

# THERMAL / ACOUSTIC FLOOR SLABS



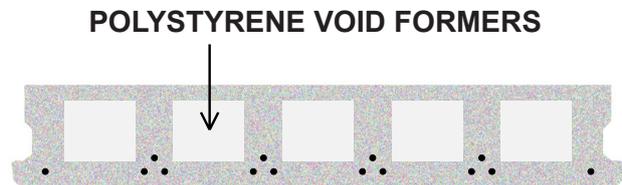
PRECAST CONCRETE SOLUTIONS



## INSULATED THERMAL FLOOR SLABS

O'Reilly Concrete Hollowcore Thermal Floor slabs are pre-stressed concrete elements with continuous longitudinal voids formed using polystyrene void formers. Innovative casting system in the manufacture of pre-stressed flooring units gives many advantages comparing to traditional hollow core units:

- better sound resistance
- improved thermal efficiency
- flexibility in design
- structural efficiency



The standard width of the slab unit is 1200 mm. Slabs are manufactured up to exact site dimensions with pre-formed service opens where required. The range of depths and achievable spans cover all types of residential houses and the most of commercial, public and industrial buildings.



### BETTER THERMAL PROPERTIES

O'Reilly pre-stressed Hollowcore floor units have better thermal properties than slabs with open hollow voids due to completely closed cores filled with polystyrene. The air movement in traditional hollowcore slabs reduces their thermal performance.

The thermal performance of standard O'Reilly Hollowcore floor slabs is **25% better** in average comparing to the same slabs with open voids.

### THERMAL MASS EFFECT

Thermal mass is a property that enables precast concrete floors to absorb, store, and later release significant amounts of heat. Buildings constructed of concrete and masonry have a unique energy-saving advantage because of their inherent thermal mass.



# INSULATED THERMAL FLOOR SLABS

Here is a comparison of U-value between our Thermal Floor slabs and the same slabs with open voids. Lower U-value means better thermal insulation.

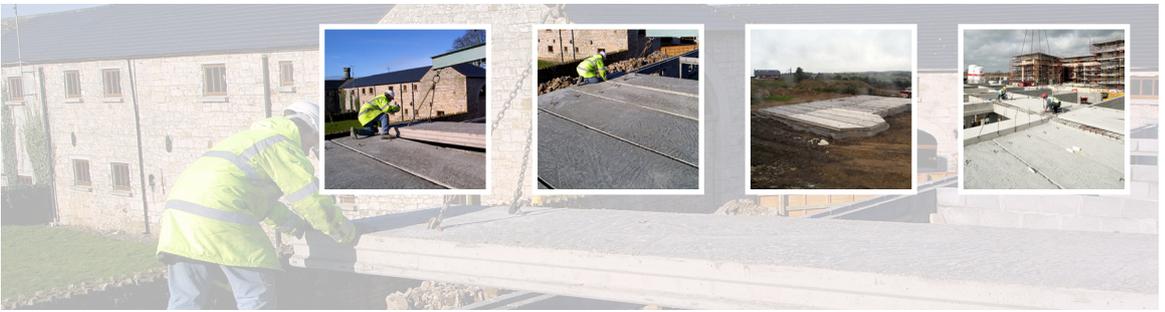
Slab Depth	U-value	U-value
	O'Reilly Thermal Floor	hollow core slab with open voids
150 mm (6")	1.719	2.449
200 mm (8")	1.481	2.003
250 mm (10")	1.317	1.722
300 mm (12")	1.192	1.522



## O'REILLY THERMAL FLOOR COST AND TIME SAVING SOLUTION

- **no open voids** - O'Reilly Thermal Floor slabs have closed solid ends; this eliminates risk of water or other contamination trapped in cores; no additional work on site is required to close open cores; solid ends also improve shear capacity of the slab and the upper floor wall can be built directly on the end of the slab
- **reduced weight** - O'Reilly Thermal Floor slabs have big voids filled with polystyrene which reduces the overall weight of the slab; this means reduced dead weight and better ability to resist service loads, reduced loads are transferred to the foundations and smaller foundation size is required
- **no drilling and cutting** - all service openings can be easily formed in floor slabs at production stage; slabs are manufactured to the exact site dimensions
- **better fire resistance** - O'Reilly Thermal Floor slabs have a minimum fire rating of 1 hour; unlike extruded units they have closed solid ends which improves fire retardation
- **structural flexibility** - due to manufacturing technology slabs are very flexible in terms of structural design; for example slabs can be designed as cantilevered

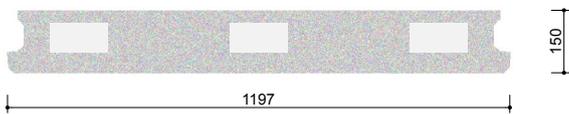




# SOUND RESISTANT FLOOR SLABS

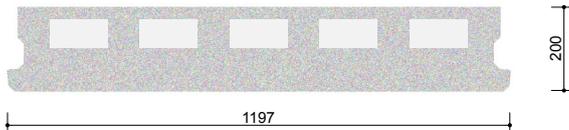
O'Reilly Concrete Hollowcore floor units have a high resistance to both airborne noises and impact sounds. Because our cores are made using polystyrene formers, our units are also the perfect acoustic barrier between floors such as in apartment buildings.

## Acoustic Hollowcore 150



mass per m<sup>2</sup> without screed: 300 kg/m<sup>2</sup>  
 mass per m<sup>2</sup> with 75 mm screed: 490 kg/m<sup>2</sup>

## Acoustic Hollowcore 200



mass per m<sup>2</sup> without screed: 370 kg/m<sup>2</sup>  
 mass per m<sup>2</sup> with 75 mm screed: 460 kg/m<sup>2</sup>

## Acoustic Hollowcore 250



mass per m<sup>2</sup> without screed: 415 kg/m<sup>2</sup>  
 mass per m<sup>2</sup> with 75 mm screed: 605 kg/m<sup>2</sup>



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