



**A New Way to Build Floors**

**Structo-Crete™**

**Structural Concrete Panel**

USG Fortocrete is now Structo-Crete™  
Same great panel

## A New Level of Performance

### Lightweight

STRUCTO-CRETE™ structural concrete panels provide the strength and durability of concrete — without the additional weight. Each ¾ in. thick, 4 ft. wide and 8 ft. 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. When 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

STRUCTO-CRETE structural concrete 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 in most weather conditions (as job safety procedures permit) and immediately exposed to rain or snow. In addition, there is no need for an underlayment before adding carpet and pad or engineered wood.

**Note** \*Cut panels to size with a circular saw equipped with carbide-tipped blade and a dry dust collection device or a water-dispensing device that limits the amount of airborne dust. Dust can contain silica. Wear safety glasses and a NIOSH-approved N95 dust mask when cutting this panel.



### Excellent Fire Performance

STRUCTO-CRETE structural concrete panels meet the criteria in ASTM E136 for use in non-combustible Type I and Type II 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 STRUCTO-CRETE structural concrete 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

STRUCTO-CRETE structural concrete panels are resistant to mold growth. Independent tests by a certified laboratory confirmed no mold growth, recording a rating of 0 (zero) as measured by ASTM G21 and a rating of 10 as measured by ASTM D3273.

### 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.

### Greener Building

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

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

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

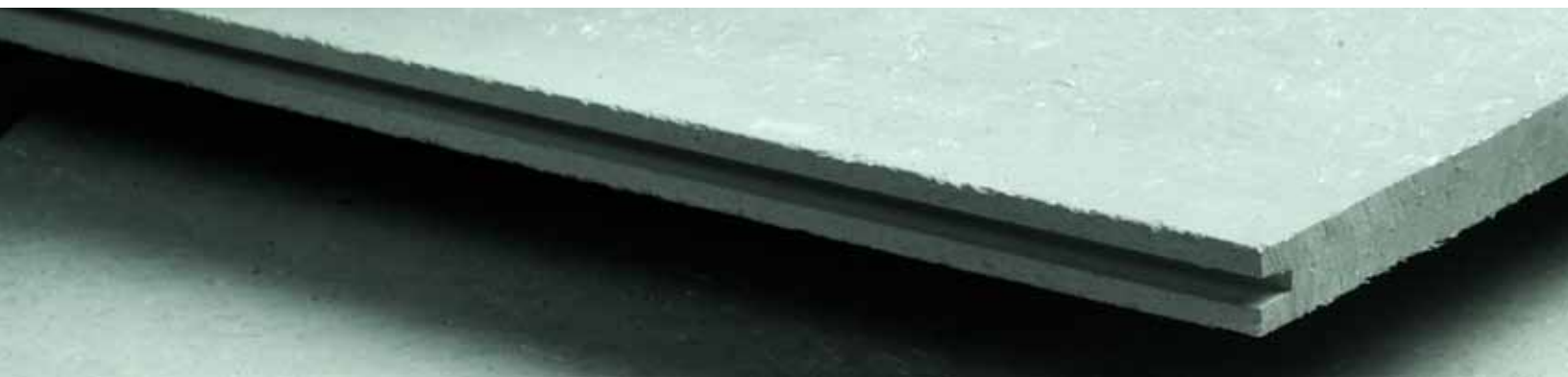
## A lighter, faster floor system

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 <sup>a</sup> (total DL and LL)	110 psf @ 24" o.c.; 245 psf @ 16" o.c.
	Shear Diaphragm Ratings	>450 plf <sup>b</sup>
	UL 1-, 1.5-, 2-Hour Fire Resistance Designs	G535, G536, G556, G557, G558, G562, G569, G570, L570, M502, M506
	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 <sup>c</sup> ; >56 STC <sup>c</sup>

(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 STRUCTO-CRETE 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 <sup>2</sup> /ft (3kN-m <sup>2</sup> /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 <sup>a</sup>	ASTM D1761, S.10.2	>210 lb (0.93 kN) dry; >160 lb (0.71 kN) wet
	Density <sup>b</sup>	ASTM C1185	75 lb/ft <sup>3</sup> (1200 kg/m <sup>3</sup> )
	Weight at 3/4" thickness	ASTM D1037	4.7 lbs/ft <sup>2</sup> (23 kg/m <sup>2</sup> )
	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 <sup>c</sup>	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 Service**

888 STR.UCTO

**Web Site**

[structo-crete.com](http://structo-crete.com)

**Samples/Literature**

[structo-crete@usg.com](mailto:structo-crete@usg.com)

**Product Information**

See [usg.com](http://usg.com) for the most up-to-date product information.

**Trademarks**

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

