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 hollow-core 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 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.
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.

<table>
<thead>
<tr>
<th>Slab Depth</th>
<th>O’Reilly Thermal Floor</th>
<th>hollow core slab with open voids</th>
</tr>
</thead>
<tbody>
<tr>
<td>150 mm (6”)</td>
<td>1.719</td>
<td>2.449</td>
</tr>
<tr>
<td>200 mm (8”)</td>
<td>1.481</td>
<td>2.003</td>
</tr>
<tr>
<td>250 mm (10”)</td>
<td>1.317</td>
<td>1.722</td>
</tr>
<tr>
<td>300 mm (12”)</td>
<td>1.192</td>
<td>1.522</td>
</tr>
</tbody>
</table>

**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.
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 m² without screed: 300 kg/m²
- Mass per m² with 75 mm screed: 490 kg/m²

**Acoustic Hollowcore 200**

- Mass per m² without screed: 370 kg/m²
- Mass per m² with 75 mm screed: 460 kg/m²

**Acoustic Hollowcore 250**

- Mass per m² without screed: 415 kg/m²
- Mass per m² with 75 mm screed: 605 kg/m²