

SAUEREISEN

VINYL ESTER - CARBON FILLED MORTAR NO. 400C

Sauereisen Vinyl Ester-Carbon Filled Mortar No. 400C is used in the construction of floors, sumps, trenches, tanks, and bleach towers. Resistant to heat and a wide spectrum of corrosive materials, No. 400C is commonly specified in the chemical processing, pulp & paper, steel, wastewater treatment, food & beverage, and textile industries.

Sauereisen No. 400C Mortar has excellent resistance to oxidizing bleaches, mineral and organic acids, alkaline solutions and some organic solvents. The mortar is combined with chemical-resistant masonry units and a proper membrane to protect concrete and steel substrates from chemical attack and physical abuse. No. 400C is supplied in three parts - Powder, Liquid and Hardener - which must be mixed together in the proper proportions prior to use.

CHARACTERISTICS

- o Resistant to strong oxidizing agents, acids, alkalis and bleaches through 250°F (126°C).
- o Low absorption and shrinkage.
- o High bond, tensile and compressive strengths.

AREA PREPARATION

Temperature of Working Area

For optimum conditions, maintain a temperature of 60° - 80°F on air, substrate, masonry units and No. 400C Powder, Liquid and Hardener during mixing, application, and cure. Maintain materials and substrate between 60°F - 80°F for 48 hours prior to beginning work.

At temperatures below 60°F, the viscosity increases, application becomes more difficult and curing is retarded.

Above 80°F, working time of the material decreases. In higher temperatures it is recommended that the Liquid be cooled by placing the pail in a large container filled with water and ice or storing in a cool area.

Surface Preparation

All surfaces in contact with No. 400C should be clean, dry, and free of dust, dirt

PHYSICAL PROPERTIES

Absorption (ASTM C-413)	0.25%
Application time at 70°F	
Working time	20 minutes
Initial set	2 hours
Bond strength (ASTM C-321)	> 520 psi, brick failure (36.6 kg/cm ²)
Color	Black
Coefficient of thermal expansion	18 x 10 ⁻⁶ /F° (32.4 x 10 ⁻⁶ /C°)
Compressive strength (ASTM C-306)	12,000 psi (844 kg/cm ²)
Density (ASTM C-905)	94 pcf (1.5 gm/cm ³)
Flexural strength (ASTM C-580)	3,300 psi (232 kg/cm ²)
Maximum service temperature (ASTM D-648)	220°F (104°C)
Shrinkage (ASTM C-531)	0.53%
Tensile strength (ASTM C-307)	1,500 psi (105 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. Data should not be used for specification purposes.

grease, oil, and other contaminants. Surface prep should be in accordance with membrane requirements.

APPLICATION

Mixing

Empty the correct portion of Liquid into a clean mixing vessel. Add the measured amount of Vinyl Ester Mortar Hardener component and mix for at least one (1) minute. Gradually add the measured amount of Powder while mixing continuously with a trowel, hoe or mechanical mixer until the mortar is uniformly blended to a workable consistency. After mixing, spread a thin layer into a mortar pan to ensure a maximum working time of 60 minutes at 70°F. Do not let mortar sit as a mass. The recommended mix ratio, parts by weight, is as follows:

Powder	Liquid	Hardener
1.7	1.0	.01

Material which has begun to set cannot be retempered and must be discarded. Never add Liquid or other materials to mixed material or any component part.

Installation

Trowel an average 1/8 inch thick bed joint of No. 400C directly on top of the membrane or preceding course of brick-

work. Apply the mortar by buttering one side and one head joint of each masonry unit. Set the masonry units in place and position by tapping to form an average 1/8 inch wide vertical joint.

FINISHING

Strike extruded mortar off the face of the masonry unit with a trowel. For floors where appearance is a factor, waxed face units are recommended.

When waxed units are used, wait until No. 400C Mortar has achieved full cure (36 hours at 70°F) and clean the faces of the brick or tile using 60 psi (minimum) steam pressure.

SETTING/CURING

No. 400C is self-hardening due to a chemical reaction which occurs when the Powder, Liquid, and Hardener are mixed together. An initial set occurs in two hours at 70°F. The material is ready for service after 36 hours at 70°F.

Brickwork should not be subjected to water, steam or chemicals before the mortar is completely cured.

EXPANSION/CONTROL JOINTS

Joints are to be provided on centerlines of 20 feet and around all fixed objects, peripheries of rooms, and points of movement in the base slab. Consult Sauereisen for product recommendations.

PACKAGING

The three components of Vinyl Ester - Carbon Filled Mortar No. 400C are supplied separately.

Small Unit:

Liquid: 8 lbs. in a 1-gal. can
 Powder: (1) 13 lb. 10 oz. bag
 Hardener: 36 grams

Large Unit:

Liquid: 40 lbs. in a 5-gal. pail
 Powder: (5) 13 lbs. 10 oz. bags.
 Hardener: 182 grams gross weight

CLEAN-UP

All equipment should be cleaned with MEK before No. 400C cures. If removal is required after cure, consult Sauereisen for recommendations.

SHELF LIFE

Sauereisen Vinyl Ester Mortar No. 400C Powder has a shelf life of one year. Sauereisen No. 400C Liquid and Hardener have a shelf life of four months when stored in unopened, tightly sealed containers in a dry location at 70°F. Avoid freezing. If there is a doubt about 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.

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

Estimating Table - material quantities per square foot

Common floor and tank brick quarry tile sizes

Length (in)	8	8	8	8	8	8	8	8	9	9	9	9	6	6
Width (in)	3 ⁷ / ₈	3 ⁷ / ₈	4	4	3 ³ / ₄	2 ¹ / ₄	4 ¹ / ₂	3 ³ / ₄	4 ¹ / ₂	4 ¹ / ₂	2 ¹ / ₂	3	6	6
Thickness (in)	1 ³ / ₁₆	1 ³ / ₈	1 ³ / ₈	1 ¹ / ₂	2 ¹ / ₄	3 ³ / ₄	3 ³ / ₄	4 ¹ / ₂	2 ¹ / ₂	3	4 ¹ / ₂	4 ¹ / ₂	1 ¹ / ₂	3 ⁴ / ₄
No. of Brick with														
1/8-in joints	4.39	4.39	4.3	4.3	4.53	7.40	3.79	4.53	3.39	3.39	5.96	5.00	-	-
No. of Brick with														
1/4-in joints	4.19	4.19	4.07	4.07	-	-	-	-	-	-	-	-	3.65	3.65
Lbs Mortar for														
1/8" side														
joints	0.53	0.62	0.61	0.66	1.04	2.46	1.54	2.08	.99	1.19	2.67	2.35	-	-
Lbs Grout for														
1/4" joints	1.03	1.19	1.17	1.27	-	-	-	-	-	-	-	-	0.38	0.57
Lbs Mortar for														
1/8" setting bed or back joint	← 1.25 →													

The above quantity requirements are based upon physical dimensions of chemical-resistant masonry units and actual weight of mortar as determined by ASTM C-905. Actual usage rate will vary dependent upon scope of installation, experience of workmen, field conditions and other contingencies. Personnel using the above chart should, therefore, add an appropriate wastage factor.

SAUEREISEN ...since 1899

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