ErgonArmor™

Acrocast™ Concrete

SELECTION & SPECIFICATION DATA

Type
Vinyl ester polymer concrete

Description
Acrocast Concrete is a 3-component vinyl ester polymer concrete designed for casting applications at least 1.5 inches (40 mm) thick that will be exposed to oxidizing acids or alkaline chemicals.

Uses
- Line or rehab floors, walls, trenches and sumps
- Fill cavities of structural glazed tile
- Foundations, footings, pads and pedestals
- Beams, columns, curbs and piers
- Precast structures, shapes and assemblies
- Rapid repair to deteriorated acid brick floors
- Aprons around Acroline™ anchored thermoplastic lined trenches and sumps

Features
- Resistant to strong oxidizers, bleach solutions and alkalis
- Good flow characteristics
- Excellent vibration resistance
- High physical strength
- Good bond to concrete and metal surfaces
- Rapid strength gain

Limitations
- Requires formwork.
- When using as an overlay in large surface areas, pour in a checkerboard fashion to reduce curing shrinkage stresses.
- Not for use beyond its chemical resistance or thermal capabilities. Consult ErgonArmor with specific questions.

INSTALLATION GUIDANCE

Reference Specifications
CES-360 Installation of ErgonArmor Resinous Polymer Concretes

Installation Conditions
Substrate must be clean, dry and neutral pH. Acrocast Concrete is formulated for ideal handling at 70°F (21°C). Materials and substrate should be acclimated to the air temperature prior to installation, and the air temperature should be between 50°F (10°C) and 90°F (32°C) during installation and cure.

Ratio
1 gallon resin: 2-3 fl. oz. hardener by volume.
1 part catalyzed resin: 8.6 parts filler by weight.

Filler loading may be adjusted slightly to suit flow preferences. Where higher flow is required, reduce filler loading by holding back up to 0.7 parts filler or use Acrocast XF Concrete instead.

Mixing
Pour measured quantity of resin into clean, dry mixing vessel. Slowly add measured quantity of hardener to resin and power mix thoroughly. Add filler and power mix until filler is thoroughly wetted.

Work Life
30-45 minutes at 70°F (21°C).

Work life estimates are based on use of 2 fl. oz. CHP Hardener per 1 gallon resin. Increased hardener dosage will reduce work life.

Work life is shorter at higher temperatures. A larger volume of mixed material will have a shorter work life than a smaller volume.

Cleanup
Xylene or MEK

CURE TIME

Temperature	Initial Set	Full Cure
70°F (21°C)	2-3 hours	3 days

SAFETY

Safety
Mixes and applications of this product present a number of hazards. Read and follow the hazard information, precautions and first aid directions on the individual product labels and safety data sheets before using.

Ventilation
Provide thorough air circulation during and after application until the material has cured when used in enclosed areas.

PACKAGING, ESTIMATING & HANDLING

Product	Code	Packaging
Acrocast Resin, Gray	19510	43 lb (5 gal) pail
	19511	446 lb (55 gal) drum
CHP Hardener	19552	11.2 fl. oz. (0.7 lb) bottle
	21922	1 gal (8.3 lb) can
Polymer Concrete Filler	19670	75 lb (34 kg) bag

A 3.15 cubic foot (419 lb) unit consists of 1 x 43 lb pail resin, 1 x 0.7 lb bottle of hardener, and 5 x 75 lb bags filler when mixed at 1.0 part mixed resin and hardener to 8.6 parts filler by weight.

A 32.7 cubic foot (4,354 lb) unit consists of 1 x 446 lb drum resin, 1 x 8.3 lb can hardener, and 52 x 75 lb bags filler when mixed at 1.0 part mixed resin and hardener to 8.6 parts filler by weight.

Mix can be made more fluid by holding back up to one half bag of filler for the 3.15 cubic foot unit or 5 bags for the 32.7 cubic foot unit. Yield will be reduced when filler is held back.

Theoretical Coverage

Allow 133 mixed lb/ft^3 (2,130 kg/m^3) of volume. When casting as a 2-inch (50 mm) overlay, allow 22 mixed lb/ft^2 (108 kg/m^2). For a 3-inch (76 mm) casting, allow 33 mixed lb/ft^2 (161 kg/m^2). Normal wastage allowances should be added.

Storage & Shelf Life

Maintain products in original packaging and sealed until ready for use. Estimated shelf life is 4-6 months for resin, 12 months for hardener, and 36 months for filler when stored in a dry area at 70°F (21°C). Actual shelf life may vary with storage conditions.

If there is any question with respect to the quality of the components, check reactivity prior to use. For assistance consult with ErgonArmor.

TYPICAL PHYSICAL PROPERTIES

Property	Typical Value
Color	Gray
Density, ASTM C138	133 lb/ft^3 (2,130 kg/m^3)
Compressive strength, ASTM C579	>10,000 psi (69 MPa)
Tensile strength, ASTM C307	>1,800 psi (12.4 MPa)
Flexural strength, ASTM C580	>3,000 psi, (20.7 MPa)
Absorption, ASTM C413	0.4%
Linear shrinkage, ASTM C531	0.33%
Bond strength to concrete	Exceeds tensile strength of concrete
Minimum suggested application thickness	1.5 inches (40 mm). For castings less than 1.5 inches (40 mm), use Acrocast Grout.
Slump using 8.6 filler: 1.0 mixed resin and hardener mix ratio	Approximately 2-3 inches (50-75 mm) with full filler loading. Flow characteristics of resinous polymer grouts are different from Portland cement grouts. Use caution when comparing slump values.
Maximum service temperature	225°F (107°C)

Temperature limitations will vary with chemical service. Consult ErgonArmor Technical Service for guidance.

Rev 09/2021