



BuildCrete™ Stucco & Pool Plaster

Installation Specifications

Exterior One-Coat Stucco over EPS Foam, PU Foams, Exterior Gypsum Board, MgO & Calcium Silicate Board and Cement Block

Description

BuildCrete™ is a truly green NON-Portland cement base exterior wall and ICF pool finish coating. Its high early strength is achieved in less than 24 hours and faster setting qualities enable the finish to be applied within a single work day. **BuildCrete™** utilizes fiberglass mesh to further enhance its inherent abuse resistant qualities in thin applications. **BuildCrete™** leads the industry with a **50-year warranty** and eco-innovation when low carbon footprint, extreme performance and cost effectiveness is required.

Uses

BuildCrete™ is applied to exterior walls in residential, commercial and industrial insulated concrete construction (ICF) and other building systems that utilize expanded polystyrene (EPS). **BuildCrete™** is also used as a waterproof barrier over cementitious substrates such as cement blocks, concrete or exterior grade boards such as Densglass, Gold bond, Hardie-Board, MgO boards and Calcium silicate boards. **BuildCrete™** can also be used to strengthen and waterproof rammed earth blocks and cracked block walls whilst waterproofing at the same time, ideal where wind driven rain is penetrating the porous blocks. The product can be painted or stained, finished in numerous textures, and is suitable for installation over conventional plaster walls and properly prepared additional substrates. Integral colors are not yet available.

Advantages

BuildCrete™ sets and cures in a fraction of the time of conventional Portland cement products providing quick job turn around. LEED points are also easily achieved where none currently exist in this area.

JOBSITE CONDITIONS

Weather

BuildCrete™ shall be applied in ambient air temperatures above 32°F and rising and remain above 32°F for a 24-hour period. Avoid installing in excessive heat unless precautions are made to avoid rapid hydration such as using patio misters during and after installation.

Do not apply **BuildCrete™** to substrates that are below 32°F or that are wet, frozen or contain frost.

Do not apply **BuildCrete™** during inclement weather or when inclement weather is inevitable unless appropriate weather protection is used.

Direct Sunlight

Whenever possible, avoid installing **BuildCrete™** in direct sunlight. Direct sunlight reduces working time and may promote premature surface hydration. Shade the work area if necessary to avoid sun/shade lines from the coating itself. Misting the work area in dry conditions will increase the relative humidity (35% minimum) and help the materials from premature hydration. Wet curing for at least 3 hours is recommended and maintain 35% minimum relative humidity for 24 hours. There is no need to hose the walls down, typical to Portland cement stuccos.

ACCESSORIES AND RELATED MATERIALS

Sealants

Perimeter seals around window and door frames and all other through wall penetrations shall be designed for 50% elongation and minimum 25% compression. Appropriate sealant shall be selected by the architect.

Perimeter seal joints shall be a minimum width of ½” and utilize a closed-cell polyurethane foam backer rod. Joint design and associated preparation shall be based upon the sealant manufacturer’s recommendation.

Flashing

Flashing around windows, doors chimneys, transitions between walls and roof and at other points specified shall be continuous and watertight. Flashing shall be designed and installed to prevent water infiltration behind the **BuildCrete™** system.

Joints

Expansion joints are installed at all areas where movement is anticipated and at all building structural breaks. Joint placement shall be specified by the architect and should follow standard plaster/stucco practices.

Substrate Preparation

All foams. Rasping is necessary to remove potential bond breakers and to ensure good adhesion. Survey the substrate for irregularities that may adversely affect the application such as minor protrusions and voids cut into the EPS need to be filled prior to the **BuildCrete™** installation. Low expansion spray foam is applied into the void, allowed to cure and shaved flat with the surface. BOSS Products 337 general purpose Adhesive foam is recommended for this purpose. BuildCrete bonds permanently to all known foams.

Concrete/Plaster	Prior to applying BuildCrete™ all concrete wall or concrete block must be solid, free of water, excessive moisture, oil, paint, wax, grease, asphalt, latex compounds, curing compounds, adhesives and any contaminant that might act as a bond breaker. It is recommended to mechanically abrade the surface down to sound, solid concrete. Applying BuildCrete™ to totally dry wall surfaces can create rapid drying, potential cracking and/or poor adhesion of the BuildCrete™ to the substrate. Seal first with an acrylic bonder (not PVA bonder) contact GigaCrete for recommendations if necessary.
MgO or Silicate Board	The wall surfaces should be sealed with an acrylic bonder such as Quikrete Concrete Adhesive before proceeding with the application. Applying BuildCrete™ to totally dry wall surfaces can create rapid drying, potential cracking and/or poor adhesion of the BuildCrete™ to the substrate.
Ext Gypsum Board	The fiberglass finish over exterior gypsum board wall surfaces should be clean and new. Applying BuildCrete™ directly to the fiberglass finish and make sure it is not absorbing the water from BuildCrete™ If it is, we recommend using an acrylic bonder first.

ICF WALL SYSTEMS

Preparation

Raspings of foams is necessary to remove potential bond breakers and to plane profile irregularities. All substrates must be clean, dry and sound with planar irregularities less than ¼" within a 4' radius.

Repair damage, dents and voids in the EPS substrate with an appropriate expanded insulation prior to applying **BuildCrete™**. Do not attempt to make repairs with **BuildCrete™** or anything other than expanded foam insulation.

Do not install **BuildCrete™** on wet or frozen surfaces.

Vapor Barriers

ICF wall systems are considered "High Mass" walls (as opposed to cavity walls) and DO NOT require vapor barriers. The low permeability of foam and concrete provide a natural barrier against air-borne moisture and air infiltration.

Mixing Station

It is recommended to take the time to establish a well-organized mixing station. Batching accurately and efficiently will keep the installation on schedule and profitable. The following list provides a checklist for necessary items and practices:

- Tarp off the entire mixing area for easier cleanup
- Water hose or suitable cool water source
- Power source with GFI receptacle kept away from water usage
- Spare mixer available in case one fails
- Designated area for stocking dry product

- Floor scraper
- Trash barrel or designated area for opened bags and Trash
- Bags of **BuildCrete™** MUST NOT GET SPRAYED with water or mixed StuccoMax. Keep far enough away from the mixer.

Safety Equipment:

- Protective eye wear
- Dusk mask
- Rubber gloves
- Rubber sole work boots
- Long pants
- Long sleeve shirt

MIXING

Package

BuildCrete™ packaged in 75# moisture resistant paper bags. Material volume exceeds the capability of a standard five-gallon bucket so mixing must be done in a vessel capable of holding ten gallons of material.

Water

Mixing water must be potable and from a municipal source. Water temperature should be considered and adjusted if necessary.

Mixing

Pour 4.5 quarts of water into the mixing bucket and begin to add **BuildCrete™**. Begin mixing while slowly adding in remaining **BuildCrete™** bag contents. Mix time is approximately 3 minutes or until a smooth lump free consistency is met. Small amounts of water may be added to adjust material consistency if necessary.

Equipment

H/D Drills with typical plaster mixer attachments may be used. Hand held ergonomically engineered mixers are also acceptable. Avoid excessive high speeds as this can create heat and accelerate setting times, reducing workability.

Pot Life

BuildCrete™ bucket life is approximately 20 minutes. Plan the installation so that each batch can be conveniently applied within this time frame. Re tempering batches that are beginning to set is strongly discouraged.

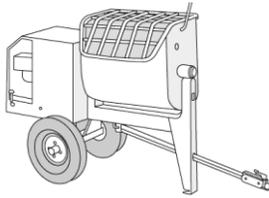
Mixing Equipment



Mixing BuildCrete in easy but can be made difficult without the right mixing equipment. Smaller projects are generally batched one unit at a time and mixed in a 10-gallon bucket (available from restaurant supply companies.) Drills with plaster mixing paddles are commonly used for this purpose. A ½" (12mm) 7-amp variable speed drill with 650 rpm is commonly used for bucket batching.



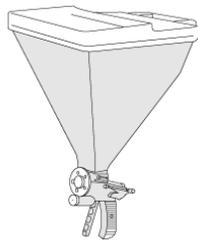
(Highly recommended) Direct drive mixers are ergonomically designed and minimize torque reduction that increases batch efficiency. Most are equipped with variable speed options that reduce product overflow while blending the dry product with water. Direct drive mixers are recommended over heavy duty ½" (12mm) drills for bucket mixing.



A standard mortar mixer may be used for larger volume projects. Ensure that the bulk batch volume matches the application volume consumption and fresh material is continuously used.

Spray Equipment

BuildCrete™ may be applied by hand trowel, hopper gun texture sprayer or stucco/plaster type spray equipment. When using spray equipment, it may be necessary to adjust the air flow rate, nozzle orifice size and feed rate to maximize application efficiency. Adjust application speed to achieve the desired application depth and aesthetic affect. Testing spraying/pumping equipment and material prior to installation is strongly recommended.

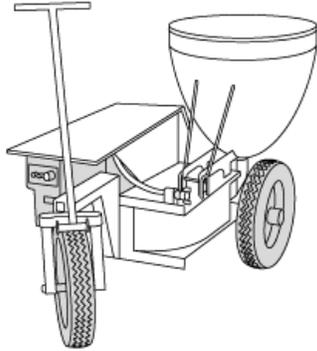


Hopper Gun (low volume)

Hopper texture guns may be used to apply StuccoMax. Hopper guns are typically used for smaller volume projects and are typically used for producing textures such as orange peel, splatter and splatter knock downs. A Marshalltown Sharpshooter 693 is recommended when considering hopper gun applications.

Spray Specifications

Nozzle	Material Orifice	Air Orifice	CFM	Max Hose Length
Blow cap	¼" (6mm)	1/8" (3mm)	4	50' (15 meters)



Peristaltic Pump or “Squeeze Pump” (Medium to high volume)

Peristaltic pumps offer the same benefits as rotor stator pumps but are much more user friendly. Material never interfaces with pumping parts reducing the set up and wash out time. Peristaltic pumps use less pressure – delivering material safely and effectively. Various output options and sizes are available.

APPLICATION

Hawk & Trowel

BuildCrete™ may be hand applied like most conventional plaster material. Efficient application practice is recommended to ensure that fresh material is used.

Spraying

BuildCrete™ may be spray applied using conventional plaster delivery equipment. Ensure continuous material spraying for best results. Wash the pump and hoses during work breaks.

Application

A first 1/8” coat of **BuildCrete™** is direct applied to the EPS and worked flat. Mesh is embedded into the first coat working material through while ensuring that the mesh is flat and free of wrinkles. Overlap adjoining mesh by a minimum of 2.5” to 4” ideally. A second pass of **BuildCrete™** is immediately applied over the mesh to the specified thickness. This is a true one coat double back (two pass) method that typically results in a 3/16” to ¼” overall thickness.

Mesh

In order to obtain GigaCrete’s material warranty **11 oz. mesh is required**. In certain circumstance and under approval from GigaCrete other mesh can be specified as noted below.

Categories include:

1. 4.5 ounce per yd. No impact resistance and **not** recommended for anything but V grooves, moldings and corners where heavier mesh cannot be easily formed.
2. 15 ounces per yd. High impact resistance where above normal impact is required. (Consult with GigaCrete prior to specification)
3. 20 ounces per yd. Very High impact resistance for roof deck applications. (Consult with GigaCrete prior to specification)

Mesh gauge 4.5 and 11 ounce per yd are overlapped on all edges a minimum of 2.5". Mesh gauge 15 and 20 ounce per yd abut tightly and do not overlap at all edges due to the mesh thickness. Apply mesh strips on all corners of doors and windows where cracking is most likely to occur. These are also pre-cut "L" and "T" shapes and is an industry standard crack reducer especially around doors and windows.

Trowel Timing

Working time depends on material viscosity, temperature and humidity. Generally, the material is easily applied in approximately 20 minutes. Trowel lines and application irregularities may be flattened within 20 minutes of the application. Water troweling will not harm **BuildCrete™**.

Do not over trowel as surface blistering may occur. Plan to improve the wall profile in the relative short term.

Spray Specifications

Nozzle	Material Orifice	Air Orifice	CFM	Max Hose Length
Blow cap	1/4"	1/8"	4	50'

*Note: use a "dash" or fine spray pole assembly when spray applying **BuildCrete™***

Surface Protection and Decoration

Paint

Exterior masonry type paint primers are recommended prior to final paint coat. Washing the wall surface to remove any dust or contaminants is highly recommended prior to any painting. If the natural **BuildCrete™** is preferred it should be sealed with a clear non-staining sealer which will assist reducing stains or watermarks caused by rain run-off.

GENERAL

Clean Up

All mixing and finishing equipment must be thoroughly washed immediately after use. Potable water is sufficient for cleaning.

Curing

Ensure that **BuildCrete™** is allowed to cure in temperatures within the application temperature range. Moist curing for 2 hours is recommended.

Coverage

Each 75 lb. (22.6 kg) of **BuildCrete™** covers approximately **40 sq. ft.** at a thickness of 3/16 in.

Storage

BuildCrete™ bags should be stored in a secure, **indoor and dry space**. It is important that bags maintain their seal and are free of puncture or tear. Do not leave exposed to weather or rain or even condensation. Just like any cement it must remain dry at all times.

Shelf Life

When properly stored in original sealed packaging, **BuildCrete™** has a shelf life of one year from the date of manufacture.

Tech Support

Contact: GigaCrete, Inc. at (702) 643-6363 (PST)

Warning!

BuildCrete contains no harmful ingredients, for safety keep away from children.