

# ROOF GLAZING COMPARISON

## POLYCARBONATE

## FIBERGLASS

### EXTERIOR WEATHERING OF MATL. SURFACE:

Properties remain unchanged. Extruded in one structural 5 layer configuration. Continued good appearance. During manufacture, a layer of U.V. Absorber is co-extruded onto the surface of the sheet, forming a barrier against U.V. Radiation, therefore giving exceptional resistance to ageing without affecting the mechanical properties and impact strength.

**Ten (10) year warranty against yellowing.**

Surface deterioration gradually erodes at approx. 1/4 Mil per year, thereby exposing the reinforcing glass fibers, causing a condition called "Fiber Blooming or Wicking". Once exposed, the fibers wick moisture and collect dirt. Field inspection has shown this process to be further accelerated at the line of aluminum core members, due to the high temperatures caused by the heat absorption of the black adhesive line. Literature suggests recoating panels every 5-7 years, which generally does not return the panels to their original appearance. (This process also gradually reduces the light transmission which is already low to begin with)

**No warranty against yellowing.**

### IMPACT RESISTANCE (HAIL & VANDALISM):

**Ten (10) year Warranty against hail**

200 times stronger than glass & ten times stronger than acrylic (plexiglass) which is similar to fiberglass. Easy to replace.

**Susceptable to both hail & vandalism, no known warranty**

against hail. Difficult and expensive (because of design) to replace.

### LIGHT TRANSMISSION:

25mm CLEAR 6-wall = 44%  
25mm BRONZE 6-wall = 23%  
25mm OPAL 6-wall = 24%

17%

### INSULATION VALUE:

25mm 6-wall = .28 U-VALUE / 3.78 R-VALUE  
The Polycarbonate when applied to the exterior of the aluminum framing members will provide thermal isolation therefore insulating the aluminum structure. Not allowing heat and cold transfer thru the aluminum framing. The differences between .28 & .25 U-Values are fractional, heat loss can be offset by additional passive solar heat gain (even on cloudy days).  
Note - aluminum system is also thermally isolated by the gasketing.

.25 U-VALUE / 4 R-VALUE  
Has history of seldom retaining full insulation value because of design. The joining of dissimilar materials, the differing expansion and contraction rates of aluminum, adhesive and fiberglass will severely stress the panels. These actions causes slight delamination, thus losing insulation qualities. Even slight delamination allows algae to grow inside the panels. Field inspections have shown (inspite of insulation claims) the interior aluminum frame members transmitt cold sufficient to offset insulation claims for the complete system.

### FLAME RETARDANT:

Eliminates any fire hazard or any chance of major catastrophe by fire. Classified as self-extinguishing and does not give off toxic gases. CC1 & CC2 fire rating.

Very flammable, burns immediately and completely.

### HANDLING PROPERTIES:

Will not crack, split or break when handling or installing.

Subject to damage and breakage, thus possible delays.