

ONE COAT FIBERGLASS REINFORCED STUCCO

PRODUCT No. 1200 (SANDED) AND No. 1216 (CONCENTRATED)

DIVISION 9

Portland Cement
Plastering
09 24 00

PRODUCT DESCRIPTION

QUIKRETE® One Coat Fiberglass Reinforced Stucco is a fiber-reinforced, Portland cement based plaster designed for use in one-coat stucco applications. When applied in accordance with IAPMO ER-455, this product provides a one-hour fire rating.

PRODUCT USE

QUIKRETE® One Coat Fiberglass Reinforced Stucco (FRS) is an alternative wall cladding. The system is a proprietary cementitious mix for use as an exterior coating reinforced with metal or wire fabric lath. It is applied to substrates of plywood, oriented strand board (OSB), Gypsum sheathing or expanded polystyrene (EPS) extruded and polyisocyanurate (ISO) insulation board on exterior walls of wood or steel stud construction. QUIKRETE® One Coat Fiberglass Reinforced Stucco may be applied over concrete and masonry units in one coat. QUIKRETE® FRS may also be used as the scratch and brown coat in a conventional two or three coat stucco system.

QUIKRETE® FRS has been evaluated by IAPMO as an exterior wall covering in compliance with Chapters 15 and 25 of the IBC and Chapter 7 of the IRC. Material has been evaluated for exterior durability, wind resistance, fire-resistance ratings and installation on walls required to be of Type I, II, III, IV and V construction. The QUIKRETE® FRS systems have been evaluated and are compliant with the following codes and regulations:

- 2018, 2015, 2012, 2009 and 2006 International Building Code (IBC)
- 2018, 2015, 2012, 2009 and 2006 International Residential Code (IRC)
- 2019 California Building Code (CBC) and 2019 California Residential Code (CRC)
- 2017 and 2014 Florida Building Code (FBC), and 2017 and 2014 Florida Building Code Residential (FBC Residential)

QUIKRETE® One Coat FRS Sanded is a factory prepared mixture of Type I or Type II Portland cement complying with ASTM C150, hydrated lime complying with ASTM C207, fibers and other approved ingredients. QUIKRETE® One Coat FRS Concentrated is the same as QUIKRETE® One Coat FRS Sanded, except the concentrated mix is provided for field addition of sand.



COVERAGE

QUIKRETE® One Coat One Coat Fiberglass Reinforced Stucco, per 80 lb (36.2 kg) bag:

| | |
|---------------|---|
| 3/8" (9.5 mm) | 20-24 ft ² (1.9-2.2 m ²) |
| 1/2" (13 mm) | 15-18 ft ² (1.4-1.7 m ²) |
| 3/4" (19 mm) | 10-12 ft ² (0.9-1.1 m ²) |

QUIKRETE® One Coat Fiberglass Reinforced Stucco Concentrated, per 80 lb (36.2 kg) bag, blended with 210 pounds (95.3 Kg) of plaster sand:

| | |
|---------------|---|
| 3/8" (9.5 mm) | 73-87 ft ² (6.8-8.1 m ²) |
| 1/2" (13 mm) | 54-65 ft ² (5.0-6.0 m ²) |
| 3/4" (19 mm) | 36-44 ft ² (3.3-4.1 m ²) |

All coverages are approximate and vary with thickness, waste, etc.

SIZES

- QUIKRETE® One Coat FRS is packaged in 80 lb (36.2 kg) bags
- QUIKRETE® One Coat FRS Concentrated is packaged in 80 lb (36.2 Kg) bags and must be field mixed with properly graded plaster sand in accordance with ASTM C144 or ASTM C897. Each 80 lb (36.2 Kg) bag should be mixed with approximately 210 to 250 lbs (95.2 Kg) of sand.

TECHNICAL DATA

Applicable Standards

ASTM International

- ASTM C144 Standard Specification for Aggregate for Masonry Mortar
- ASTM C150 Standard Specification for Portland Cement Mortar
- ASTM C207 Standard Specification for Hydrated Lime for Masonry Purposes
- ASTM C834 Standard Specification for Latex Sealants
- ASTM C897 Standard Specification for Aggregate for Job-Mixed Portland Cement-Based Plasters

- ASTM C926 Standard Specification for Application of Portland Cement-Based Plaster
- ASTM C 1063 Standard Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-Based Plaster
- ASTM E72 Standard Test Methods of Conducting Strength Tests of Panels for Building Construction
- ASTM E514 Standard Test Method for Water Penetration and Leakage through Masonry

Approvals

U.S. Department of Housing and Urban Development (HUD) - #1207
 International Association of Plumbing and Mechanical Officials ER-455

Fire Rating

For construction of exterior walls with a 1-hour fire resistive wall assembly, follow instructions in IAPMO ER-455. The assemblies include substrates of fiberboard, plywood, OSB, gypsum sheathing, or EPS insulation board and open framing on exterior walls of wood or steel stud construction.

QUIKRETE® One Coat One Coat FRS when tested in accordance with the procedures specified yields the results indicated in Table 1.

TABLE 1 TYPICAL PHYSICAL PROPERTIES

| | |
|---|--|
| Wind driven rain, average flow, 24 hours, ASTM E514 | 0.002 lb (0.9 g) per hr |
| Freeze/Thaw Resistance, ICBO Acceptance criteria | No visible cracking, checking or delamination, 10 F/T cycles of 75° to -20°F (24 to -29°C) |
| Water vapor permeability, ASTM E514 | 7.2 perm (415 ng/Pa x s x m ²) @ 14 days |
| Transverse load strength, ASTM E72 | |
| Wood Studs, average load to failure | 96 psf (469 kg/m ²) |
| Metal studs, average load to failure | 138 psf (674 kg/m ²) |

INSTALLATION

Only contractors with experience applying one-coat systems, or those certified by the manufacturer, should install QUIKRETE® One Coat FRS.

PREPARATORY WORK

The application of QUIKRETE® One Coat FRS is intended for use as a one-coat stucco over #20 gauge [0.035 in (0.89 mm)] 1" galvanized steel woven wire fabric lath, metal lath, and two layers of Grade D Kraft building paper or a combination of insulation board and 60-minute water resistant building paper (when applied over wood-based sheathing). For one-coat application utilize in accordance with IAPMO ER-455. Installation of wire mesh or lath and building paper

shall be in accordance with ASTM C926 or local governing building codes. Control joints should be installed to limit sections to no more than 144 ft² (13 m²), or at a height/width ratio of 2.5 : 1.

ONE-HOUR FIRE RESISTIVE WALL ASSEMBLIES

There are 4 wall configurations approved as 1-hour fire resistive wall assemblies. Do not proceed with construction without consulting IAPMO ER-455.

1. The first assembly uses 5/8" (15.9 mm) Type X gypsum wallboard on the interior face and 5/8" (15.9 mm) Type X gypsum wallboard on the exterior face. The framing can be constructed of 2" x 4" wood studs spaced 24" (610 mm) oc maximum or minimum #16 gauge galvanized steel studs spaced 24" (610 mm) oc maximum. A weather resistive barrier, lath and One Coat FRS are then applied to the exterior face.

2. The second assembly uses 5/8" (15.9 mm) Type X gypsum wallboard with Kraft-paper-faced, 3 1/2" (89 mm) thick, R-11 fiberglass batt-insulation installed in the cavity of the wall. One-layer minimum of 7/16" (11.1 mm) plywood or OSB sheathing shall then be applied to the exterior face. The framing can be constructed of 2" x 4" wood studs spaced 24" (610 mm) oc maximum or minimum #16 gauge galvanized steel studs spaced 24" (610 mm) oc maximum. A weather resistive barrier, lath and One Coat FRS are then applied to the exterior face.

3. The third assembly uses 5/8" (15.9 mm) Type X gypsum wallboard with Kraft paper-faced, 3 1/2" (89 mm) thick, R-11 fiberglass batt insulation installed in the cavity of the wall. One-layer minimum of 7/16" (11.1 mm) plywood or OSB sheathing shall then be applied to the exterior face. Install a weather resistive barrier, then Type I EPS insulation board with a density of 1 pcf (16.02 kg/m³) over the sheathing. The framing can be constructed of 2" x 4" wood studs spaced 16" (406 mm) oc maximum or minimum #16 gauge galvanized steel studs spaced 16" (406 mm) oc maximum. The lath and One Coat FRS are then applied to the exterior face.

4. The fourth assembly uses 5/8" (15.9 mm) Type X gypsum wall board on the interior face with optional 3-1/2-inch-thick, R-11 glass fiber or mineral wool batts or blankets placed between the studs. The outside face has foam insulation board that is applied over the WRB to open studs and fastened into place.

ACCESSORIES

- Insulation boards should be fastened to the studs with approved fastening fixtures, as governed by local or national building codes. The maximum spacing of the nails, screws or mechanical fasteners should not exceed 12" (305 mm) unless otherwise controlled by the codes. All fasteners must penetrate studs a minimum of 3/4" (19.1 mm) or as otherwise specified by local building codes.
- A variety of different accessories may be needed to provide completely homogeneous exterior cladding with no possibility of water leakage, either at corners, around openings or at the bottom and top of the cladding system. Consult IAPMO ER-455 for details.
- All trim, screeds and corner reinforcement must be galvanized steel or approved plastic.
- Joint sealant - Seal joints with an approved exterior sealant material

where foam edges meet metal or plastic trim, such as with weep bases or dip screeds, and where J metal trim is applied. Sealant must comply with ASTM C834.

MIXING

MIXING (Sanded)

Machine mix in a paddle-type mortar mixer:

1. Add approximately 5.5 quarts (5.2 L) of clean water into the mixer for each 80 lb (36.2 kg) bag.
2. Slowly pour the contents of the bag(s) into the mixer. Mix for 3 - 5 minutes until a firm, workable consistency is achieved. Avoid over-mixing, as this may affect the integrity of the fibers. If more water is needed, add small amounts at a time and continue to mix until desired consistency is achieved.
3. Do not exceed a total volume of 6.5 quarts (6.2 L) of water for each 80 lb (36.2 kg) bag.
4. Prepare only enough mix as can be applied in 1 hour.

MIXING (Concentrated)

Machine mix in a paddle-type mortar mixer:

1. Add approximately 5 gallons (18.9 L) of clean water into the mixer for each 80 lb (36.2 kg) bag.
2. Add approximately 210 lb (95.3 kg) of clean dry plaster sand (ASTM C897).
3. Slowly pour the contents of the bag(s) into the mixer. Mix for 3-5 minutes until a firm, workable consistency is achieved. Avoid over-mixing, as this may affect the integrity of the fibers. Consistency will vary, depending on sand loading and moisture content. If more water is needed, add small amounts and continue to mix until desired consistency is achieved.
4. Do not exceed a total volume of 6 gallons (22.7 L) of water for each 80 lb (36.2 kg) bag of concentrate used.
5. Prepare only enough mix as can be applied in 1 hour.

APPLICATION

1. QUIKRETE® One Coat FRS may be trowel or spray applied. The proper selection of spray equipment is important. Apply stucco onto the metal or wire fabric lath working from bottom to top to achieve a minimum thickness of 3/8" (9.5 mm). Force the stucco through the metal or wire fabric lath so that it fills the gap between the metal or wire fabric lath and wall completely
2. Using a darby or straight edge, screed the stucco flat

3. After the stucco has lost its sheen, use a hard rubber or wooden float to promote the densification of the brown coat and to provide a surface receptive for finish coat material.

4. For construction details, consult IAPMO ER-455.

CURING

Provide sufficient moisture in the plaster mix or by moist curing to permit continuous hydration of the cementitious materials. The most effective procedure for curing and time between coats will depend on climatic and job conditions.

QUIKRETE® One Coat FRS may be water cured with a fine mist per ASTM C926 once it has achieved final set. During hot and dry conditions, additional precautions may be necessary, including more frequent spraying or the erection of barriers to deflect sunlight and wind. Do not apply when weather is forecast to be above 100 degrees F (38 degrees C) or below 40 degrees F (4 degrees C) within 24 hours without adopting the required hot or cold weather precautions. QUIKRETE® One Coat FRS and QUIKRETE® One Coat FRS Concentrated do not require the addition of any other material, such as coloring compounds, calcium chloride, soaps, air entraining admixtures, polymers, etc. Such additions will void any warranty and result in a violation of code conditions.

PRECAUTIONS

In cool weather, use warm water to speed the setting time. Do not apply when temperatures are expected to fall below 40 degrees F (4 degrees C) within 24 hours. Protect from rain, snow and freezing for 48 hours after application.

During hot weather, work during cool times of the day, and use cold water to slow down the setting time. Keep cementitious substrates, such as concrete masonry block and concrete, damp prior to application. Do not apply when temperatures are above 100 degrees F (38 degrees C).

WARRANTY

NOTICE: Obtain the applicable LIMITED WARRANTY: at www.quikrete.com/product-warranty or send a written request to The Quikrete Companies, LLC, Five Concourse Parkway, Atlanta, GA 30328, USA. Manufactured under the authority of The Quikrete Companies, LLC. © 2020 Quikrete International, Inc.