



***insulbar LI® –***  
*combines energy efficiency and cost effectiveness*

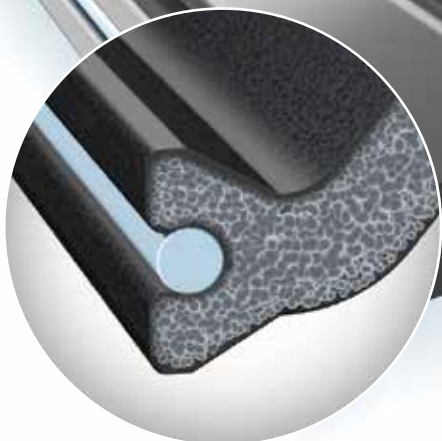
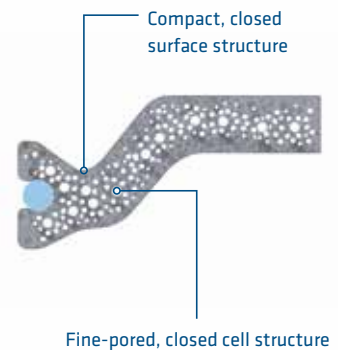
## Maximum efficiency for the middle insulating segment!

*insulbar LI from Ensinger represents a smart combination of energy efficiency and cost effectiveness. With this insulating bar,  $U_f$  values can be improved without changing system geometry or design.*

### **Thermally improved material**

insulbar LI combines the benefits of the tried-and-tested material PA 66 GF with improved thermal performance through a proprietary technology creating a foam structure in the material. Compared with standard profiles made from solid polyamide, the lambda value of insulbar LI can be reduced from 0.3 W/mK to 0.21 W/mK\*. This is a value which noticeably improves the thermal separation of aluminium outer and inner shells, specifically in the middle insulating segment, and which makes it possible to achieve smaller installation depths while maintaining the same  $U_f$  value, or alternatively to optimise the  $U_f$  while keeping the installation depth the same.

\* Product optimum



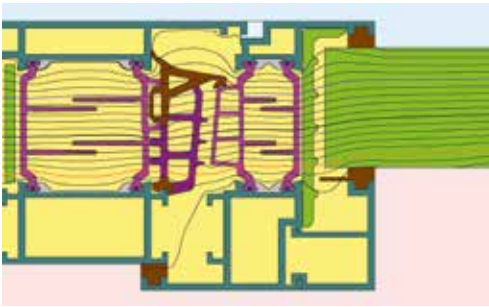
Smooth shell, foamed core: The fine-pored structure in the core of the profile reduces the thermal conduction capacity. The compact, smooth structure of the surface ensures a perfect visual appearance and reliability in the coating process.

### Low lambda value but optimum strength

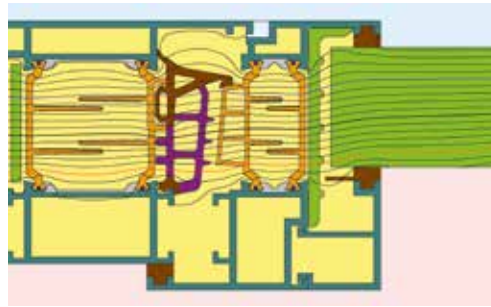
The reduced thermal conduction capacity of insulbar LI is achieved by means of a special production process in which glass fibre reinforced polyamide is foamed. Thanks to the integral pore distribution across the cross section, insulbar LI ends up with a lower density than solid PA66 GFF.

The outer profile skin is closed and there are therefore no differences regarding visual appearance, quality or workmanship.

### $U_f$ value optimisation with insulbar LI



$U_f$  value = 1.3 W/m<sup>2</sup>K: window system with installation depth = 73 mm and insulbar REG

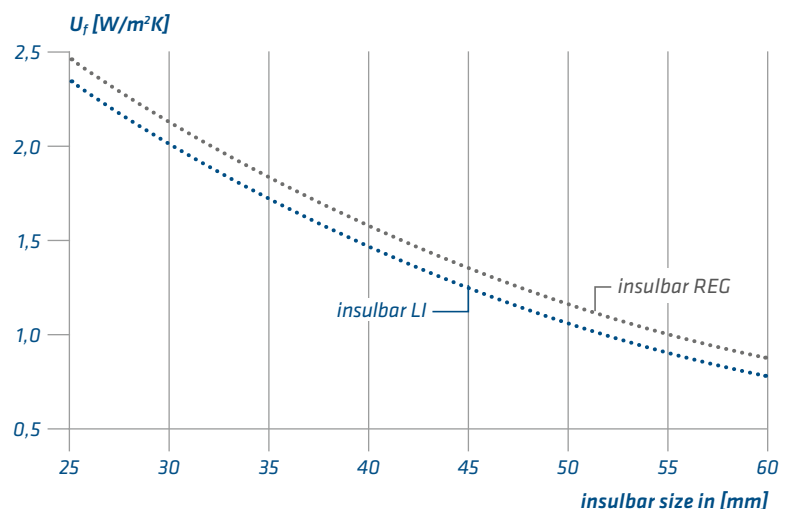


$U_f$  value = 1.18 W/m<sup>2</sup>K: identical window system with insulbar LI

### System optimisation made easy

Existing window systems can easily be thermally improved through a switch to insulbar LI and/or be offered in additional variants with different  $U_f$  values – without further system or process changes. This is because the new insulating bar stands out for narrow tolerances and is also available with Coex wire on request. Depending on the original system, a switch to insulbar LI makes it possible to reduce the  $U_f$  values by around 0.1 W/m<sup>2</sup>K.

### $U_f$ improvement or reduction in the installation depth



insulbar LI permits – as illustrated here – identical  $U_f$  values with smaller insulating bars or optionally improved values while retaining the same profile size.

*insulbar LI – values to impress.*

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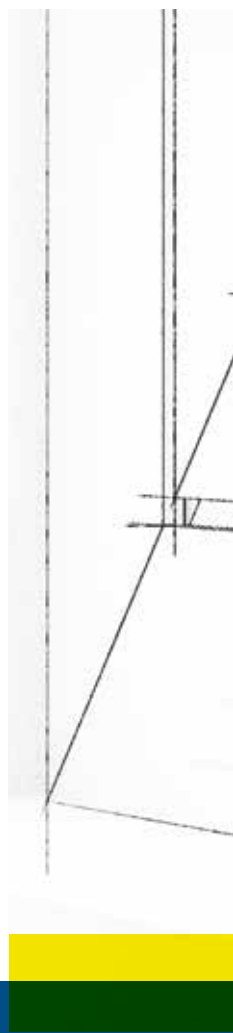
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