

Structo-Base® Gypsum Plaster



For extremely high-strength conventional plaster applications

- Develops higher strengths than conventional plasters (up to 2,800 psi compressive strength).
- Ideal for high-abuse areas, such as handball courts, security walls, hospital corridors and schools.
- Recommended over metal lath with scratch and brown coats mixed 2 cu. ft. sand to 100 lbs. plaster.
- For use with STRUCTOCORE™ Brand Security Wall Systems.

Description

STRUCTO-BASE® Brand Gypsum Plaster is USG's highest-strength basecoat plaster. It can be mixed with sand in various proportions to provide required compressive strength; the highest strength is obtained by mixing 2 cu. ft. sand to 100 lbs. plaster. Provides a 2,800 psi compressive strength when tested in accordance with ASTM C742 and mixed 200 lbs. sand with 100 lbs. plaster. STRUCTO-BASE Gypsum Plaster is suitable for hand and machine application. This basecoat provides excellent indentation and penetration resistance and is ideally suited for applications requiring the highest levels of abuse resistance.

STRUCTO-BASE Gypsum Plaster provides a plastic working material that will conform to varied designs and help achieve high durability in walls and ceilings. It can be applied on gypsum and metal lath, clay tile, concrete and cinder blocks, and other approved plaster bases.

Fire Protection Gypsum plaster, properly proportioned with approved aggregates and used with specified plaster bases, provides excellent fire protection.

Sound Reflection The high density of STRUCTO-BASE Gypsum Plaster makes it ideal for use in areas where reflection of the full range of sound from high to low frequency is desired, such as in concert halls.

Sound Isolation Gypsum plasters can offer sound transmission loss characteristics suitable for most applications.

Control of Set STRUCTO-BASE Gypsum Plaster is formulated for use with sand aggregate, and in varying climatic conditions and job conditions. The quicker a gypsum plaster sets, the stronger the basecoat.

Limitations

1. Over interior monolithic concrete, USG™ Plaster Bonder should be applied before plastering.
2. Gypsum plasters should not be used where they will come into contact with water or excessive moisture.
3. Plaster application on masonry or concrete walls, or ceilings that have been coated with bituminous compounds or other waterproofing agents, is not recommended. Exterior walls should be furred and lathed prior to plastering to prevent seepage and condensation.
4. Basecoat plasters must not die or stop against a hollow metal door frame return. Dampen trim return vibration by grouting, and by using special anchors. The grout must be raked out to allow lath and plaster to be inserted into the frame.

Directions

Preparation

In cold weather, all glazing should be completed and the building heated to a minimum of 55 °F (13 °C) before gypsum base or lath and plaster installation. Building temperature must be maintained in uniform range above 55 °F for an adequate period prior to application of plaster, while plastering is being done, and until plaster is dry. Heat should be well distributed in all areas, with deflection or protective screens used to prevent concentrated or irregular heat on the plaster surfaces.

Ventilation and air circulation should be provided to dry the plaster for proper set. Keep windows open sufficiently to provide air circulation in glazed buildings; in enclosed areas lacking normal ventilation, mechanically remove moisture-laden air.

If glazed sashes are not in place and the building is subject to hot, dry winds or temperature differentials from day to night of 20 °F (11 °C) or more, openings must be screened with cheesecloth or similar material.

Mixing STRUCTO-BASE Gypsum Plaster is to be mixed with sand aggregate for machine application or hand application. Mix basecoat plaster by hand or in a mechanical mixer to a uniform consistency. When mixing STRUCTO-BASE Gypsum Plaster for application in STRUCTOCORE Security Wall Systems, the initial plaster mix is applied as a fog coat 1/8" to 1/4" thick prior to the scratch coat. See USG Technical Folder SA1119 for information on specific mixes for STRUCTO-BASE Gypsum Plaster in STRUCTOCORE Security Wall Systems.

Applying Basecoat Apply the basecoat plaster by hand or machine in one or two coats. Monolithic or unit masonry surfaces that exhibit high suction should be moderately wetted immediately before plastering.

For two-coat work over gypsum lath and masonry, apply the STRUCTO-BASE Gypsum Plaster basecoat with sufficient material and pressure to form a good bond to the base and to cover well; then double-back to bring the plaster out to grounds. Straighten to a true surface with a rod and darby without the use of additional water and leave it rough to receive the finish coat.

For three-coat work over metal lath or other substrates, apply the STRUCTO-BASE Gypsum Plaster scratch (first) coat with sufficient material and pressure to form good full keys on metal lath, and good bond on other bases, and then cross-rake. Apply brown (second) coat after scratch (first) coat has set firm and hard. Bring out to grounds and straighten to a true surface with a rod and darby without the use of additional water. Leave the brown coat rough to receive the finish (third) coat.

Product Data	Technical Data	Plaster	Mix	Compressive Strength psi—dry ⁽¹⁾	Weight lb./cu. ft.—dry	Conductivity (k)
		STRUCTO-BASE Gypsum Plaster (with sand)	100:2	2,800	124	—
		(with sand)	100:2-1/2	1,900	120	—
		(with sand)	100:3	1,400	118	—

(1) Average laboratory results. Figures may vary slightly for products from individual mills. Tested in accordance with ASTM C472. Aggregate is in cu. ft. per 100 lbs. of plaster.

Approximate Coverage—sq. yd./ton

Product	Applied over a base of:			
	Gypsum Lath	Metal Lath	Unit Masonry	STRUCTOCORE™ Sheets
STRUCTO-BASE Gypsum Plaster (with sand) ⁽¹⁾	154-214	99-136	120-167	17-21 ⁽²⁾

(1) Range; varies by volume of aggregate mixed with plaster (2.0, 2.5 or 3.0 cu. ft.). (2) 3-1/2" to 4-1/2" wall thickness

Compliance with Standards: Complies with ASTM Designation C28; STRUCTO-BASE Gypsum Plaster meets Federal Specification SS-P-00402B, Type II, Class 1 and 2.

Thermal Coefficient of Expansion (Unrestrained): Sanded gypsum plaster (sanded 100:2, 100:3)—7.0x10⁻⁶ in. per in. per °F (40-100 °F); 12.6 mm per mm per °C (4.5-37.8 °C).

Hygrometric Coefficient of Expansion (Unrestrained): Sanded gypsum plaster (sanded 100:2, 100:3)—1.5x10⁻⁶ in. per in. per % relative humidity (5-90% R.H.); 1.5x10⁻⁶ mm per mm per % relative humidity (5-90% R.H.).

Storage: Store material in a cool, dry place. Avoid direct sunlight. Maintain temperature above 40 °F (4 °C).

Shelf Life: Up to 6 months under protected storage conditions. Rotate stock.

Availability and Cost: STRUCTO-BASE Gypsum Plaster is distributed throughout the United States. Contact a United States Gypsum Company sales office or sales person for additional information.

Packaging: STRUCTO-BASE Gypsum Plaster is available in 50 lb. (22.7 kg) bags.

Submittal Approvals:	Job Name	
	Contractor	Date

WARNING!

When mixed with water, this material hardens and becomes very hot - sometimes quickly. DO NOT attempt to make a cast enclosing any part of the body using this material. Failure to follow these instructions can cause severe burns that may require surgical removal of affected tissue or amputation of limb. Dust may cause irritation to eyes, skin, nose, throat and upper respiratory tract. Avoid irritation by reducing exposure

to dust. Use in a well-ventilated area or provide sufficient local ventilation. Do not ingest. If dusty, wear a NIOSH/MSHA-approved dust respirator. Wear eye protection. If eye contact occurs, flush thoroughly with water for 15 minutes. If irritation persists, call physician. Wash with soap and water after use. If ingested, call physician. Product information and MSDS: (800) 507-8899 or www.usg.com.
KEEP OUT OF REACH OF CHILDREN.

Trademarks

The following is a trademark of USG Corporation: STRUCTO-BASE, STRUCTOCORE, USG.

Note
Products described here may not be available in all geographic markets. Consult your U.S. Gypsum Company sales office or representative for information.

Notice

We shall not be liable for incidental and consequential damages, directly or indirectly sustained, nor for any loss caused by application of these goods not in accordance with current printed instructions or for other than the intended use. Our liability is expressly limited to replacement of defective goods. Any claim shall be deemed waived unless made in writing to us within thirty (30) days from date it was or reasonably should have been discovered.

Safety First!

Follow good safety and industrial hygiene practices during handling and installation of products and systems. Take necessary precautions and wear the appropriate personal protective equipment as needed. Read material safety data sheets and related literature on products before specification and/or installation.

