grout coat section below skipping the body coat section.

BODY COAT:

Mix 15 Liters of TUE

- 10 Liters Epoxy Parts A
- 5 Liters Epoxy Part B
- 1 unit Epoxy Colorant

Mix for 2 minutes then pour mixture onto the substrate in ribbons. Immediately spread using a 1/16" x 1/16" V-Notched Squeegee to meter out the body coat then backroll with a 3/8" nap non-shed paint roller on an extension pole. While the epoxy is fresh, begin seeding in the Sand or Color Quartz to rejection until no epoxy or damp areas are seen. Continue this process until the entire area desired to be coated is finished. Allow to dry until the floor can be walked on without dislodging the aggregate from the epoxy then sweep up and thoroughly vacuum off the loose sand reclaiming the excess for later phases/use, if desired.

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Once all of the loose, excess aggregate has been removed from the broadcast layer, scrape off any sharp ridges using a drywall tape knife attached to an extension pole then thoroughly vacuum the entire surface twice. First in a North-South direction followed by a second pass vacuuming East-West.

Grout Coat product options include:

- ResinTech's TUE (Summer Formula/Regular Cure)
- ResinTech's HPP 100 (Fast Cure)

Ambering/Yellowing is typical of epoxy based products and will occur faster when exposed to UV light. UV Stabilizer additives only slow this process. If ambering/yellowing is not acceptable, please use the above Polyaspartic (HPP) for grout coating.

Mix the desired product and pour out over the broadcast layer then immediately spread with a flat squeegee. Continue mixing and spreading the grout coat keeping a wet edge between batches. While where cleats, walk into the fresh grout coat and backroll with a 3/8" nap paint roller attached to an extension pole to finish to break the surface tension. DO NOT AGGRESSIVELY agitate while rolling to avoid air entrapment and/or bubbles in the finish.

The greater the quantity of product used to grout coat over the sand will lessen the finish texture. For a more aggressive finish, use less product.

Most aggressive/course texture – yield of 200 sq.ft. per gallon
Least aggressive/smooth texture – yield of 80 sq.ft. per gallon

OPTIONAL LAYERS OR TOPCOATS:

Allow the grout coat to cure before walking on, sanding or applying any optional proceeding layers and topcoats. Cooler temperatures and thicker applications of the grout coat will extend the cure time. Please see the individual product data sheet for more details.

If top coating or additional layers are desired, sanding of the surface (for adhesion) within the first 24 hours after at temperatures below 85°F is not required. However, beyond 24 hours, the surface will need to be abraded using 80 grit sandpaper using an orbital Low Speed Swing Buffer to abrade the surface then cleaned prior to the next layer. If sanding, a good rule of thumb is to wait overnight to avoid damaging the fresh grout coat however, HPP 100 may be sanded after a couple of hours with temperatures above 75°F. More aggressive grit screens or sandpaper may create burns, scuffs and other surface defects, especially within 12 hours after the initial installation, which topcoats and subsequent thin layers may not hide. Hard to reach areas or any depressions should be made

uniformly dull using an orbital palm sander and 60 to 100 grit sandpaper. Done correctly, the surface should be uniformly dull with no scratches easily identified.

Once uniformly dull and properly abraded, vacuum the entire surface followed by either a thorough Acetone solvent tack rag wipe or use an auto-scrubber with white, soft nylon bristle brushes and a very mild neutral detergent and then a clean water rinse. Once dry, check the surface to ensure all dust has been removed before proceeding with the next layer.

SLIP RESISTANCE:

ResinTech Products recommends the use of angular slip-resistant aggregate in all coatings that may be exposed to wet, oily or greasy conditions as well as any condition where increased traction may be necessary. It is the contractor and end users' responsibility to determine the appropriate traction needs and footwear necessary for the conditions as well as setting performance parameters prior to beginning the application, testing to determine parameters have been met upon completion to achieve the end users documented safety standards.

Mock-ups are highly recommended as part of the evaluation process to determine the appropriate amount of slip-coefficient necessary for the environment.

MAINTENANCE:

The coating system must be allowed to cure for no less than one week (7 days) before using any mechanical cleaning equipment on the surface and no less than 24 hours before neutral cleaner or water exposure. This includes auto-scrubbers, swing buffers, sweepers, etc. Only dust and wet mop the first week. If a topcoat of ResinTech's Polyaspartic was applied, wait a minimum of 3 days before using mechanical cleaning equipment.

Regular cleaning, to include dust mopping, is crucial to maintain the appearance and to achieve the appropriate longevity of any floor coating system. Cleaning cannot occur too often. Spills should be removed quickly. Avoid the use of Polypropylene or abrasive bristle (Tynex®) brushes as these are known to create scratch patterns and lower the sheen of the finish.

Proper maintenance will help to maximize your investment by removing particles that scratch and dull the appearance of a floor coating. The floor should be swept daily and scrubbed once per week or per month depending on the amount and type of soils present. Environments with oils or regulated by health departments will need a more strict cleaning regiment.

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DETERGENT:

Always use the least aggressive detergent necessary to remove the residue. Typically, coated floors may only need a detergent scrub on a weekly or monthly basis depending on the environment. Daily dust mopping or water only mopping/scrubbing is highly recommended. Environments with exposure to foods, oils, chemicals, ink, etc. should be detergent scrubbed daily, possibly enough after every shift.

Caution: Do not drag or drop heavy objects across any floor, including coatings as scratching, gouging or chipping may occur to the concrete or the coating itself. This includes the tip of the forks on a forklift, nails protruding from a pallets, etc.

Tynex® is a registered trademark of E.I. du Pont de Nemours and Company.

Rubber tires are prone to plasticizer migration, especially aviation tires and high performance car tires. Plasticizer will stain coating and commercial flooring leaving an amber, yellow-like stain that can be permanent. This can be more noticeable where aircraft or vehicles are stationary for longer period of time, more so in non- climate controlled environments such as aircraft hangars with lighter colored floors. To avoid plasticizer staining, use a piece of Plexiglas® or LEXAN® panels, cut a few inches in diameter larger than the tires that will rest on the panels, between the floor and the contact point of the tire when storing rubber tired vehicles on any floor, including floor coating systems.

Avoid spinning tires on the surface of a coated floor. The heat created from the friction of a spinning tire will quickly soften the coating causing permanent damage to the finish.

Should a gouge, chip or scratch occur, touch-up the damaged areas immediately to avoid chemical or water intrusion to the concrete which could create additional damage. A thin layer of clear nail polish to the damaged area will provide some minimal protection until the area can be properly repaired.

Plexiglas® is a registered trademark of Arkema. LEXAN® is a registered trademark of Saudi Basic Industries Corporation (SABIC).

LIMITED LIABILITY:

Liability is limited to replacement of defectively manufactured product of the same type and cost of the originally purchased product upon presentation of a valid, fully paid invoice at the time of a claim. No warranty shall be granted for outstanding invoices or for accounts with unpaid balances until paid in full. No damages, whether consequential, liquidated or other, shall be provided under this Limitation of Liability and

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