

## Megaaccrete Floor and Roof Panel

Lightweight Structural Floor and Roof

Division 03  
Autoclaved Aerated Concrete Reinforced Panels

### 1. DISTRIBUTOR

Megaaccrete AAC Plant, LLC  
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Kerrville, TX 78028  
www.megaaccrete.com  
support@megaaccrete.com  
(210) 402-3223

### 2. PRODUCT DESCRIPTION

Megaaccrete Floor and Roof Panel is a lightweight, load-bearing system that utilizes large-format, structurally reinforced autoclaved aerated concrete (AAC) panels. These panels provide structure, insulation, fire protection, water resistance, and sound reduction. The system is designed for projects with intermediate floor and roof spans (up to 19'-8"), supported by wood, cold-formed steel, structural steel, masonry, or concrete structural frames.

#### Product Sizes:

Megaaccrete Floor and Roof Panels are custom-manufactured to project specifications and are available in nominal thicknesses ranging from 4 to 12 inches (100 to 300 mm), with standard widths of 24 inches (610 mm) and lengths up to 236.22 inches (6,000 mm). The long edges of the panels are designed with a special tongue-and-groove joint.

- **Thickness:** 4, 5, 6, 7, 8, 10, & 12 inches, (nominally 100 - 300 mm)
- **Width:** 24 inches (610 mm)
- **Length:** Up to 19.685 feet (6,000 mm)

### 3. TECHNICAL DATA

#### Composition and Materials:

Megaaccrete Floor and Roof Panels are precast, lightweight autoclaved aerated concrete panels, internally reinforced with a double layer of welded steel mesh.

AAC Class*	AAC-4	AAC-6
Dry Bulk Density	31 lb/ft <sup>3</sup>	37 lb/ft <sup>3</sup>
Design Weight	37 lb/ft <sup>3</sup>	45 lb/ft <sup>3</sup>
Compressive Strength	580 psi	870 psi
Thermal Conductivity (K)	0.9124 Btu-in/ft <sup>2</sup> hF	0.9811 Btu-in/ft <sup>2</sup> hF
Thermal Resistance (R-Value per inch)	1.096 BTU/ft <sup>2</sup> hF	1.019 BTU/ft <sup>2</sup> hF
Sound Transmission **		
- 4 inch	STC 41	--
- 8 inch	STC 47	STC 50
- 12 inch	STC 52	--
Fire Resistance Rating ASTM E119 / ANSI UL 263 Restrained & Unrestrained Assembly	Up to 4.0 hr UL Design No. K909 & P932	
* Manufactured according C1693 y C1694 / ** Only material without finishes		

### Applicable Standards:

The Megaaccrete Floor and Roof Panel system has been evaluated by the International Association of Plumbing & Mechanical Officials Uniform Evaluation Services (IAPMO UES) and is listed in evaluation report ER405. AAC wall panels are covered in the American Concrete Institute (ACI) publication ACI 523.4R-09 – Guide for Design and Construction with Autoclaved Aerated Concrete Panels.

### 4. INSTALLATION PROCEDURE

The system can be installed using conventional construction tools, equipment, and methods. Panels can be cut using rotary saws with diamond blades suitable for cutting the internal steel reinforcement. Consult project plans and the Megaaccrete Floor and Roof Panel installation guide for limitations on cutting and coring penetrations into the panels.

The floor and roof panels may be installed on wood, steel, or concrete structures as load-bearing elements spanning between load-bearing walls. Panels can be lifted into place by cranes or other lifting equipment suitable for the panel weights (up to 1,450 pounds), lifting heights, and required reach, using straps or rated clamping tools. Temporary shoring is not required for installation.

Carefully unpack, clean, and inspect panels prior to installation. Place panels according to engineering plans or shop drawings, ensuring a minimum of 2-3/4" bearing on supporting walls at each end of the panel.

Once all panels are set, place a #3 bar into the longitudinal (long) panel joints using rebar chairs (minimum 2 chairs per panel length). Where longitudinal joints terminate into the floor ring beam, turn the #3 bar 90 degrees, extending a minimum of 6 inches. Reinforcement is not required in the transverse (short) joints. Consult engineering for any required structural connections to supporting walls or beams.

At the perimeter of the floor, install temporary shoring to form continuous ring beams. Place a minimum of 2 #4 reinforcement bars and tie them to a vertically positioned #3 bar every 16 inches along the full length of the ring beam. At corners, add 2 #4 horizontal bars, extending a minimum of 8 inches in each direction.

Once all reinforcement is placed and inspected, fill all panel joints with cement-sand mortar, and cast the bond beam using structural concrete as specified in the engineering plans.

For more detailed installation instructions, consult the Megaacrete Floor and Roof Panel installation guide.

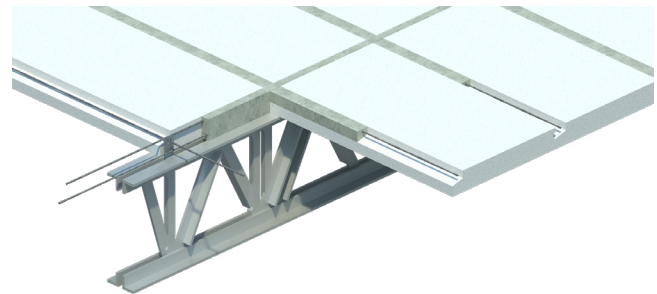
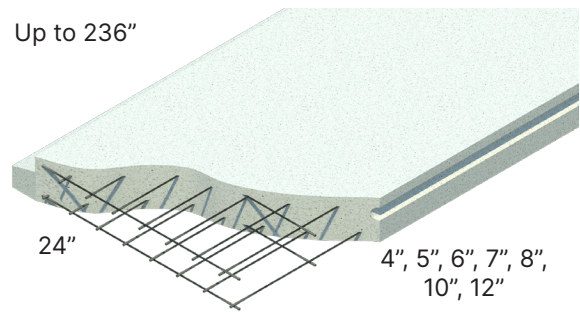
### Materials Required:

To complete the installation of Megaacrete Wall Panels, the following minimum materials are needed:

- Megaacrete Floor and Roof Panels
- Megaacrete Patch Mortar
- Megaacrete rebar chairs
- Reinforcement bar (#3 and #4)
- Sand-cement mortar (1:4 ratio)
- Concrete (min 3,000 psi, 3/8" max aggregate, and 5-6" slump)
- Steel plates anchors, per engineering

### 5. HANDLING AND STORAGE

Megaacrete AAC products are durable and long-lasting building materials once installed. However, because they are up to 78% lighter and have lower compressive strength than standard concrete, AAC products can be chipped or cracked if not handled, transported, and stored properly. Never lift panels directly with a forklift; instead, lift them from the supplied pallet. Chips can be patched with



Megaacrete Patch Mortar, but discard any sections of panels that are cracked completely through. Pallets can be stacked, but they must be stored on flat, level, and firm ground.

### 6. WARRANTY

Megaacrete provides a limited warranty for its manufactured products. However, the company does not warrant or guarantee the installation of these products, nor the results obtained from their use by others or other factors affecting product performance that are beyond the company's control. A sample of the Megaacrete Limited Warranty Statement is available upon request.

### 7. TECHNICAL SUPPORT

Megaacrete offers technical assistance with design and engineering specifications, technical information, installation manuals, performance test data, and construction support. To request assistance, email [support@megaacrete.com](mailto:support@megaacrete.com) or call (210) 402-3223.

## FLOOR PANELS

Thickness (in)		AAC-4					AAC-6				
Nominal	Actual	Item No.	R-Value ft <sup>2</sup> hF/BTU	lb/ft <sup>2</sup>	lb/ft	lf/truck†	Item No.	R-Value ft <sup>2</sup> hF/BTU	lb/ft <sup>2</sup>	lb/ft	lf/truck†
4	3.937	PE410	4.31	12.29	24.59	1,339	PE610	4.01	14.75	29.51	1,182
5	4.921	PE412	5.39	15.36	30.74	1,064	PE612	5.02	18.43	36.89	946
6	5.906	PE415	6.47	18.43	36.89	886	PE615	6.02	22.12	44.27	788
7	6.889	PE417	7.55	21.51	43.04	709	PE617	7.02	25.81	51.65	630
8	7.874	PE420	8.63	24.58	49.19	630	PE620	8.03	29.49	59.03	552
10	9.843	PE425	10.79	30.72	61.48	532	PE625	10.03	36.87	73.78	473
12	11.811	PE430	12.95	36.87	73.78	433	PE630	12.04	44.24	88.54	394

† Approximate linear feet of panel per truckload based on standard shipping "wet" weight and a maximum 42,100 pounds per load.

## ROOF PANELS

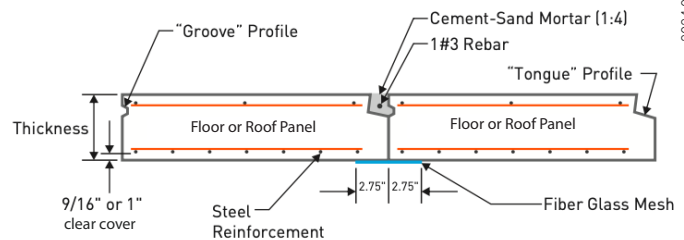
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## MAXIMUM PERMISSIBLE SPAN (ft)

Thickness  Nominal (Actual) in	AAC-4				AAC-6							
	SUPERIMPOSED UNIFORM LOAD (psf)											
	ROOF				ROOF				FLOOR			
	20	40	60	80	20	40	60	80	40	60	80	
4 (3.937)	11	9	8	7	12	11	9	8	9	8	7	
6 (5.906)	16	13	11	10	18	15	13	12	14	13	12	
8 (7.874)	19	17	15	14	21	19	17	16	18	17	16	
10 (9.843)	20	20	18	17	20	20	20	19	20	19	19	

- The allowable superimposed out-of-plane loads are nominal loads defined in IBC Section 1602.1 and derived from strength design.
- Design unit weights of material are 37.46 pcf for AAC-4 and 44.95 pcf for AAC-6.
- The roof and floor panels are designed for dead weight and uniformly distributed downward superimposed loads only. If uplift (wind) forces are encountered, further investigation is necessary to determine the uplift load capacity.
- Total load deflection (DL + LL) does not exceed 1/300 of span for roof and floor panels having spans less than or equal to 19.4 feet.
- More stringent deflection limits and/or analysis of long-term deflection must be provided if panels support nonstructural panels likely to be damaged by large deflections.



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