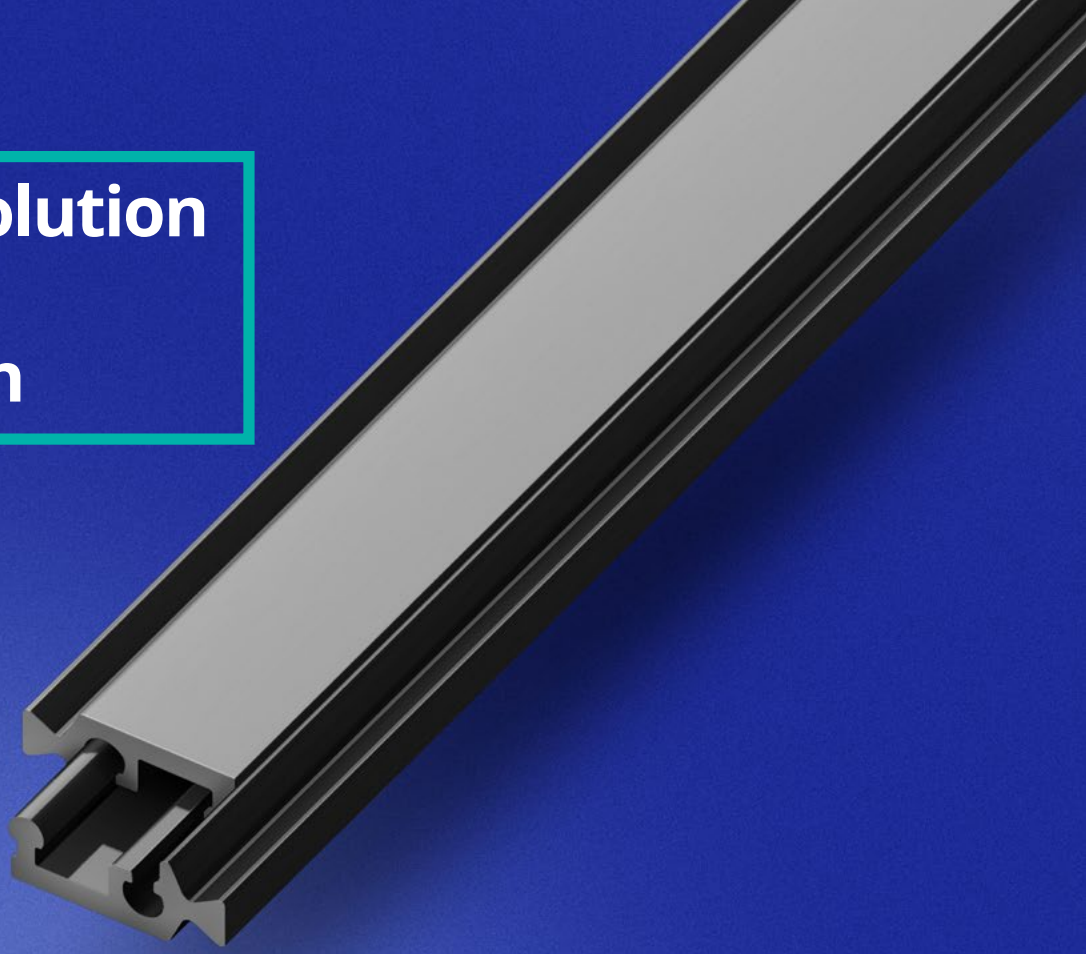
TECHNOFORM

# Shearless solution for thermal deformation



**Our shearless solution can dramatically reduce the bending in doors caused by uneven thermal expansion.**

## The superior solution

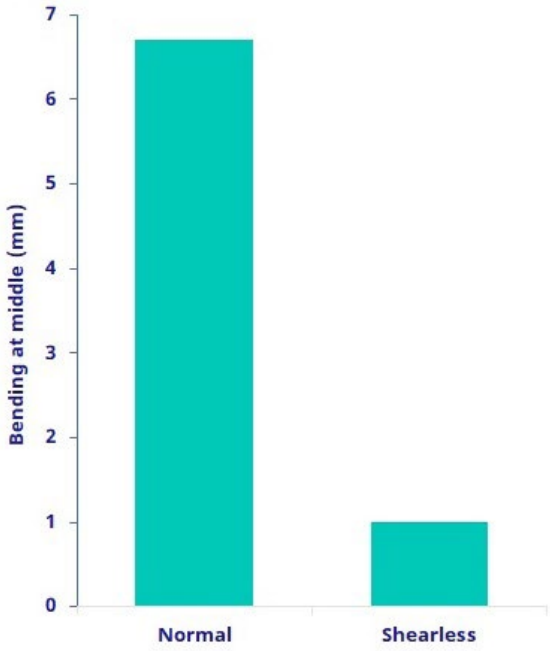
- Allows the inside and outside of the aluminum frame to expand at different rates without bending
- Easy to create different insulating strip geometries for greater design flexibility
- Symmetric profile allows for insertion in either direction
- Made from environmentally friendly polyamide 6.6
- Minimizes thermal conductivity to improve energy performance
- Assembles similar to our standard thermal barriers

| Articles available | Size (width) |
|---|---|
| 575915 | 20mm |
| 554715 | 24mm |

**In addition, we will gladly customize a solution for you.**

## How it works

- Polyamide thermal break designed to slide in one axis allowing outer and inner frame to expand independently
- Total flexibility in one direction leads to greatest results in bending reduction



## What is thermal deformation?

Thermal deformation is the change in shape, area, and volume in response to a change in temperature.

Aluminum doors, windows, and facades will enlarge when warm and contract when cold as far as they have space.

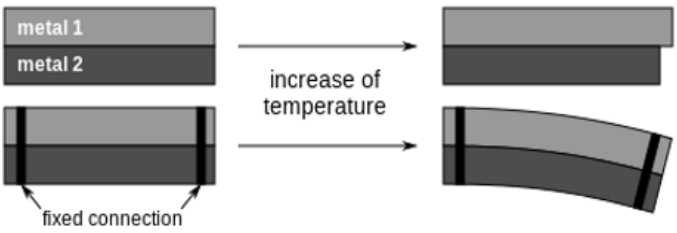
## What is the bimetal effect?

When a thermally insulated frame is exposed to direct sunlight, the aluminum frame on the outside will experience higher temperatures than the inside frame.

This difference in temperature between the two metal sections will cause the outside to expand more than the inside.

As the inside and outside are connected by an insulating strip there will be not only elongation but also bending, exactly as in a bimetallic strip.

This bending, especially in doors, is known as the bimetal effect.



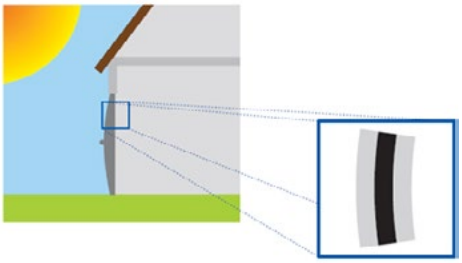

**By creating flexible connections between the parts, our shearless solution can reduce the impact of the bimetal effect.**

## Why does the bimetal effect matter?

The greater the temperature difference between the inside and outside, the greater the bimetal effect.

In doors, bending of the frame due to the bimetal effect creates high pressure between the deadbolt of the locking mechanism in the door leaf and the lock hatch in the frame such that it can become impossible to open or close the door easily.

The bimetal effect is even more prevalent in larger doors as well as in systems installed in direct sunlight.



## What is the importance of system design?

Some additional system designs to consider are:

Specialized locking systems and hardware
Panel design overlapping the sash
Stronger internal aluminum inertia
Corner design
Lighter finishes
Reflective coatings
Shielding systems

**Insulation solutions for windows, doors, and facades**

**TECHNOFORM**

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