

some misunderstanding about glass U value

Misunderstanding 1:

Thicker glass has much better U value than thin glass, laminated glass U value is significantly lower than that of the same thickness glass.



For clear float glass, the increase of glass thickness does not increase the insulation performance. For example, thick 12mm clear glass and 5mm clear glass, the thickness and glass weight increased by 1.12 times, but its U value only decreased by 7.59%. The hydrogen-filled insulating glass made of 12mm glass and 5mm glass, U value decreased by only 3.24%. Therefore, it is very uneconomical to increase the thermal insulation properties of the glass simply by increasing glass thickness.

Laminated glass 5+1.52+5, U value-Summer 4.94W/m².K, winter 5.45W/m².K.

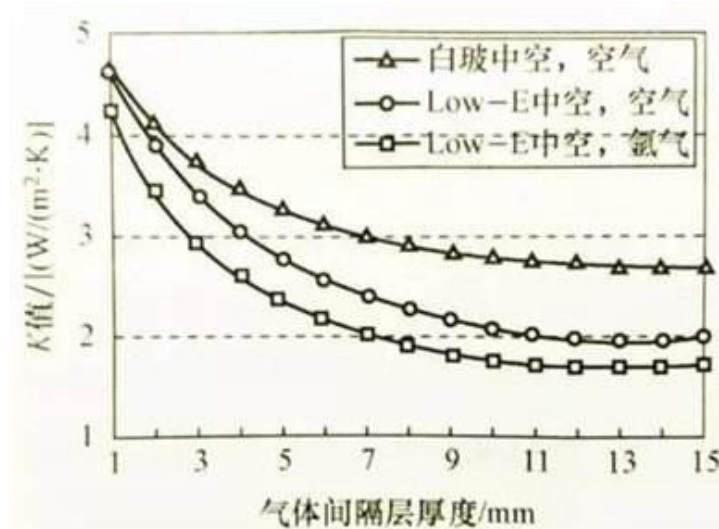
10mm single piece U value is 5.67 and 5.13 separately.

So under same thickness, **laminated glass** U value is about 0.2W/m².K lower than same thickness clear glass.

Misunderstanding 2: The thicker spacer of **insulated glass**, the better energy efficient performance.

The answer is of course no. In addition to air, the gas filled in the insulated glass contains inert gases such as argon gas and helium gas. Since the thermal conductivity of the gas is very low (air 0.024 W/m².K, argon 0.016 W/m².K, helium 0.0087 W/m².K), Therefore, the thermal resistance of the insulated glass is greatly improved. The most common spacer for insulated glass is 6 mm, 9 mm, 12 mm, 16 mm, 18mm, 20mm.

When the gas layer increased from 1mm to 9mm, the U value decreases by 37% for clear insulated glass, and the U value decreases by 53% when the Low-e is applied. When increasing from 9mm to 12mm, the speed of decreasing begins to slow down. When spacer thickness over 14mm, the U value of the argon-filled glass has a slight rise. The thickness of the gas spacer layer is directly related to the size of the heat transfer resistance.



For most areas the most economic spacer thickness is 12mm. In European areas, designers have unique European **U value calculation** methods and 16mm is best for European countries.

Morn is your turnkey laminated glass and insulated glass supplier, welcome contact us for more info.

Tags: **argon filled insulated glass, glass insulation performance, glass U value, insulated glass supplier, laminated glass supplier, laminated glass U value, low e coating**



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Other facade materials:Aluminium alloy profiles,aluminium plates,aluminium windows&doors,Assa Abloy hardware,spider fitting,railing systems,shower rooms,polyurethane panels,machines&tools,steel structure, are also available since 2019.

From aesthetics, to strict environmental and energy specifications, to critical budget and delivery requirements, our input can make a difference.

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