

# SAUEREISEN

## FURAN RESIN MORTAR/GROUT NO. 21C

### PHYSICAL PROPERTIES

	Mortar	Grout
Bond strength	1000 psi	900 psi
Compressive strength - C579 7-days	8000 psi	5400 psi
Density - C905 (7 day)	95.7 pcf	93.4 pcf
Flexural strength - C580 (7 day)	3100 psi	2400 psi
Maximum service temperature	450°F	450°F
Modulus of elasticity - C580 (7 day)	1.5 x 10 <sup>6</sup> psi	8.75 x 10 <sup>5</sup> psi
% Shrinkage - C531 (7 day)	0.18%	0.09%
Tensile strength - C307 (7 day)	1100 psi	1000 psi
Water absorption - C413 (7 day)	1.18%	1.45%

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 Furan Resin Mortar/Grout No. 21C is a two-component, 100% carbon-filled bonding material for chemical resistant masonry units and quarry tile. No. 21C and chemical-resistant masonry units used with a suitable membrane form a complete system to protect concrete and steel substrates from attack by corrosive chemicals and physical abuse.

No. 21C is used in the construction of floors, sumps, trenches, tanks, vessels and bleach towers in chemical processing; food & beverage plants; dairies; laboratories; textile, steel and pulp & paper mills. No. 21C has excellent resistance to a wide range of acids (including hydrofluoric), alkalis and most solvents up to 350°F. No. 21C is not recommended for exposure to hypochlorites or oxidizing agents such as nitric, chromic acid or sulfuric acid greater than 60%. Refer to Sauereisen's Chemical Resistance Chart for specific service conditions.

### CHARACTERISTICS

- Low odor Furfuryl Alcohol Polymer.
- Resists a wide range of acids, alkalis and most solvents.
- 100% carbon filled.
- Withstands temperatures to 450°F.
- Authorized by USDA for use in federally inspected meat & poultry plants.

### AREA PREPARATION

#### Temperature of Working Area

For optimum application conditions, maintain a temperature of 60° - 80°F on air, substrate, Powder, Liquid, and masonry units during mixing, application, and cure. Maintain materials and substrate between 60°F - 80°F for 48 hours prior to beginning work.

At temperatures below 65°F, the viscosity increases and application becomes more difficult. No. 21C can be applied at temperatures as low as 50°F. Consult Sauereisen for specific recommendations for environments colder than 50°F.

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. 21C should be clean, dry, and free of dust, dirt, grease, oil, and other contaminants. Surface prep should be in accordance with membrane requirements.

### APPLICATION

#### Mixing

Empty correct proportion of Liquid into a clean mixing vessel. Gradually add measured amount of Powder while mixing continuously with a trowel or hoe until mortar is uniformly blended to a workable consistency. After mixing do not allow mortar to remain in the mixing vessel, spread mortar in a thin layer in a mortar pan to ensure maximum working time of 30 minutes at 73°F. Recommended mix ratio, parts by weight, is as follows:

	Powder (parts, by weight)	Liquid
Mortar	1.9	1
Grout	1.5	1

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

*Bricklayers Method* - Trowel an average 1/8 inch thick bed joint of No. 21C directly on top of the membrane or preceding course of brickwork. Apply the mortar by buttering one side and one end of each brick with a pointing trowel. Set the masonry units in place and position by tapping to form an average 1/8 inch wide vertical joint.

*Tilesetters Method* - The masonry units or quarry tile must have waxed faces. Place a quantity of the grout onto the surface of previously set masonry units or quarry tile. Spread and work grout across surface of the tile at a 45° angle to the joints using an American Olean K&R trowel. When filling the joints in this manner, take special care to work the grout to full depth of the joint.

## FINISHING

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

*Tilesetters Method* - After filling the joints, remove the excess mortar from the surface of the masonry units or quarry tile using the trowel as a squeegee. After masonry units or quarry tile have achieved a full cure - 3 days at 73°F - remove wax using a steam lance with 60 psi (minimum) pressure at the nozzle.

## CLEAN-UP

All equipment should be cleaned with acetone or MEK before No. 21C cures. If removal is required after cure, consult Sauereisen for recommendations.

## COVERAGE

### 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 <sup>7</sup> / <sub>8</sub>	3 <sup>7</sup> / <sub>8</sub>	4	4	3 <sup>3</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>4</sub>	4 <sup>1</sup> / <sub>2</sub>	3 <sup>3</sup> / <sub>4</sub>	4 <sup>1</sup> / <sub>2</sub>	4 <sup>1</sup> / <sub>2</sub>	2 <sup>1</sup> / <sub>2</sub>	3	6	6
Thickness (in)	1 <sup>3</sup> / <sub>16</sub>	1 <sup>3</sup> / <sub>8</sub>	1 <sup>3</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>2</sub>	2 <sup>1</sup> / <sub>4</sub>	3 <sup>3</sup> / <sub>4</sub>	3 <sup>3</sup> / <sub>4</sub>	4 <sup>1</sup> / <sub>2</sub>	2 <sup>1</sup> / <sub>2</sub>	3	4 <sup>1</sup> / <sub>2</sub>	4 <sup>1</sup> / <sub>2</sub>	1 <sup>1</sup> / <sub>2</sub>	3 <sup>1</sup> / <sub>4</sub>
No. of Brick with														
1/8" in joints	4.43	4.43	4.3	4.3	4.58	7.47	3.83	4.58	3.42	3.42	6.02	5.05	-	-
No. of Brick with														
1/4-in joints	4.23	4.23	4.11	4.11	-	-	-	-	-	-	-	-	3.69	3.69
Lbs Mortar for														
1/8" side														
joints	0.44	0.51	0.50	0.55	0.86	2.03	1.27	1.71	0.82	0.98	2.21	1.93	-	-
Lbs Grout for														
1/4" joints	0.85	0.98	0.96	1.05	-	-	-	-	-	-	-	-	0.31	0.47
Lbs Mortar for														
1/8" setting bed or back joint	←————— 1.02 —————→													

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.

## SETTING/CURING

No. 21C is self-hardening due to a chemical reaction which occurs when the Powder and Resin are mixed together. An initial set occurs in 4 to 4 1/2 hours at 70°F - the material is ready for service after a 24 hour cure at 70°F. Brickwork should not be subject to water, steam, or chemical environment before the mortar is completely cured.

## EXPANSION/CONTROL JOINTS

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

## PACKAGING

### No. 21C Furan Resin Mortar Grout

Liquid: 42.1 lbs. in a 5-gal pail

Powder: (2) 40 lb. bags

## SHELF LIFE

Sauereisen Furan Resin Mortar/Grout No. 21C Liquid and Powder have a shelf life of one (1) year when stored in unopened, tightly sealed containers in a dry location at 70°F.

Avoid freezing. 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 non-conforming goods at our factory or, at our sole option, to repayment of the purchase price of non-conforming 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** ...since 1899

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