

What do the U and R value ratings mean?

U-Factor:

Overall coefficient of heat transmittance through a door and frame assembly measured in BTU's per hour per square foot of area per degree fahrenheit temperature difference between the air on one side to the air on the two sides of the door (BTU's/hr-ft 2° F). The lower the U-Factor, the better the insulation.

R-Value:

Thermal resistance is a measure of ability to resist heat flow. R is an expression of the total resistance to heat flow through a complete panel section or construction assembly. R-Value represents a value of the thermal resistance in hours - square foot - degrees Fahrenheit per BTU. R-Value is the numerical reciprocal of the U-Value. The higher the R-Value, the higher the insulating value.

Fleming doors and frames, along with Pemko seals and thresholds combine to provide the some of the industry's most energy efficient openings available today. Our openings are tested and certified by an independent 3rd party test lab. Fleming recommends all design and building professionals compare products based on ASTM C1363 operable door assembly for a more accurate indication of thermal performance.

Fleming doors do not have to sacrifice strength in order to achieve insulating performance. For example, Fleming Trio-E has been certified to a design pressure of +/-100 psf with a hurricane rated opening.

Door U-Factor and R-Value Ratings

Door Series/Core	Frame	NFRC 102 -2014/ASTM 1363 Standardized Thermal Transmittance Test Methodology*					
		ASTM C1363 Operable		ASTM C518 Calculated		ASTM C1363 Sealed in Place+	
		U-Factor	R-Value	U-Factor	R-Value	U-Factor	R-Value
Trio-E / Polyurethane	TB	0.29	3.4	0.09	11.0	N/A	N/A
Trio-E / Polyurethane	Kerf	0.36	2.7	0.09	11.0	N/A	N/A
D-Series / Polyisocyanurate	TB	0.39	2.6	0.08	12.23	N/A	N/A
D-Series / Polystyrene	TB	0.39	2.6	0.15	6.87	N/A	N/A
E-Series Embossed / Polystyrene	TB	0.40	2.5	0.15	6.87	N/A	N/A
Trio / Polyurethane	TB	0.42	2.4	0.09	11.0	N/A	N/A
D-Series / Honeycomb	TB	0.57	1.8	0.38	2.62	N/A	N/A

TB = Thermal Break Frame Kerf = Weather Kerf Frame HM = Standard Hollow Metal Frame

* Tested with hardware from other ASSA ABLOY Group brands including Corbin Russwin, Pemko, McKinney, Sargent and Yale

+ Panel test only - tested without frame

Air Infiltration Testing

What is air infiltration? A measurement of the air leakage around the perimeter of a door opening. CFM: Cubic Feet per minute

Door Series/Core	Test Method: ASTM E283*	
	CFM/SQ FT	CFM/LN FT
Any Fleming Door Construction with Fleming Thermal Break Frame	0.04	0.06
Fleming FRP Door Construction with Fleming Thermal Break Frame	0.20	0.24

* Tested with hardware from other ASSA ABLOY Group brands including Corbin Russwin, Pemko, McKinney, Sargent and Yale

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