SAUEREISEN

HI-TEMP EPOXY POLYMER CONCRETE NO. 255

PHYSICAL PROPERTIES

Application time	
Working time at 70ºF	40 minutes
Initial set at 70ºF	6 Hours
Density (ASTM C-580)	145 pcf (2.3 gm/cm^3)
Compressive strength (C-579) 1 day	14,100 psi (991 kg/cm^2)
Maximum service temperature	165ºF (74ºC)
Modulus of elasticity (ASTM C-580)	2.29 x 10^6 psi (1.6 x 10^5 kg/cm^2)
Flexural strength (ASTM C-580)	4,000 psi (281 kg/cm^2)
Shrinkage (ASTM C-531) 7 days	0.050%
Tensile strength (ASTM C-307)	1,800 psi (126 kg/cm^2)

Physical properties were determined on specimens prepared under laboratory conditions using applicable ASTM procedures. Actual field conditions may vary and yield different results; therefore, data are subject to reasonable deviation.

Sauereisen Hi-Temp Epoxy Polymer Concrete No. 255 is a castable for the chemical-resistant construction of sumps, dikes, containment areas, trenches, walls, floors, and structural support columns or bases. No. 255 has been specifically formulated for foundation construction and should be installed with proper reinforcement. Mixing and forming methods are similar to those used for Portland cement installations.

Hi-Temp Epoxy Polymer Concrete can also be used as a monolithic topping to rehabilitate chemically deteriorated concrete or to protect new construction. This system incorporates Sauereisen ConoWeld No. 501, ArctiPrime No. 530 or Hi-Temp Primer No. 560/Zinc Filler No. 561 to promote a strong bond.

AREA PREPARATION

Temperature of Working Area

Maintain a temperature of 35º-85ºF on air, substrate, Aggregate, Liquid, and Hardener components during mixing, application, and cure. The monolithic components and substrate should be maintained at 60ºF to 85ºF for 48 hours prior to beginning work.

Do not use if temperatures are expected to be below 40ºF. Consult Sauereisen for a recommendation.

Above 85ºF, the material working time decreases. It is recommended that the material components be stored in a cooler area prior to mixing.

CHARACTERISTICS

- ☐ Resistant to a wide range of solvents, oils, acids and acid salts (except hydrofluoric) over a pH range of 0.0 to 14.0
- ☐ Maximum service temperature of 165ºF (74ºC).
- ❑ Fast chemical set - less down time.
- ☐ Low porosity.

Shading the substrate and using ice water to cool mixing equipment is not uncommon. In extreme temperatures it may be necessary to postpone the application or apply during cooler hours.

Reinforcement

When applying Hi-Temp Epoxy Polymer concrete No 255, appropriate corrosion resistant reinforcement must be incorporated. All monolithic applications must be affixed to the substrate by rebar anchors. Consult Sauereisen for recommendations.

Surface Preparation

Foundation Construction - The foundation base should be constructed with appropriate materials to support the engineering design and loads. No. 255 must not be applied over standing water or loose soil.

New Concrete - Surfaces should be made free of oil, grease, water, and other contaminants that may inhibit bond. This can be achieved by chemical cleaning.

Refer to SSPC-SP13/NACE 6 "Surface Preparation of concrete for detailed guidelines.

Abrasive blast or high-pressure water blast concrete to remove laitance and obtain uniform surface texture.

Old Concrete - Concrete must be dry, firm and structurally sound as specified by the architect/engineer. Surfaces should be made free of oil, grease, water, and other contaminants that may inhibit bond. This can be achieved by chemical cleaning. All structural cracks must be repaired. Abrasive blast or high-pressure water blast concrete to remove laitance and obtain uniform sound substrate.

Brick - Remove oil, grease, water, and other contaminants that may inhibit bond. Abrasive blast or hydroblast mortar joints to a depth of 1/2 inch to remove all loose material and provide a clean, firm surface.

If abrasive or high-pressure water blasting is used as the method of surface preparation, all sand and/or debris must be removed by thoroughly vacuuming the area with an industrial vacuum cleaner. If surface does not have desired profile or degree of cleanliness, repeat surface preparation procedure. Brick must be firmly bonded to the substrate.

EXPANSION/CONTROL JOINTS

Joints are to be provided on 14 ft. centerlines, around all fixed objects, peripheries of rooms and over all points of movement in the base slab. The joint should then be filled with the appropriate expansion joint filler. Consult Sauereisen for recommendations.

APPLICATION

ConoWeld No. 501 is the epoxy primer recommended for concrete and other porous substrates. Hi-Temp Primer No. 560/Zinc Filler No. 561 is preferred over metal. At temperatures below 60ºF, ArctiPrime No. 530 is recommended.

Mixing

Primers - Primers are packaged in pre-measured containers. No. 501 and 530 packaging consists of Hardener Part A and Resin Part B which must be mixed together before use. Remix the Part A and Part B before combining.

Completely empty contents of Hardener Part A into Resin Part B container. Using a slow speed 1/2 inch drill motor with a "Jiffy" type blade, mix thoroughly until blended for three minutes. Primer is ready for use immediately after mixing.

No. 560 is a single-component moist cured urethane.

Hi-Temp Epoxy Polymer Concrete No. 255:

No. 255 is packaged in pre-measured units of Aggregate, Liquid, and Hardener components. Mixing should be done mechanically with a slow-speed mortar mixer. The mixing equipment must be clean and free of Portland cement or other contaminants.

Remix both Liquid and Hardener prior to combining components. Empty contents of the Liquid into a clean, dry mixing container. Empty contents of Hardener into Liquid and mix thoroughly with a "Jiffy" mixer blade and drill motor until blended for at least two minutes. Empty liquids into a clean, dry mortar mixer. Add aggregate component gradually while mixing to a uniform consistency.

Mix only complete batches. Material which has begun to set must be discarded. Do not try to retemper the material.
Do not add solvent, additive or adulterant to any component or mixed material.

Remove the entire batch from the mixer when mixing is completed to prevent setting up in the equipment. While pouring one batch, another should be mixed in order to eliminate delays and to permit continuous operation.

Installation

Primers - Apply primer to concrete or steel using a short nap adhesive roller with a nondegradable core or a nylon bristle brush. Consult Sauereisen for spray recommendations. At 70ºF, the epoxy primers must be allowed to cure at least eight hours, but no longer than 24 hours, prior to application of Hi-Temp Epoxy Polymer Concrete No. 255. If recoat time exceeds 48 hours, consult Sauereisen.

Prior to application of Hi-Temp Epoxy Polymer Concrete No. 255, inspect primed surface for voids, bubbles, or defects. Repair with Sauereisen Filler Compound No. 209 Fast Set to ensure a sealed surface.

Hi-Temp Epoxy Polymer Concrete No. 255 - When casting No. 255, forms should be constructed of firmly braced wood or metal, which have been given a light coating of release agent. The release agent will prevent No. 255 from adhering to the screeds or forms, but should not leave a residue on the freshly cast material.

Forms are to be completely sealed and rendered watertight with heavy consistency pliable caulking. Seal forms placed over rough surfaces. Do not apply polymer concrete over standing water.
The form and screed systems should be strong enough to retain No. 255 in place without deformation. Forms and screeds may be removed after set has occurred and No. 255 has sufficient strength to support itself approximately 6 hours at 70ºF.

Tamping methods or pencil vibrators are suitable for distributing the material. Use a trowel or screed board to level the polymer concrete flush with the top of the form. Trowel finish within 15 minutes after mixing. Avoid imposing loads until a final set has been achieved.

COVERAGE

ConoWeld No. 501

1 gallon unit	200 ft^2 @ 8 mils thick
3 gallon unit	600 ft^2 @ 8 mils thick

ArctiPrime No. 530

1 gallon unit	320 ft^2 @ 5 mils thick

Hi-Temp Primer No. 560

1 gallon unit	320 ft^2 @ 5 mils thick

Hi-Temp Epoxy Polymer Concrete

No. 255

QUANTITIES* REQUIRED PER SQUARE FOOT Approximate

Thickness (inches)	Amount (Lbs.)
1	12.04

*Quantities do not include losses incurred during application or normal density variations.

No. 255 must be cast at a minimum 1-1/2 inches thick. A 1-1/2 inch thickness of No. 255 will require approximately 18 lbs. of material per square foot.*

*Quantity estimations do not include losses during application or normal density variations.

SETTING/CURING

The No. 255 will take an initial set in 18 hours at 70ºF. Proper curing of No. 255 is critical to the serviceability of the completed structure; therefore, the substrate and the material temperatures should not be allowed to fall below 40ºF until final cure has been achieved. Do not allow water or chemicals on the material surface for a minimum of 48 hours. For temperatures below 70ºF, cure a minimum of 72 hours prior to water or chemical exposure.

PACKAGING

Standard Unit:

Part A Hardener	3.3 lbs. in 1-gal. can
Part B Liquid	9.3 lbs. in 2-gal. pail
Part C Aggregate	132 lbs. in (3) 44 - lb. paper bags

CLEAN-UP

All equipment should be cleaned by scrubbing with a stiff brush and acetone, N-methyl pyrol or MEK at the end of each working period or when build-up becomes pronounced. A mixture of sand and solvent aids in cleanup. Consult Sauereisen for recommendation.

SHELF LIFE

Sauereisen No. 501, No. 530 Liquid and No. 255 Liquid, Hardener, and Aggregate have a shelf life of one year when stored in unopened, tightly sealed containers in a dry location at 70ºF. No. 530 Hardener and No. 560 have a shelf life of (6) six months when stored in unopened, tightly sealed containers in a dry location at 70ºF. If there is a doubt as to the quality of the materials, consult a Sauereisen representative.

CAUTION

Consult Material Safety Data Sheets and container label Caution Statements for hazards in handling these materials.

WARRANTY

We warrant that our goods will conform to the description contained in the order, and that we have good title to all goods sold. WE GIVE NO WARRANTY, WHETHER OF MERCHANTABILITY, FITNESS FOR PURPOSE OR OTHERWISE, EXPRESS OR IMPLIED, OTHER THAN AS EXPRESSLY SET FORTH HEREIN. We are glad to offer suggestions or to refer you to customers using Sauereisen cements and compounds for a similar application. Users shall determine the suitability of the product for intended application before using, and users assume all risk and liability whatsoever in connection therewith regardless of any suggestions as to application or construction. In no event shall we be liable hereunder or otherwise for incidental or consequential damages. Our liability and your exclusive remedy hereunder or otherwise, in law or in equity, shall be expressly limited to our replacement of nonconforming goods at our factory or, at our sole option, to repayment of the purchase price of nonconforming goods.

- **Distributors and agents in major cities throughout the world. Consult manufacturer for locations.**
- **Information concerning government safety regulations available upon request.**
- **Sauereisen also produces inorganic compounds for assembling, sealing, electrically insulating and grouting.**

SAUEREISEN

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