CONCRETE CASTING

TECHNICAL DATA SHEET

XtremeSeries

# XS PRECAST


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**http://www.surecretedesign.com/xs-precast/**

XtremeSeries

# XS Precast

## DESCRIPTION

***XS Precast*** is a dual component precast concrete bag mix that greatly reduces the materials and labor required to construct traditional precast concrete. No reinforcement steel is required, thinner precast pieces are routine, and quicker production times are accomplished. A stronger, denser and more flexible cementitious composite is created by combining cutting-edge technology with modern fiber advancements. With a wide range of coloring and texture selections along with the addition of optional aggregate loading (up to 10 lbs per bag) design considerations are nearly limitless. ***XS Precast*** produces concrete countertops, fireplace mantles and facades, shower surrounds, wall panels, furniture and many other architectural elements. ***XS Precast*** is the perfect medium for residential, commercial, and industrial applications.

## TEMPERATURE/DRY/CURE

Fabrication of ***XS Precast*** should be inside a shop. Casting should take place when shop temperature and all materials are maintained between 50°F (10°C) and 90°F (32°C) throughout all fabrication and curing. Product will dry and cure slower at cool temperatures and conversely, faster at warm temperatures. Full cure is reached at approximately 30 days, like concrete. Although rare, at high altitudes and dry climates, some pieces may require covering with plastic to slow the cure and avoid curling.

## MIXING

### *Single bag batches*

1. Utilize a handheld concrete mixer with a helical (spiral) mixer blade, such as an Eibenstock model #EHR 20R or similar.
2. Thoroughly mix ***XS Precast Modifier***.
3. Add 1 gal (3.8 L) ***XS Precast Modifier*** to a clean 5 gal (18.9 L) pail or similar mixing vessel
4. Add ***Color Packs*** to ***XS Precast Modifier*** (if desired) and mix.
5. While mixing add approximately ¾ of the ***XS Precast*** bag.
6. Continue mixing until a loose, flowable consistency is achieved.
7. Scrape sides of pail with margin trowel to prevent dry fiber pockets from forming.
8. Add remaining ***XS Precast*** and continue to mix for 2 – 3 minutes.
9. Up to an additional 16 oz. (0.5 L) water may be added for a more fluid mix.
10. With multiple single bag mixes, where color match is of concern, box multiple pails.

### *Multiple bag batches*

1. Utilize a mortar mixer (preferred with a horizontal helical [spiral] shaft) or a concrete mixer of sufficient size to allow the free vertical fall of product while mixing.
2. Maintain the ratio of 1 gal (3.8 L) ***XS Precast Modifier*** to 1 - 50 lb (22.7 kg) bag ***XS Precast***.
3. Thoroughly mix ***XS Precast Modifier***.
4. Place total amount of ***XS Precast Modifier*** for the entire mix into the mixer.
5. Add all ***Color Packs*** to the modifier (if desired) and start mixer.
6. Slowly add one ***XS Precast*** bag at a time to the mixer to prevent material from forming dry fiber pockets.
7. Additional water may be added, not to exceed 16 oz. (0.5 L) per bag of ***XS Precast***
8. After last bag is added, allow all material to thoroughly mix for 2 – 3 minutes. Visually inspect entire load to ensure that all fiber is blended.

SURECRETE DESIGN PRODUCTS

### PACKAGING

50 lb (22.7 kg) bag
0.5 lb (227 g) ***Color Pack*** (2 required for an approximate match of 30 standard colors. Variations in shading expected with cement based products.)

### MIXING RATIO

1 gal (3.8 L) ***XS Precast Modifier*** to 1 – 50 lb (22.7 kg) bag of ***XS Precast***
+ up to 16 oz. (0.5 L) water

### COVERAGE

1 - 50 lb (22.7 kg) bag of ***XS Precast*** =
approx. 9.8 ft² @ ½" (0.9 m² @ 12.7 mm)
7.2 ft² @ ¾" (0.64 m² @ 19 mm)
OR 0.43 ft³ (0.01 m³)

### DENSITY

126.1 lb/ft³ (2,018 kg/m³)

### COMPRESSIVE STRENGTH ASTM C-109-08

3 day - 9,800 PSI (67,569 kPa)
7 day - 10,540 PSI (72,671 kPa)
28 day - 10,730 PSI (73,981 kPa)

### FLEXURAL STRENGTH ASTM C-348-08

3 day - 610 PSI (4,206 kPa)
7 day - 635 PSI (4,378 kPa)
28 day - 690 PSI (4,757 kPa)

### TENSILE STRENGTH ASTM C190-85

3 day - 505 PSI (3,482 kPa)
7 day - 545 PSI (3,758 kPa)
28 day - 550 PSI (3,792 kPa)

### SHELF LIFE

Under normal conditions: ***XS Precast*** bag mix and ***XS Precast Modifier*** when the container and packaging are kept dry and moisture free, out of direct sunlight, the shelf life of an unopened product is (12) months from the date of purchase. Additionally ***XS Precast Modifier*** should be protected from freezing. Storage for both products must be under roof and off the floor. Rotate inventory to maintain product that is within limits.

## APPLICATION

Although not limited to it, the most common method of placement simply involves pouring ***XS Precast*** directly from the pail or mixing vessel into the form or mold.

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## DEMOLD

In warm weather 4-6 hours may be appropriate to de-mold. Cool temperature or pieces with extreme texture will require overnight drying. ***XS Precast*** should not be left in the mold past a 24 hour period, as curling of the piece is likely. A freshly de-molded sample should be handled similar to granite or natural stone, and should be well supported above the work surface to allow the free flow of air around the piece.

## CLEANING

All ***XS Precast*** samples require cleaning, except those that are to be polished. ***SCR*** diluted with water 3:1 (3 parts water to 1 part ***SCR***) is recommended.

For specific directions on ***SCR*** refer to its TDS.

## SLURRY

***XS Slurry*** fills pin holes and voids to create a smooth surface.
For specific directions on ***XS Precast Slurry*** refer to its TDS.

## GRIND/POLISH

If additional decorative aggregate was added to the ***XS Precast*** or if the desired appearance demands it, the product may successfully be polished.

1. Grind precast sample as soon as practical. Allow a minimum of 8 hours cure time.
2. When decorative aggregate is added, begin wet grinding with 50 grit diamond pad to expose aggregate. This step may be skipped if no decorative aggregate was added.
3. Proceed to wet grind with 100 grit diamond pad.
4. ***LD1800*** may be utilized with wet 100 grit grind to densify and fill pinholes with resultant color match slurry. For specific directions on ***LD1800*** refer to its TDS.
5. Allow ***LD1800*** and slurry to dry. Proceed with 200 grit and if any pinholes are still present add more ***LD1800*** and continue grinding.
6. Remove any excess dried slurry with the 200 grit.
7. Proceed through 400 grit polish. If stain and / or sealer is to be used do not polish past 400 grit, as a measure of profile must be maintained for stain penetration and sealer adhesion.
8. If desired and sealer is not used, one can continue polishing through 800 grit and beyond, however, such a piece is subject to staining.

## STAINING

***XS Precast*** accepts most concrete stains. ***Eco-Stain*** adds a desirable design element to any ***XS Precast*** piece and is eco-friendly and UV stable. Staining customarily follows slurry. For specific directions on ***Eco-Stain*** refer to its TDS.

## SEALING

***XS Precast*** pieces are completed by sealing. Two distinct sealers have been created for ***XS Precast***:

- ***XS-327*** - hybrid water based polyurethane available in matte and gloss finish.
- ***XS-PC12*** - hybrid solvent based polyurea, color enhancing, high gloss mirror finish.

For specific directions on sealing refer to the appropriate TDS.

## SEAMING/ADHESION

100% silicone caulk provides an excellent seaming and adhesive fastening material, as it allows for movement of the precast piece. ***XS Precast*** like any other concrete will undergo slight dimensional variations based upon its environment (e.g. shrinkage or expansion). Do not use caulking or adhesive that could "bleed" through the finished surface, such as petroleum based products. Large pieces and undermount sinks will require mechanical fastening.

## SUITABILITY SAMPLE

Always prepare an adequate number of test samples for suitability for products' intended use.

## CLEAN-UP

Before ***XS Precast*** dries; spills and tools can be cleaned up with water.

## DISPOSAL

Contact your local government household hazardous waste coordinator for information on disposal of unused product.

## LIMITATIONS

For use by trained professionals that have read the complete TDS and SDS.

## WARRANTY

Warranty of this product, when used according to the directions, is limited to refund of purchase price, or replacement of product (if defective), at manufactures/seller's option. ***SureCrete Design Products*** shall not be liable for cost of labor or direct and/or incidental consequential damages.

## CAUTIONS

**KEEP OUT OF REACH OF CHILDREN. Inhalation:** Avoid prolonged breathing of airborne dust, particularly present during mixing. Use NIOSH approved respirator for nuisance if threshold limit values are unsafe. **Skin Contact:** Skin contact may cause irritation. Remove contaminated clothing and wash affected skin with soap and water. Launder clothing before reuse. If symptoms persist, seek medical attention. **Eyes:** Wear safety eye protection when applying. Contact with eyes may cause irritation. Flush eyes with water for 15 minutes. If symptoms persist, seek medical attention.

## SAFETY DATA SHEETS

The following are links to all available safety data sheets related to this product:

- xtreme-series-xs-precast-sds.pdf
- xtreme-series-xs-modifier-sds.pdf

TECHNICAL DATA SHEET