

U-Value Table : 03 2021

Common Double Glazed units 'Standard Glazing'

width	W/m2.K	outer pane	cavity	inner pane	Rw	RW+Ctr
28mm	1.2	4mm clear	20mm Ar	4mm PT+	33db	28db
28mm	1.2	6mm clear	16mm Ar	6mm PT+	33db	28db
28.8mm	1.2	6.8mm clear	18mm Ar	4mm PT+	34db	29db
28.8mm	1.2	6.8mm clear	16mm Ar	6mm PT+	37db	31db
28mm	1.2	6mm clear	18mm Ar	4mm PT+	35db	30db
26.8mm	1.2	6.8mm acoustic	16mm Ar	4mm PT+	38db	32db
28.8mm	1.2	6.8mm acoustic	18mm Ar	4mm PT+	38db	32db
28.8mm	1.2	6.8mm acoustic	16mm Ar	6mm PT+	39db	33db
28mm	1.1	4mm clear	20mm Ar	4mm P1	33db	28db
28mm	1.0	6mm clear	16mm Ar	6mm P1	33db	28db
28.8mm	1.0	6.8mm clear	18mm Ar	4mm P1	34db	29db
28.8mm	1.0	6.8mm clear	16mm Ar	6mm P1	37db	31db
28mm	1.1	6mm clear	18mm Ar	4mm P1	35db	30db
26.8mm	1.0	6.8mm acoustic	16mm Ar	4mm P1	38db	32db
28.8mm	1.0	6.8mm acoustic	18mm Ar	4mm P1	38db	32db
28.8mm	1.0	6.8mm acoustic	16mm Ar	6mm P1	39db	33db

Common Triple Glazing

width	W/m2.K	outer pane	1st cavity	middle pane	2nd Cavity	inner pane	Rw	RW+Ctr
28mm	1.0	4mm clear	8mm Ar	4mm T PT+	8mm Ar	4mm PT+	27db	24db
28.8mm	1.1	6.8mm clear	8mm Ar	4mm T PT+	6mm Ar	4mm PT+		
28.8mm	1.1	6.8mm acoustic	8mm Ar	4mm T PT+	6mm Ar	4mm PT+	35db	31db
36mm	0.8	4mm clear	12mm Ar	4mm T PT+	12mm Ar	4mm PT+	32db	27db
36.8mm	0.8	6.8mm clear	10mm Ar	4mm T PT+	12mm Ar	4mm PT+	34db	29db
36.8mm	0.8	6.8mm acoustic	10mm Ar	4mm T PT+	12mm Ar	4mm PT+	35db	30db
44mm	0.6	4mm clear	16mm Ar	4mm T PT+	16mm Ar	4mm PT+	32db	27db
28mm	0.7	4mm clear	8mm Kr	4mm T PT+	8mm Kr	4mm PT+	27db	24db
28.8mm	0.8	6.8mm clear	8mm Kr	4mm T PT+	6mm Ar	4mm PT+		
28.8mm	0.8	6.8mm acoustic	8mm Kr	4mm T PT+	6mm Kr	4mm PT+		
36mm	0.5	4mm clear	12mm Kr	4mm T PT+	12mm Kr	4mm PT+	33db	28db
36.8mm	0.6	6.8mm clear	10mm Kr	4mm T PT+	12mm Kr	4mm PT+		
36.8mm	0.6	6.8mm acoustic	10mm Kr	4mm T PT+	12mm Kr	4mm PT+		
44mm	0.5	4mm clear	16mm Kr	4mm T PT+	16mm Kr	4mm PT+	32db	27db
28mm	0.9	4mm clear	8mm Ar	4mm T P1	8mm Ar	4mm P1	27db	24db
28.8mm	1.0	6.8mm clear	8mm Ar	4mm T P1	6mm Ar	4mm P1		
28.8mm	1.0	6.8mm acoustic	8mm Ar	4mm T P1	6mm Ar	4mm P1	35db	31db
36mm	0.7	4mm clear	12mm Ar	4mm T P1	12mm Ar	4mm P1	32db	27db
36.8mm	0.7	6.8mm clear	10mm Ar	4mm T P1	12mm Ar	4mm P1	34db	29db
36.8mm	0.7	6.8mm acoustic	10mm Ar	4mm T P1	12mm Ar	4mm P1	35db	30db
44mm	0.5	4mm clear	16mm Ar	4mm T P1	16mm Ar	4mm P1	32db	27db
28mm	0.6	4mm clear	8mm Kr	4mm T P1	8mm Kr	4mm P1	27db	24db
28.8mm	0.7	6.8mm clear	8mm Kr	4mm T P1	6mm Kr	4mm P1		
28.8mm	0.7	6.8mm acoustic	8mm Kr	4mm T P1	6mm Kr	4mm P1	35db	31db
36mm	0.4	4mm clear	12mm Kr	4mm T P1	12mm Kr	4mm P1	33db	28db
36.8mm	0.5	6.8mm clear	10mm Kr	4mm T P1	12mm Kr	4mm P1	34db	29db
36.8mm	0.5	6.8mm acoustic	10mm Kr	4mm T P1	12mm Kr	4mm P1		
44mm	0.4	4mm clear	16mm Kr	4mm T P1	16mm Kr	4mm P1	32db	27db

52mm	0.3	4mm clear	16mm Kr	4mm T P1	16mm Kr	4mm TP1	16mm Kr	4mm P1
------	-----	-----------	---------	----------	---------	---------	---------	--------

Quadruple glazing example.

Notes

U-Values are a measure of thermal performance.
The lower the number, the better the performance and thus, better insulation.
In double glazing, the lowest* U-value at time of publication is 1.0W/m2.K
This can only be achieved using Planitherm One (or equivalent) with a 16mm cavity such as 4/16Argon /4P1 or 6/16Argon/6P1, alternatively, 6.8 lam/ 18Argon/4P1.
The key is a 16mm cavity or 18mm cavity with Laminated.
The only way to improve this is to use triple glazing.
Some narrower triple glazing is not as good as double glazing!
0.4W/m2.K is the lowest achievable in triple glazing - Krypton gas is required.
To improve on triple glazing, quad glazing or a secondary glazing system is required.
Middle pane of triple glazing should be toughened to prevent thermal cracking of glass.
Highlighted blue are the standard glazing options as a benchmark.
Highlighted green are low cost, low U-value options
Highlighted Orange are the lowest TGU U-values achievable with conventional glass

*there has been some data @ 0.9W/m2.K but this uses a soft coat to the inside of the outer pane and a hard coat on the inner pane but on the exposed surface to the room. This may not be practical for most applications as the coating can get damaged due to its external accessibility.

PT+ = Planitherm Total+
P1 = Planitherm One
T = toughened for middle pane of a triple glazed unit
Ar = Argon gas filled cavity
Kr = Krypton gas filled cavity



Contact
steve.massey@regencyglass.co.uk

www.regencyglass.co.uk