PMMA XL Thermal Conductivity

The U-factor, or overall heat transmission coefficient, is the amount of heat which will pass through one square foot of a specific thickness of material per hour. U factors depend on specific conditions and differ for summer and winter.

W/m^2.C	Vertical Installation		Horizontal Installation	
Sheet Thickness	**Summer Conditions**	**Winter Conditions**	**Summer Conditions**	**Winter Conditions**
3.0 mm (1/8")	5.56	6.01	4.48	6.52
4.5 mm (3/16")	5.33	5.78	4.31	6.18
6.0 mm (1/4")	5.1	5.5	4.19	5.9
12.0 mm (1/2")	4.31	4.59	3.68	4.93
24.0 mm (1")	3.34	3.51	3.0	3.74

THERMAL PROPERTIES								
Coefficient of linear expansion	EN 2155-1	T 51251	DIN 52328	mm/m/°C		0.065		0.065
Thermal conductivity			DIN 52612	W/m/°C		0.17		0.19
Specific heat			ASTM C 351	J/g/°C		1.32		1.32
Insulation coefficient K			DIN 4701					
3 mm thick				W/m²/°C	3	5.4	3	5.4
5 mm thick				W/m²/°C	5	5.1	5	5.1
10 mm thick				W/m²/°C	10	4.5	10	4.5

Total Heat Loss or Gain through a Window Due to Conduction/Convection

Heat Loss (Btu/hr) = **Window Area** (sq. ft.) X [**Indoor Temp**(°F) - **Outdoor Temp**(°F)] X **U-Factor**

For glazing applications, there are some things that should be taken into consideration when designing the framework: thermal contraction and expansion, moisture expansion and contraction, and foreshortening due to deflection under load.