

Description

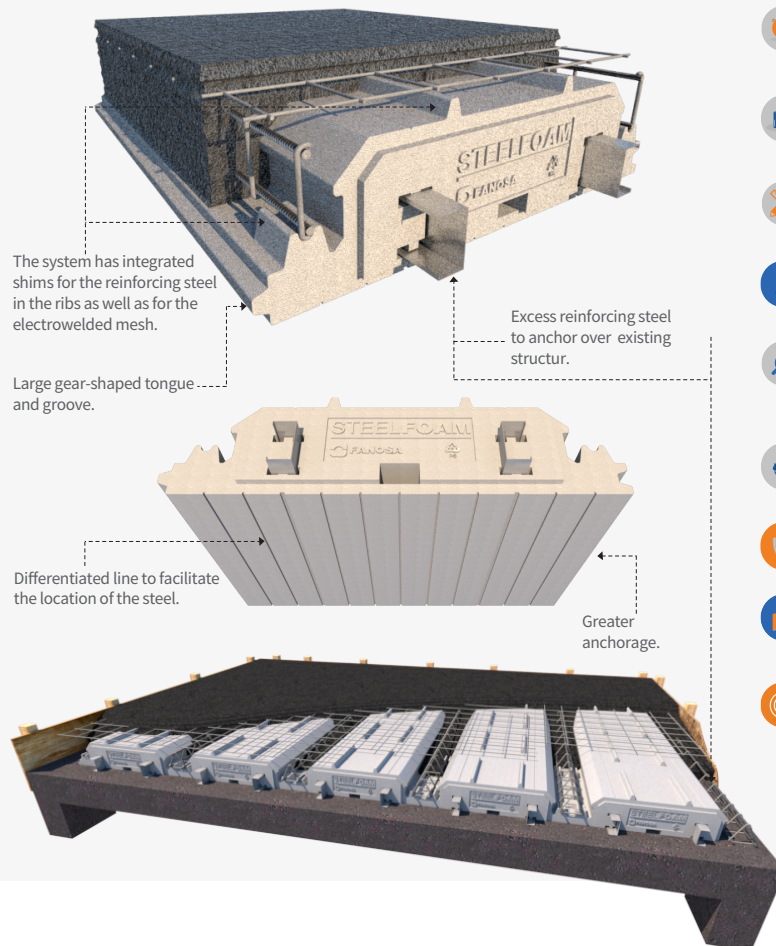
STEELFOAM® SLAB is the **FANOSA®** system for the manufacture of lightweight structural slabs and quick installation, it combines technology and materials, durable, resistant and recyclable. The Steelfoam system forms elements for the thermal envelope that are 100% insulated, making it ideal for sustainable buildings offering high structural and thermal resistance.

Steelfoam® Slab combines different densities and materials, it adjusts to different levels according to the area to be covered, achieving large spans according to the needs of each project, ideal for use from low-income housing to vertical buildings.

System

Steelfoam® Slab is a panel composed of self-extinguishing Expanded Polystyrene blocks and galvanized sheet supports. They are bonded together with high performance adhesive; thus offering resistance to receive the steel and concrete reinforcement in the casting.

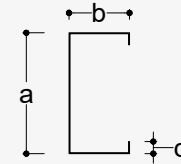
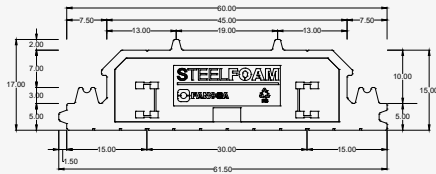
The panel has a mesh-shaped tongue and grooves that, when joined with the following pieces, forms longitudinal cavities that receive the steel and concrete to form unidirectional slabs. The thickness of the panel is adjusted to the specific needs of each structural engineer, in this way the Steelfoam system achieves slabs with large spans according to the design.



Advantages

- Great variety in thicknesses, from 15 cm and up.
- It is a system manufactured for each specific project, its bevels and length are adjusted to the needs of the project.
- Stable thermal insulation throughout the life of the building, resulting in greater comfort inside the building and considerable savings in energy consumption.
- Quick and easy installation, as it is a prefabricated panel made to measure, with a single piece covering the entire span of the space.
- Saving, installation time is reduced, it does not require contact formwork, only struts with separation every 1.10 meters.
- Cleanliness when building, because it is a modular system, waste is eliminated.
- Design on the lower surface of the panel, providing greater anchorage in the underside finish.
- Safe due to its self-extinguishing properties. Non-toxic.
- Facilitates the placement of both electrical and hydraulic installations that are located in the slab, and can even be practically placed in the lower hidden cavity even after casting.
- Made from 100% recyclable materials, it is environmentally friendly.
- Integrated structural steel shims.
- Robust gear-shaped tongue-and-groove joint to give greater rigidity to the joint between panels.
- Saving of perimeter formwork since it has the excess steel profiles, thus allowing the panel to anchor over existing structure.

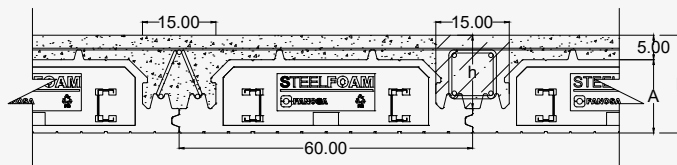
Component characteristics



PANEL 15 cm	
PROPERTY	
Density	20 kg/m ³
Thermal conductivity	0.036 W/m·K ⁽¹⁾
Minimum compressive strength, 10% deformation	1.12 kg/cm ² (16 psi)
Minimum bending strength	2.11 kg/cm ² (30 psi)
Moisture Adsorption	0.1655, % mass 0.0035, % volume

⁽¹⁾ASHRAE Fundamentals Handbook (SI), Ch. 25, Thermal and Water Vapor Transmission Data, p. 25.6

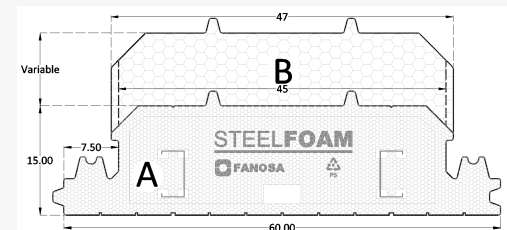
POST	
PROPERTY	
Bevel (a)	2-½"
Width (b)	1-¾"
Stiffener Lip (c)	¼"
Caliber	20
Galvanized	G-60



PROPERTY	Steelfoam® Slab				
Total System Bevel (D)	15 cm	20 cm	25 cm	30 cm	35 cm
Total System Bevel (D)	20 cm	25 cm	30 cm	35 cm	40 cm
Compression layer	5 cm				
Rib Width	15 cm				
Maximum length	12 m				
Effective Width	60 cm				
Concrete (f'c)	200 kg/cm ²				
Reinforcing steel (F _y)	4200 kg/cm ²				
System Own Weight	185 kg/m ²	215 kg/m ²	245 kg/m ²	275 kg/m ²	305 kg/m ²
Factorized Loads					
Rooftop	400 kg/m ²	420 kg/m ²	440 kg/m ²	460 kg/m ²	480 kg/m ²
Mezzanine	460 kg/m ²	480 kg/m ²	500 kg/m ²	520 kg/m ²	540 kg/m ²

*There are more options in panel thickness, please consult your advisor.

Complement for Heights



A: Base density 20kg/m³

B: Increase for "Hood" heights, the design adjusts to the project, standard density 12 kg / m³ other densities available on request.

Table of Proposed Assemblies

Steelfoam EPS Slab Bevel [A (cm)]	Concrete Slab Bevel [h (cm)]	Total Bevel of the EPS + Concrete System [D (cm)]	Clearance analysis (m)	Maximum Shoring Clearance (m)	Application	Simple Support		Continuous Support	
						Assembly L.I.	Assembly L.S.	Assembly L.I.	Assembly L.S.
15	15	20	4.00	1.20	Rooftop	2#3	1#3	1#4 + 1 Rod #3	1#3
					Mezzanine	1#4 + 1 Rod #3	2#3	1#4 + 1 Rod #3	2#3
20	20	25	5.50	1.10	Rooftop	1#4 + 1 Rod #3	1#4	1#4 + 1 Rod #3	1#4
					Mezzanine	1#4 + 1 Rod #3	2#3	1#4 + 1 Rod #3	1#4
25	25	30	6.50	1.10	Rooftop	2#4	2#3	2#4	1#4
					Mezzanine	2#4	1#4	2#4	1#4
30	30	35	7.50	1.00	Rooftop	2#4 + 2 Rod #3	1#4 + 1 Rod #3	2#4 + 1 Rod #3	1#4 + 1 Rod #3
					Mezzanine	2#4 + 2 Rod #3	1#4 + 1 Rod #3	2#4 + 2 Rod #3	1#4 + 1 Rod #3

Notes:

For different spans consult the **FANOSA**® Technical Advisory Department.

Stirrups #2 in all cases @ 15 cm..

Shoring: props every 1.10 mts. apart