



A New Way to Build Floors

Fortacrete[®]
Structural Panels

FORTACRETE® brand structural panels are high strength reinforced cement panels for use in noncombustible construction. Lighter than pre-cast or poured concrete, FORTACRETE structural panels install like wood sheathing and provide a new, easier and more efficient way to build floors.

The FORTACRETE floor system consists of steel joists or framing members and FORTACRETE structural panels applied with mechanical fasteners. The result is a dimensionally stable floor assembly with superior fire performance.



Fortacrete®

A Lighter, Faster Floor System

Build Lighter

FORTACRETE structural panels provide the strength and durability of concrete — without the additional weight. Each 3/4" thick, 4' wide and 8' long panel weighs 150 lbs. (4.7 psf). When fastened to metal framing, this lightweight assembly can significantly reduce design loads and thereby reduce overall building costs.

Build Faster

FORTACRETE structural panels can be cut like wood panels and fastened with conventional tools. They can even be installed in most weather conditions, including mild precipitation, provided job safety procedures permit. Avoid the scheduling difficulties and extra manpower required for other systems by choosing the easy installation of FORTACRETE structural panels.

Build Safer

FORTACRETE structural panels meet the criteria in ASTM E136 for use in noncombustible Type I and Type II construction. This highly reinforced cement panel can be used as part of the structural diaphragm of the building, carrying both gravity and lateral loads.

Build Greener

Green building can create environmental, economic, health and community benefits. Our FORTACRETE structural panels have a minimum 25% recycled content, are formaldehyde-free and resistant to mold and termites.

A New Level of Performance

Lightweight

FORTACRETE structural panels are significantly lighter than conventional systems. Combined with cold formed light steel framing, the lower weight of each floor may offer an opportunity to reduce the size of the structural members by up to 10% and the seismic design forces by as much as 20%.

Fast Installation

FORTACRETE structural panels install like wood sheathing. They can be cut easily with a circular saw and fastened using self-drilling screws and a screw gun. The panels can be installed and immediately exposed to rain or snow. In addition, there is no need for an underlayment before adding carpet and pad or engineered wood.

Superior Fire Performance

FORTACRETE structural panels meet the criteria in specification ASTM E136 for use in noncombustible construction. One- and two-hour UL-listed fire-resistant designs for floor/ceiling assemblies meeting ASTM E119 criteria are available with these panels.

Sound Performance

An assembly that includes FORTACRETE structural panels applied over steel framing, covered with carpet and pad, and a single layer drywall ceiling attached to resilient channels below the framing, can achieve a sound performance rating of 56 STC and 65 IIC. Additional acoustically rated systems for various floor and ceiling finishes are available.

Mold Resistant

FORTACRETE structural panels are made with a cementitious formula that makes them resistant to mold growth even in wet conditions, as measured by ASTM G21.

Dimensionally Stable

This fiberglass-reinforced cementitious panel will not swell or delaminate in the presence of moisture. Tongue-and-groove edges will always fit together. Panels will not buckle or warp, even under changing temperature and moisture conditions.

System Performance

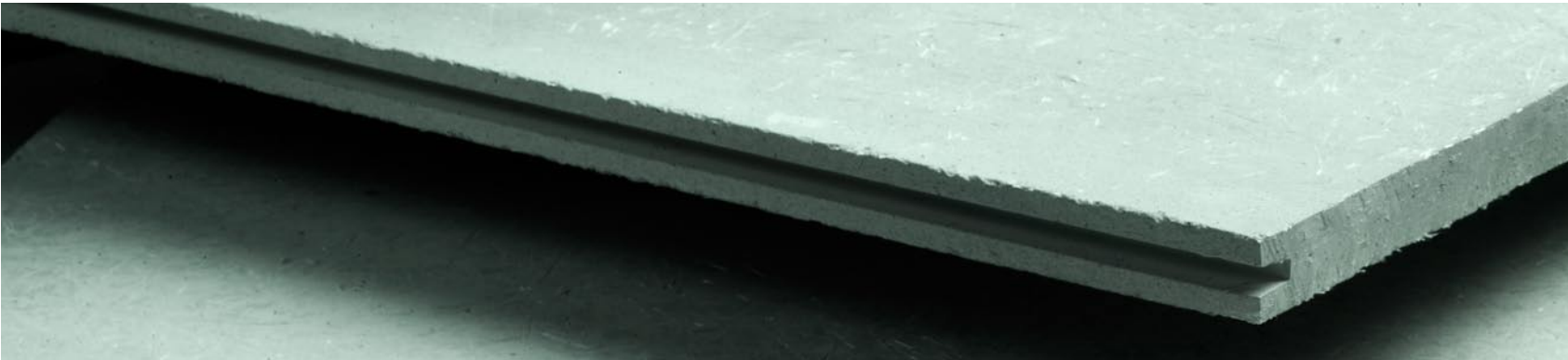
Description	Reference
Code Report	ICC ESR-1792
City Code Approvals	New York: MEA # 214-07-M, MEA # 229-07-M; Los Angeles: LARR # 25682
Allowable Uniform Load ^a (total DL and LL)	110 psf @ 24" o.c.; 245 psf @ 16" o.c.
Shear Diaphragm Ratings	>450 plf ^b
UL 1-, 1.5-, 2-Hour Fire Resistance Designs	G535, G536, G556, G557
ULC 1-, 1.5-, 2-Hour Fire Resistance Designs	I528, I529
UL Metal and Plastic Through-Penetration Firestop Systems	F-E-1023, F-E-2031
Acoustical Ratings	>65 IIC ^c ; >56 STC ^c

(a) On steel framing, deflection of L/360. (b) Joists spaced 24" o.c. and fasteners spaced 6" at the perimeter and 12" o.c. in field, unblocked. (c) Carpet and pad over FORTACRETE panels attached to cold-formed steel framing with a ceiling consisting of resilient channels spaced 12" o.c., 3-1/2" of fiberglass insulation in the joist cavity and a single layer of 5/8" Type C gypsum panel.

Test Data

Physical and Mechanical Properties	Test Standard	Typical Values Standard (Metric)
Moment capacity (3/4" thick panel)	ASTM C1185, 5.5	1585 lb-in/ft (588 N-m/m)
Bending stiffness (3/4" thick panel)	ASTM C1185, 5.5	315,000 lb-in ² /ft (3kN-m ² /m)
Compressive strength	ASTM C109	2500 psi (17 MPa)
Concentrated load	ASTM E661	400 lbs (1.78 kN) static 0.125" (3.2 mm) max. deflection @ 200 lbs (0.89 kN)
Fastener lateral resistance ^a	ASTM D1761, S.10.2	>210 lb (0.93 kN) dry; >160 lb (0.71 kN) wet
Density ^b	ASTM C1185	75 lb/ft ³ (1200 kg/m ³)
Weight at 3/4" thickness	ASTM D1037	4.7 lbs/ft ² (23 kg/m ²)
pH Value	ASTM D1293	10.5
Linear variation with change in moisture (25% to 90% relative humidity)	ASTM C1185, S.8	<0.10 %
Thickness swell	ASTM D1037, B	max. 3.0 %
Freeze / thaw resistance	ASTM C1185	Passed (50 cycles)
Mold resistance	ASTM D3273 ASTM G21	10 0
Water absorption ^c	ASTM C1185, 5.2.3.1	<15.0 %
Noncombustibility	ASTM E136 (-04)	Passed
Surface-burning characteristics (flame spread/smoke developed)	ASTM E84	0/5
Long-term durability	ASTM C1185, S.13	min. 75% retention of physical properties
Water durability	ASTM C1185, S.5	min. 70% retention of physical properties

(a) Fastener lateral resistance measured with 1-5/8" Hi-Low screw. (b) Density measured at equilibrium conditioning per Section 5.2.3.1., 28 days after manufacturing. (c) Absorption measured from equilibrium conditioning followed by immersion in water for 48 hours.



Technical Information

fortacrete.com

Samples/Literature/Customer Service E-mail

fortacrete@usg.com

Customer Service

800 USG.4YOU

Product Information

See fortacrete.com for the most up-to-date product information.

Trademarks

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Note

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Safety First!

Follow good safety/industrial hygiene practices during installation. Wear appropriate personal protective equipment. Read MSDS and literature before specification and installation.

