

Energy Efficient Solutions

Fact Sheet

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 of the door on the two sides of the door (BTU's/hr-ft² °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.

Optimize energy efficiency with high performance openings

According to the U.S. Green Building Council (USGBC), in the United States alone, buildings account for:

- 72% of electricity consumption
- 24% - 50% of energy use
- 38% of all carbon dioxide (CO₂) emissions

Ceco 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. Ceco recommends all design and building professionals compare products based on operable assembly thermal testing and air infiltration testing for a more accurate indication of thermal performance. However, ASTM C518 calculation test method values are also provided below when calculated core values are being compared. Ceco doors do not have to sacrifice strength in order to achieve insulating performance. For example, Ceco 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	SDI-113 application of ASTM C1363, NFRC 102 and ASTM 1199 Operable Test Methodology *						ASTM C518	
	Mercury 3 Frame		Weather Kerf		Standard Frame		Core Calculation	
	U-Factor	R-Value	U-Factor	R-Value	U-Factor	R-Value	U-Factor	R-Value
Trio-E / Polyurethane & Steel Stiffened	0.34	2.92	0.38	2.63	0.41	2.44	0.09	11.0
Imperial / QMAX	0.32	3.10	0.37	2.72	0.37	2.68	0.13	7.8
Legion / Polystyrene	0.43	2.33	0.44	2.27	0.45	2.22	0.16	6.4
Legion / Polystyrene & Half Glass	0.46	2.17	0.47	2.13	0.48	2.08	0.16	6.4
Medallion / Steel Stiffened	0.64	1.56	0.45	2.24	N/A	N/A	0.62	1.8

* Tested with hardware from other ASSA ABLOY Group brands including Corbin Russwin, Pemko, McKinney, Sargent and ASSA ABLOY ACCENTRA
Tested U-Values per SDI-113 application of ASTM C1363, NFRC 102-203 and ASTM 1199 and prior test history

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	NFRC 400/ASTM E283 Air Infiltration Test Methodology*		
	Mercury Frame	Weather Kerf	Standard Frame
	CFM/SQ FT		
All Ceco steel door constructions	0.1	0.1	0.1

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

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