

# 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 ICC ESR-1240, this product provides a one-hour fire rating.

### PRODUCT USE

QUIKRETE® One Coat Fiberglass Reinforced Stucco (FRS) is an alternative exterior wall covering to those specified in Chapter 25 of both the 1997 Uniform Building Code™ (UBC), the 2000 International Building Code® (IBC) and Section R703 of the 2000 International Residential Code™ (IRC). The system is a proprietary cementitious mix for use as an exterior coating reinforced with wire fabric or metal lath. It is applied to substrates of fiberboard, plywood, oriented strand board (OSB), gypsum sheathing or expanded polystyrene (EPS) insulation board on exterior walls of wood or steel stud construction. QUIKRETE® One Coat Fiberglass Reinforced Stucco may be applied over concrete and concrete masonry units in one coat. QUIKRETE® One Coat Fiberglass Reinforced Stucco may also be used as base coat in conventional two- or three-coat stucco systems.

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 (36.3 kg) bag:

3/8" (9.5 mm)	20-24 ft <sup>2</sup> (1.9-2.2 m <sup>2</sup> )
1/2" (12.7 mm)	15-18 ft <sup>2</sup> (1.4-1.7 m <sup>2</sup> )
3/4" (19.0 mm)	10-12 ft <sup>2</sup> (0.9-1.1 m <sup>2</sup> )

QUIKRETE® One Coat Fiberglass Reinforced Stucco Concentrated, per 80 lb (36.3 kg) bag, blended with 210 pounds (95.3 Kg) of plaster sand:

3/8" (9.5 mm)	73-87 ft <sup>2</sup> (6.8-8.1 m <sup>2</sup> )
1/2" (12.7 mm)	54-65 ft <sup>2</sup> (5.0-6.0 m <sup>2</sup> )
3/4" (19.0 mm)	36-44 ft <sup>2</sup> (3.3-4.1 m <sup>2</sup> )

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

### SIZES

• QUIKRETE® One Coat FRS is packaged in 80 lb (36 kg) bags



- QUIKRETE® One Coat FRS Concentrated is packaged in 80 lb (36.3 Kg) bags and must be field mixed with properly graded plaster sand in accordance with ASTM C897. Each 80 lb (36.3 Kg) bag should be mixed with approximately 210 lb (95.3 Kg) of sand.

### TECHNICAL DATA

Applicable Standards

ASTM International

- ASTM C150 Standard Specification for Portland Cement
- 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 Code Council (ICC) ESR-1240

Fire Rating

For construction of exterior walls with a 1-hour fire resistive wall assembly, follow instructions in ICC ESR-1240. The assemblies include substrates of fiberboard, plywood, OSB, gypsum sheathing, or

EPS insulation board 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 <sup>2</sup> ) @ 14 days
Transverse load strength, ASTM E72	
Wood Studs, average load to failure	96 psf (469 kg/m <sup>2</sup> )
Metal studs, average load to failure	138 psf (674 kg/m <sup>2</sup> )

**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 ICC ESR-1240. 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 ft<sup>2</sup> (13.4 m<sup>2</sup>), or at a height/width ratio of 2.5 : 1.

**ONE-HOUR FIRE RESISTIVE WALL ASSEMBLIES**

There are 3 wall configurations approved as 1-hour fire resistive wall assemblies. Do not proceed with construction without consulting ICC ESR-1240.

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/m<sup>3</sup>) 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.

**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 ICC ESR-1240 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 (36.3 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 (36.3 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 gal (18.9 L) of clean water into the mixer for each 80 lb (36.3 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 2 - 3 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 gal (22.7 L) of water for each 80 lb (36.3 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. The use of a peristaltic pump, 1 1/2" (38 mm) hose size and 0.5" (13 mm) minimum unobstructed aspiration nozzle is recommended. An 185 cfm air compressor will provide an adequate air supply. Apply stucco onto the mesh working from bottom to top to achieve a minimum thickness of 3/8" (9.5 mm). Force the stucco through the mesh so that it fills the gap between the mesh and wall completely
2. Using a darby or straight board, screed the stucco flat
3. After the stucco has lost its sheen, use a float to smooth the surface
4. For construction details, consult ICC ESR-1240.

#### **CURING**

QUIKRETE® One Coat FRS must be water cured with a fine mist once it has achieved final set. Spray the wall periodically for 48 hours. 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**

The QUIKRETE® Companies warrant this product to be of merchantable quality when used or applied in accordance with the instructions herein. The product is not warranted as suitable for any purpose or use other than the general purpose for which it is intended. Liability under this warranty is limited to the replacement of its product (as purchased) found to be defective, or at the shipping companies' option, to refund the purchase price. In the event of a claim under this warranty, notice must be given to The QUIKRETE® Companies in writing. This limited warranty is issued and accepted in lieu of all other express warranties and expressly excludes liability for consequential damages.

The QUIKRETE® Companies  
One Securities Centre  
3490 Piedmont Rd., NE, Suite 1300  
Atlanta, GA 30305  
(404) 634-9100 • Fax: (404) 842-1424