



USG STRUCTURAL PANEL CONCRETE ROOF DECK

STEEP-SLOPE ROOF APPLICATION

- The only cementitious structural panel approved by Factory Mutual (FM)
- The only FM Approved nail base
- Three easy steps: lay, fasten, finish
- The only noncombustible concrete roof deck meeting latest active ASTM standard E136
- Made in USA

TYPICAL APPLICATIONS

USG Structural Panel Concrete Roof Deck			
Clay or Cement Tile	Shingles	Standing Seam	<ul style="list-style-type: none"> Dimensionally stable: No need to gap the panels or account for shrinkage Mold-, moisture- and termite-resistant No nail base needed Nonrotting Span ratings up to 48" o.c. Single layer installation

TEST DATA

Physical and Mechanical Properties	Test Standard	Approximate Values Standard (Metric)
Concentrated load	ASTM E661	550 lb. (2.45 kN) static 0.108" (2.7 mm) max. deflection @ 200 lb. (0.89 kN)
Mold resistance	ASTM D3273, ASTM G21	10, 0
Linear variation with change in moisture (25% to 90% relative humidity)	ASTM C1185, Sec. 8	<0.10
Thickness swell	ASTM D1037, B	Max. 3.0%
Freeze/thaw resistance	ASTM C1185	Passed (50 cycles)
pH value	ASTM D1293	10.5
Water vapor transmission	ASTM E96	<2 perms
Water absorption ^a	ASTM C1185, Sec. 5.2.3.1	<15.0%
Noncombustibility	ASTM E136 (unmodified) CAN/ULC-S114	Passed Passed
Surface-burning characteristics (flame spread/smoke developed)	ASTM E84, CAN/ULC-S102	0/0
Termite resistance	AWPA Standard E1-13	9.8
Low VOC emissions	CDOH/EHLB/Standard Method V1.1-2010 ^b	Compliant

(a) Absorption measured from equilibrium conditioning followed by immersion in water for 48 hours.

SYSTEM PERFORMANCE

Description	Reference
Code Reports	PER-14076
UL 1-, 1.5-, 2-Hour-Fire Resistance Designs ^a	P561, P562, P573

(a) For the most up-to-date UL Designations, visit www.USGStructuralUL.com.

ULTIMATE LOAD CAPACITY FOR USG STRUCTURAL PANEL CONCRETE ROOF DECK

The following table represents the Ultimate Capacity of USG Structural Panel Concrete Roof Decks. The uniform load and uplift capacities in this table represent the attachment of the Concrete Roof Deck to the structural framing members – the values for a roofing system are obtained from the roofing system manufacturer's testing and specific installation instructions. For the most up-to-date load tables, see the Progressive Engineering Inc. report, [PER-14076](#). For technical questions, email usgstructural@usg.com. **A qualified architect or engineer should review and approve calculations, framing and fastener spacing for all projects.**

Joist Spacing inch (mm)	Uniform Load psf (kPa)	Uplift Capacity psf (kPa) ^{1,2,3}			
		Fastener spacing (edge / field)			
		8/12	8/8	6/6	4/4
12 (304.8)	1320 (63.2)	513 (24.6)	770 (36.9)	1026 (49.1)	1320 (63.2)
16 (406.4)	744 (35.6)	385 (18.4)	557 (27.6)	744 (35.6)	744 (35.6)
24 (609.6)	330 (15.8)	257 (12.3)	330 (15.8)	330 (15.8)	330 (15.8)
32 (812.8)	240 (11.5)	192 (9.19)	240 (11.5)	240 (11.5)	240 (11.5)
48 (1219) ⁴	150 (7.2)	128 (6.1)	150 (7.2)	150 (7.2)	150 (7.2)

For SI: 1 inch = 25.4mm, 1 psf = 47.88 Pa.

(1) **Ultimate Load Values have no safety factor included.**

(2) Two framing spans minimum per panel piece.

(3) Ultimate uplift load Table for general reference only. For complete load capacities, consult Progressive Engineering Inc. Product Evaluation Report [PER-14076](#)

(4) Blocking at all joints perpendicular to framing to be a minimum of 16 gauge 3-5/8" (92 mm) wide track. For sheathing installation where a single span condition exists, additional track blocking is required perpendicular to the framing located mid-way between the edges of the panel.

**MSRP based upon full truckload delivered to jobsite:
Roof Deck: \$5.40/sf**

SCP41-USA-ENG/rev. 2-20
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PRODUCT INFORMATION

See usg.com/structural for the most up-to-date product information.

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SAFETY FIRST!

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

