

# Technical Bulletin

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Subject : *Allowable Loads on Owens Corning Foam Products*

Compressive resistance kPa (psi) is a critical design value. When structural performance is required of FOAMULAR<sup>®</sup> extruded polystyrene rigid insulation in the form of compressive loading, the architect or specifier must insure that the allowed working loads for the material are not exceeded. Working load limits have been determined such that long term creep\* from dead load will not exceed 2%, and total load will not exceed 1/2 of the proportional limit for FOAMULAR<sup>®</sup> products. The proportional limit (or yield) is always equal to or greater than the minimum compressive resistance value stated in the product literature. By so limiting stress, the designer can be certain that FOAMULAR<sup>®</sup> insulation, acting as a structural material, is functioning with a 2x factor of safety. This is common strength of materials practice.

Owens Corning recommends that working stresses for FOAMULAR<sup>®</sup> products be limited as follows:

Dead Load\*\* - 1/3 the published minimum compressive resistance value.  
Live Load\*\*\* - 1/5 the published minimum compressive resistance value.

PRODUCT	CAN/ULC-S701 CLASSIFICATION	ASTM C 578 CLASSIFICATION	COMPRESSIVE STRENGTH, kPa (psi) minimum
FOAMULAR <sup>®</sup> C-200	Type 3	Type X	140 (20)
FOAMULAR <sup>®</sup> C-300	Type 4	Type IV	210 (30)
FOAMULAR <sup>®</sup> 400	Type 4	Type VI	275 (40)
FOAMULAR <sup>®</sup> 600	Type 4	Type VII	415 (60)
FOAMULAR <sup>®</sup> 1000	Type 4	Type V	690 (100)
FOAMULAR <sup>®</sup> INSULPINK <sup>®</sup>	Type 3		140 (20)

Footnote Definitions:

\* Long term Creep: Deformation in thickness of foam plastic layer over time while under constant live and/or dead load.

\*\* Dead Load: Static load typically acting downward comprised of the weight of the concrete on top of foam board or other permanent structural load on top of the concrete slab.

\*\*\* Live Load: The moveable weight of the material on top of the concrete; i.e. people, furniture, equipment, vehicles, etc.

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**Note:** Technical Solutions recommendations are for the information of the project designer. The project designer, engineer or architect is responsible for the suitability and performance of a design. If there are any inquiries regarding this bulletin, please telephone the Technical Solutions Manager directly.