

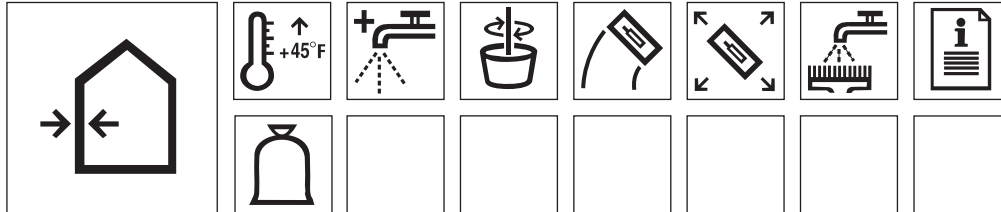
# Sto Flowable Mortar

## CR730

Division 3

patching and repair mortar  
flowable/pumpable  
acrylic polymer-modified

**cement-based, using  
proprietary StoCrete  
technology**



### Technical Data

REPORT	TEST METHOD	CRITERIA	TEST RESULTS
<b>Working Time</b> (minutes)			25-60
<b>Compressive Strength</b> (psi)	ASTM C-109 Mortar	1 day 3 days 7 days 28 days	2,200 4,000 5,000 6,000
<b>Bond Strength</b> (psi)	ASTM C-882 Modified	7 days 28 days	1,700 2,100
<b>Flexural Strength</b> (psi)	ASTM C-78	7 days 28 days	1,200 1,500
<b>Modulus of Elasticity in Compression</b> (psi)	ASTM C-469	28 days	< 3.5 x 10 <sup>6</sup>
<b>Splitting Tensile Strength</b> (psi)	ASTM C-496	7 days 28 days	600 800
<b>Shrinkage</b> (psi)	ASTM C-157	1 day 7 days 28 days	< 0.025 < 0.070 < 0.100
<b>Rapid Chloride Permeability</b> (Coulombs)	AASHTO T-277 ASTM C-1202	28 days	< 500

\*Typical values for material cured at 73° F (23° C) and 50% R.H.  
Note: To convert psi to megapascal (Mpa) multiply by 0.0069.

Sto Flowable Mortar is a polymer-modified, cement-based mortar for structurally repairing deeply deteriorated concrete. Use with form-and-pour or form-and-pump repairs from ½ to 2 inches (12 mm to 51 mm) or extend it with aggregate for deeper applications.

#### Volume Yield

0.48 ft<sup>3</sup> per 60-lb bag  
(0.014 m<sup>3</sup> per 27-kg bag).

#### Coverage

10-12 ft<sup>2</sup> per 60-lb bag, applied at ½-inch thick (1 m<sup>2</sup> per 27-kg bag, at 12-mm thick).

#### Packaging

60-lb bag (27 kg)

#### Shelf Life

12 months in original unopened container.

#### Storage

Store in a dry area between 50° F (10° C) and 85° F (29° C). Protect from direct sunlight.

### Features

### Benefits

<b>1 Acrylic polymer-modified</b>	Increases durability and freeze-thaw resistance; excellent adhesion; improves flexural strength
<b>2 Flowable/pumpable consistency</b>	Easily placed in formed repairs; increases placement productivity
<b>3 Low shrinkage</b>	Stable bond line; resists perimeter cracking
<b>4 Thermally compatible with concrete</b>	Prevents delamination caused by temperature changes
<b>5 Very low chloride permeability</b>	Protects embedded steel against corrosion
<b>6 High abrasion resistance</b>	Wears longer; stands up to abusive traffic
<b>7 One component</b>	Factory-controlled polymer-to-cement ratio; ready to use; easily mixed with water on the job-site, no chemical jugs to dispose

## Surface Preparation

### FORM & POUR

Remove loose and deteriorated concrete by mechanical chipping, bush-hammering, or sandblasting to obtain a fractured aggregate surface. Detail the edge of the patch to a 90° angle to eliminate feather edging. Make sure surfaces are sound, clean, and free of all bond-inhibiting materials including oil, dirt, dust, laitance and standing water.

## Mixing

### FORM & POUR

Use Sto Flowable Mortar at a preconditioned temperature of 70 ± 5° F (21 ± 3° C). Use 6.0-6.5 pints (2.83 to 3.08 L) of water per 60-pound (27-kg) bag.

**Using Drill and Paddle:** Mixing must be achieved mechanically using a slow-speed ¾-inch (19-mm) drill and mixing paddle. Pour 6 pints (2.83 L) of water into a clean 5-gallon (19-L) mixing bucket. Mix while slowly adding the powder, one-third at a time. If more water is needed, up to one-half pint (.24 L) may be added.

**Using Mortar Mixer:** Predampen thoroughly the inside of a clean mortar mixer, then remove any excess water. Pour 6.0 pints (2.83 L) of water into the mortar mixer and slowly add all of the powder. If more water is needed, up to one-half pint (.24 L)

## Application

### FORM & POUR

Dampen the area to be repaired so that the pores of the concrete are filled with water. Remove any ponding or glistening water on the surface (saturated surface dry/SSD).

Work a scrub coat of the mixed material into the substrate to ensure intimate contact and establish bond. Apply Sto Flowable Mortar while the scrub coat is still wet.

Consolidate it and trowel to the desired finish.

Closed-form repairs must be vibrated to ensure intimate contact with the concrete, establish bond and ensure proper consolidation of the material. Allow material to cure for a minimum of 2 days before removing forms.

### OVERLAY

Dampen the area to be repaired so that the pores of the concrete are filled with water. Remove any ponding or glistening water on the surface (saturated surface dry/SSD).

Work a scrub coat of the mixed material into the

### OVERLAY

Remove loose and deteriorated concrete with a scabber or by shot-blasting to obtain a fractured aggregate surface. Detail the edge of the overlay to a 90° angle to eliminate feather edging. Make sure surfaces are sound, clean, and free of all bond-inhibiting materials including oil, dust, dirt, laitance and standing water.

may be added.

### Mixing and Working Times

Mix up to 4 minutes, to a uniform, lump-free consistency. Avoid overmixing which could entrap air. Once mixed the working time is 25-60 minutes depending upon material, ambient and surface conditions.

NOTE: When applying at depths greater than 2 inches (51 mm), extend Sto Flowable Mortar by adding 40 pounds (19 kg) of clean, uniformly graded, ¾-inch (9-mm) aggregate dampened to SSD condition. Consult Technical Services for a list of approved aggregates.

### OVERLAY

Follow mixing instructions for FORM & POUR.

substrate to ensure intimate contact and establish bond. Apply Sto Flowable Mortar while the scrub coat is still wet.

Consolidate it and trowel to the desired finish. Applications made during temperatures below 50° F (10° C) and 85° F (29° C) should follow the appropriate application guidelines.

### Curing

Direct sun or wind may cause unwanted rapid surface drying. Curing may be accomplished by continuous water fogging for 48 hours or cover with damp burlap or burlene curing blankets. Do not use solvent-based curing compounds or allow water to puddle. If a coating or sealer will be applied, use water fogging or blanket curing methods and prep finished surface per manufacturer's recommendations.

### Clean Up

Clean tools and equipment with water immediately after use. Cured material can only be removed mechanically.

## Limitations

- Apply only when the surface and ambient temperature are 45-50° F (7-10° C) and rising. See Cold Weather Application guidelines, per ACI, for applications in temperatures less than 50° F (10° C). Applications made during temperatures greater than 85° F (29° C) should follow Hot Weather Application guidelines, per ACI.
- The minimum required thickness is ½ inch (12 mm).
- Do not add more water than specified.
- Do not add additional powder from other units.
- Do not overmix.

## How It's Used

Sto Flowable Mortar is a one-component, flowable/pumpable repair mortar that is ready to use; just add clean water. Once mixed by drill and paddle or standard mortar mixer, its free-flowing high-slump can be poured or pumped into formed repairs. The acrylic polymer in the product provides a creamy consistency that can be finished easily without tearing the surface. Finish it smooth with a trowel or textured with a sponge float or broom. Use Sto Flowable Mortar for repairs from ¼ to 2 inches (12 to 51 mm) or extend it with aggregate for deeper applications.

## Health And Safety

### Health Precautions

Contains Portland cement and crystalline-free silica. Avoid breathing dust. As with any chemical construction product, exercise care when handling.

### Safety Precautions

Use adequate ventilation. Use of a NIOSH/MSA-approved dust respirator, safety goggles and protective gloves are recommended.

### First Aid

SKIN CONTACT: Wash hands thoroughly with soap and water

EYE CONTACT: Flush immediately with water for 10-15 minutes and contact a physician.

RESPIRATORY PROBLEMS: Remove affected person to fresh air immediately and contact a physician.

HYGIENE: Wash hands immediately after use.

Wash clothing before reuse.

### Spills

Collect in an appropriate container. Uncured material may be removed with water.

### Disposal

Dispose of in accordance with local, state or federal regulations.

### Warning

KEEP CONTAINER CLOSED WHEN NOT IN USE. KEEP OUT OF THE REACH OF CHILDREN. NOT FOR INTERNAL CONSUMPTION. FOR INDUSTRIAL USE ONLY. Consult the Material Safety Data Sheet for further health and safety information.

### LIMITED WARRANTY

THIS PRODUCT IS SUBJECT TO A WRITTEN LIMITED WARRANTY WHICH CAN BE OBTAINED FREE OF CHARGE FROM: Sto Corp., 3800 Camp Creek Parkway, Building 1400, Suite 120, Atlanta, GA 30331; Tel: 404-346-3666; Fax: 404-346-3119

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