



Thermal Aluminum Twisting (Bowling, Expansion of Thermally Broken Aluminum)

Aluminum Thermal Conduction

Aluminum is an efficient conductor of energy. Therefore, it is not the material of choice for windows in extreme cold climates, **UNLESS** all the aluminum extrusions are thermally broken. “Thermal break” is the addition of a polyurethane, polyimide (or similar plastic) isolator between the interior and exterior of each extrusion. If done properly most of the cold energy will not transfer to the interior surfaces of the window frame.

When thermally broken aluminum is exposed to radical surface temperature changes, e.g. direct sun after a cold night, the aluminum will temporarily (few hours) bow or “twist”. The bowing/twisting/expansion is simply a natural reaction to the rapid change in temperature of the inside and outside extrusions. This phenomenon is primarily limited to the suspended verticals of a sliding door.

Warranty

Thermal twisting/bowing will NOT affect the product warranty. As stated, it is a temporary reaction to rapid extreme temperature changes. Fleetwood’s products were engineered to handle these changes without damaging the product.

Design Suggestions

1. Shield the product from direct sunlight (sunscreens...) during exposure hours.
2. Select non-thermally broken products.
3. Order vertical stiffeners if available as an option.
4. Order a lighter product finish to reduce some of the heat absorption.