



**THERMAL***safe*<sup>®</sup>

# Sectional Overhead Door



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**Raising Standards  
Safety Assured**

The **THERMALSsafe** door features the best values in terms of air permeability classification - class 4, the first to date on the sectional door market, and superior U value.

There is little doubt that there is an increasing demand for improved thermal performance in a sectional door. In meeting this challenge effectively, one must address the thermal conductivity performance (U value) of the door in tandem with the air permeability of the door system. Merely addressing one of these is no longer enough.

However, there is often confusion over true U value performance of an insulated panel and in many cases the panel joints and other areas of cold bridging are not dealt with properly, or even not included in published U values. This is to say, nothing of air leakage through the side seals, panel joints or top and bottom of the door.

With its **THERMALSsafe** door, Indupart has met the challenge on all these aspects through:

**THERMALSsafe** panel joints ensure a proper Thermal break in the joint, eliminating cold bridges and an enhanced air leakage seal performance

Patented **THERMALSsafe** side seal offering improved Thermal performance and air leakage reduction

**THERMALSsafe** endcaps to ensure no cold bridging through the sides of the door

**THERMALSsafe** top and bottom profile to ensure no cold bridging through the top and bottom of the door

The result? Class 4 air permeability value, the first to date on the sectional door market.

## What is the air-permeability of a sectional door?

Air-permeability is simply the amount of airflow, which can pass through the door leaf, in principle through the panel joints, the sides, the top and bottom of the door. To truly improve the thermal performance of a sectional door, one must take into account both: the U value of the door as a whole, and its air-permeability performance.

Indupart has achieved this in the Thermalsafe door.

Thermalsafe panel (40 mm) achieving the best values in terms of energy efficiency (U value) thanks to:

- The panel joints design (duo-shell panel concept with a double sealing system, eliminating cold bridging)
- A unique range of Thermal safe.
- A unique range of Thermal safe needs components

## What is the air-permeability of a sectional door?

"U" Value is the coefficient of transmission i.e., the transmission of heat through the materials, which compose the building's "envelope," or outer shell.

The U value of a material is a measure of the amount of heat that passes through a surface area of 1 m<sup>2</sup> for each degree of temperature difference between the inside and outside. Therefore, the lower the U value, the more energy-efficient the material is. The U value is a function of the thickness of the material and the materials' thermal conductivity.

Regarding sectional doors, a common misconception is to take U value of the panel (or even just the U value of the foam) and to apply it to the whole door.

To properly calculate the true U value of a sectional door, one needs to take into account not only the U value of a sectional door panel (which differs from one manufacturer to another) but also to include the panel joints, sides seals and any other places that the heat can be conducted through on an assembled door.

## Air Permeability

Improve the classification (EN12426) of Indupart Sectional Overhead Doors from class 2 to class 4 (From 12 to 3m<sup>3</sup>/m<sup>2</sup>\*h of air losses through the installed door)



## Benefits

- Improve both thermal and air permeability aspects. Versus 60mm panels where thermal bridges remain and no improvement is done on air permeability reduction. Do not generate double stock issues.
- Versus 60mm panels. Versus Need to stock an additional Hardware range. Do not generate accessories issues.
- Versus 60mm panels and hardware where no handles, windows, lock, pass-door, full vision panel, are available to customize your door.
- Without major door cost increase and, most importantly, without doubling the stock of panels and hardware, the new thermal safe.