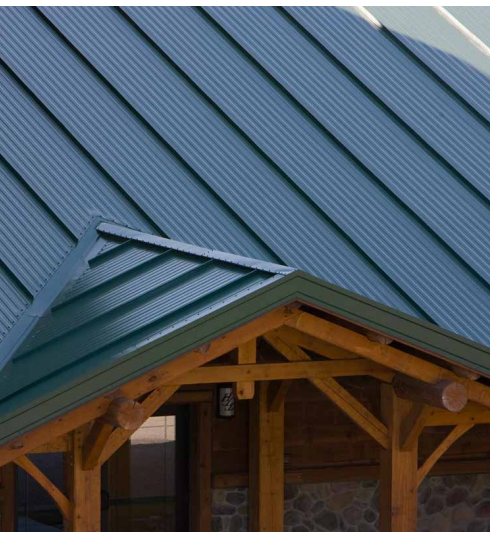
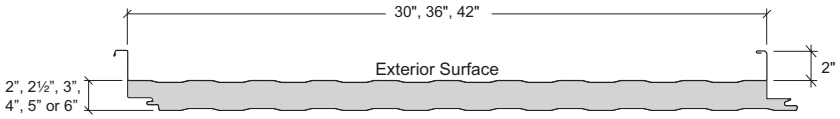
Ceco Building Systems

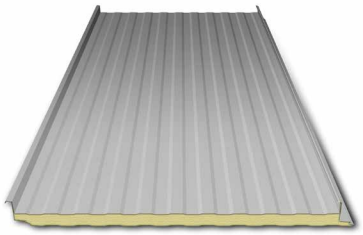
Insulated Metal Panels

CFR



CFR is an insulated metal roof standing seam roof panel and is the newest innovation in all-in-one composite roof panel design, combining durable interior and exterior faces with an unmatched polyurethane core. The CFR insulated metal standing seam roof panel is a truly unique answer to many deficiencies common with more traditional roofing materials of the past.





Features and Benefits:

- The CFR roof panel is ideal for architectural, commercial, industrial and institutional applications.
- Due to their careful design features, this roof system requires very little field reworking and can be easily and quickly installed.

Product Specifications:

Applications: Roof

Coverage Widths: 42" (standard); 30", 36" (optional)

Panel Attachment: Concealed fastening system

Gauges: Exterior: 24, 22; Interior: 26, 24, 22

Finishes: Exterior: Galvalume Plus®, Stucco-embossed; Interior: Stucco-embossed

Coatings: Exterior: Signature® 200, Signature® 300; Interior: Igloo White (standard)

U-Factors and R-Values*:

U-Factor (BTU/h·ft²·°F)
PANEL WIDTH: 42"

	75°
2"	0.0600
2½"	0.0490
3"	0.0414
4"	0.0318
5"	0.0257
6"	0.0217

R-Value (h·ft²·°F/BTU)
PANEL WIDTH: 42"

	75°
2"	16.67
2½"	20.41
3"	24.15
4"	31.45
5"	38.91
6"	46.08

*Based on ASTM C518, ASTM C1363 and thermal modeling, 75° F core mean temp.

CFR

CATEGORY	CHARACTERISTIC	TEST METHOD	PURPOSE	RESULT
Environmental	Thermal Transmission	ASTM C 518	Measure the heat transmission coefficient per unit thickness (k-factor)	0.140 BTU·in/hr·ft2·°F(7.14/inch) at 75 °F mean Temperature 0.126 BTU·in/hr·ft2·°F(7.94/inch) at 40 °F mean Temperature 0.118 BTU·in/hr·ft2·°F(8.47/inch) at 20 °F mean Temperature
		ASTM C1363	Measures the resistance to heat flow (or R-value) of a construction assembly in a guarded hot box	Varies up to R-8.515/inch of panel thickness at 40 °F mean Temperature
	Air Leakage Through Roof Panel Joints	ASTM E1680	Determines the resistance of exterior metal roof panel systems to air infiltration resulting from either positive or negative air pressure differences	0.0023 cfm/ft2 at 12 psf static pressure
	Water Penetration Through Roof Panel Joints	ASTM E1646	Determines the resistance to water penetration of metal roof panels under uniform positive static air pressure difference	No uncontrolled water penetration through the panel joints at a static pressure of 12 psf
Foam Properties	Foam Density	ASTM D1622	Determines the apparent density of rigid cellular plastics	2.3 pcf
	Foam Compressive Strength	ASTM D1621	Determines the behavior of cellular materials under compressive load	15 psi through-thickness 22 psi other directions
	Foam Tensile Strength	ASTM D1623	Measures the tensile strength of the foam from a cored sample	30 psi through-thickness 33 psi other directions
	Foam Shear Strength	ASTM C273	Measures the shear strength of the foam from a cored sample	16 psi lowest in any direction
Fire Resistance	Surface Burning Characteristics	ASTM E84	Provides comparative measurements of surface flame spread and smoke density measurements relative to that of select grade red oak and fiber-cement board surfaces under specific fire exposure conditions	Flame Spread index of 20, Smoke Developed index of 350
	Room Fire Performance	FM 4880	Evaluates insulated roof and wall panels, interior finishes or coatings, and exterior wall systems for their performance in regards to fire	Class 1 Rating of wall and roof panels for use in unlimited height structures
		NFPA 286	Fire Tests for the flammability characterizes of wall and ceiling interior finishes	The Panels meet the criteria of the IBC Section 803.1.2.1.
		CAN/ULC S102	Standard Method of Test for Surface Burning Characteristics of Building Material and Assemblies.	Flame Spread index of 10 Smoke Developed Index of 40 Fuel Contributing Value of 7
		CAN/ULC S138	Standard Method of test for Fire Growth of Insulated Building Panels in a Full-Scale Room Configuration.	The Panels meet the criteria published in the standard.
		CAN/ULC S126	Standard Method of Test for Fire Spread Under Roof-Deck Assemblies.	The Panels meet the criteria published in the standard.
Structural	Uplift Resistance	ASTM E72 ASTM E330	Provides a standard procedure to evaluate or confirm structural performance under uniform static air pressure difference	See Load Chart Section
	Positive Load Resistance	ASTM E72	Tests the behavior of segments of wall construction under conditions representative of those encountered in service	See Load Chart Section
Roof Listings	Roof Performance - FM Global	FM 4471	Sets performance standards for panel roofs including uplift resistance Requires a Class 1 ratings by FM Global 4880 as a prerequisite	Class 1-60 to 1-135 depending on panel width and purlin spacing. See FM RoofNav for ratings.
	Roof Performance - Underwriters Laboratories	UL 580	Determines the uplift resistance of roof assemblies consisting of the roof and roof coverings materials	Class 90 Rating - Construction Number 499 and 500.
	Roof Performance - Florida Approval	TAS 125 TAS 100 TAS 201 ASTM E 1592	Florida product approval is the approval of products and systems, which comprise the building envelope and structural frame, for compliance with the structural requirements of the Florida Building Code.	See FL # 7766.1
	Roof Performance - Miami-Dade County	TAS 125 TAS 100 TAS 201	The Product Control Approval System establishes a protocol to evaluate the standards of products used in construction in Miami-Dade County. Miami-Dade County, with its inclusion in the High Velocity Hurricane Zone (HVHZ) has the most stringent code requirements of the Florida Building Code. Therefore, all products that comprise the structure's building envelope — doors, shutters, windows, prefabricated buildings and truss plates — require the issuance of an approval in order to be used for construction in Miami-Dade County	See NOA # 15-0601.03 for Craftsman SB

Notes:
1. Wall panels with textured coatings are not approved for the FM 4881 test method.