

TECHNICAL REFERENCE U & R VALUE CHART

FireCrunch Panel Thermal Resistance & Transmittance U AND R VALUES

General application FireCrunch (MgSO₄) cladding have very good thermal conductivity properties with a base of 0.152 W/mK.

FireCrunch standard panels are produced in four different standard thicknesses: 10mm, 12mm, 16mm and 19mm . The chart below states the calculated Thermal Resistance (Rvalue) and Thermal Transmittance (U-value) of the standard thickness and custom thickness board based on test by SGS-CSTC Standards

Board Thickness (mm)	U-value (W/m ² K)	R-value (m ² K/W)
10	15.20	0.066
12	13.70	0.079
16	11.02	0.098
19	7.60	0.132

Thermal Resistance (R-value) Units = m²K/W

A measure of the opposition to heat transfer offered by a particular component in a building element. R-values are created by dividing the thickness of the material (metres) by the k-value for a particular material.

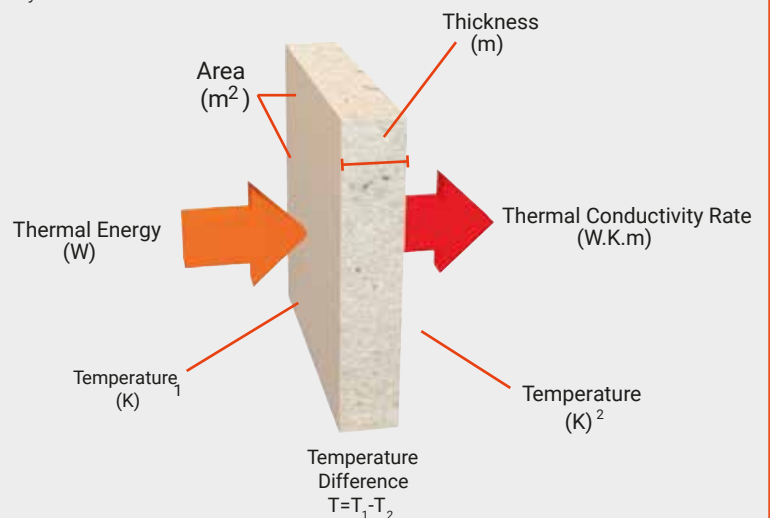
Thermal Resistance will takes into account the thickness of the material, thus allowing for more accurate comparisons between materials carrying out the same job.

To allow for a more accurate comparison in the insulation properties of each material, an R-value should be calculated

Thermal Transmittance (U-values) Units = W/m²K

A measure of the overall rate of heat transfer, by all mechanisms under standard conditions, through a particular section of construction. This measure takes into account the thickness of each material involved and is calculated from R-values of each material as well as constants accounting for surface transmittance (R_{si} and R_{so}, inner and outer surfaces respectively) and also for a small standard air gap (R_{so}).

Thermal Conductivity (k-values) Units = W/mK A measure of the rate at which heat is conducted through a particular material under specified conditions. This figure has been calculated for a vast variety of materials from those common to the construction industry to those that are probably never used in the building industry.



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