

IMPower Series™

**Insulated Metal Panel
Wall and Roof Systems**

Thermal performance
and design flexibility
in a single component

ms metal sales™
manufacturing corporation

Experience the fast track to high performance

Today's building products must provide a combination of measurable efficiency and creative versatility.

IMPower Series™ Insulated Metal Panels from Metal Sales™ deliver the superior thermal capabilities and excellent design flexibility that architects, owners and contractors demand. With a diverse array of profiles, textures and colors to choose from, IMPower Series systems are ideal for a wide array of building applications – from schools, corporate offices and high-end retailers to airplane hangars, warehouses and sports complexes.

Durable, easy-to-install and remarkably efficient, IMPower Series wall and roof panels simplify design and construction, and ensure a long-lasting high-performance building envelope.



Features & Benefits



Single Component

- ▶ Factory-injected foam insulation composited between dual steel facings to create a single high-strength insulated composite panel
- ▶ Speeds installation and minimizes construction inefficiencies common to multi-component roof and wall systems

Continuous Insulation (C.I.)

- ▶ Closed cell polyisocyanurate insulating core provides approximately R-8 per inch, far superior to traditional insulation materials
- ▶ Panels create continuous insulation outboard of building framing, virtually eliminating thermal bridging and maximizing thermal efficiency

Continuous Air Barrier (C.A.B.)

- ▶ Tightly interlocking tongue-and-groove panel joinery with non-curing butyl sealant create an airtight building envelope for maximum thermal performance and protection from moisture

Energy Efficient

- ▶ High effective R-Values combined with continuous insulation and air barrier result in significant HVAC energy savings
- ▶ Cool pigment technology in superior coating systems deliver SRI values that meet steep and/or low slope requirements for ENERGY STAR® and LEED®



Materially Efficient

- ▶ Requires fewer material resources than multi-component assemblies
- ▶ Panels have high strength-to-weight ratio, allowing for long spans and minimal framing requirements
- ▶ Lightweight building envelope for reduced structural and foundation support
- ▶ Requires less insulation thickness to comply with building energy efficiency codes

Design Flexibility

- ▶ Multiple profiles, colors, finishes, accessories and trims integrate into any building style
- ▶ Wall panels install both vertically and horizontally
- ▶ Easily integrate with doors, windows, louvers and other building envelope components

Durable and Cost Effective

- ▶ Long lasting building system proven in real world installations for 40+ years
- ▶ No surface wet seals to maintain on wall joints
- ▶ Requires minimal maintenance for reduced operational costs
- ▶ PVDF and SMP coatings provide long-term performance

Tested & Approved

- ▶ Tested for compliance with North American industry standards and codes
- ▶ Factory Mutual approved
- ▶ Florida Building Code approved

IMPower Series™ Insulated Metal Wall Systems

IMPower Series™ insulated metal wall panels deliver a high-performance, thermally efficient building envelope in a variety of classic and modern profiles. Able to be installed vertically or horizontally, and available in a wide array of high performance PVDF and SMP color coatings, these insulated metal wall panels offer the ultimate in design freedom.

As a single-component system, IMPower Series insulated metal wall panels apply directly onto open structural steel, meaning they are faster to install than traditional wall assemblies. Concealed fasteners offer a clean, uninterrupted aesthetic and virtually eliminate thermal breaks. The panels also create a continuous air barrier to prevent unwanted air infiltration and exfiltration through the wall. Plus, the robust factory-composited polyisocyanurate foam core delivers up to R-32 insulation value, exceeding ASHRAE 90.1 energy standards.

The double tongue and groove joinery can be sealed on either side of the joint, depending on the direction of the vapor drive, to ensure the most weathertight system possible.

Install IMPower Series insulated metal wall panels with confidence for a beautiful, durable, energy-efficient and high performance wall solution.

WALL SYSTEM CHARACTERISTICS

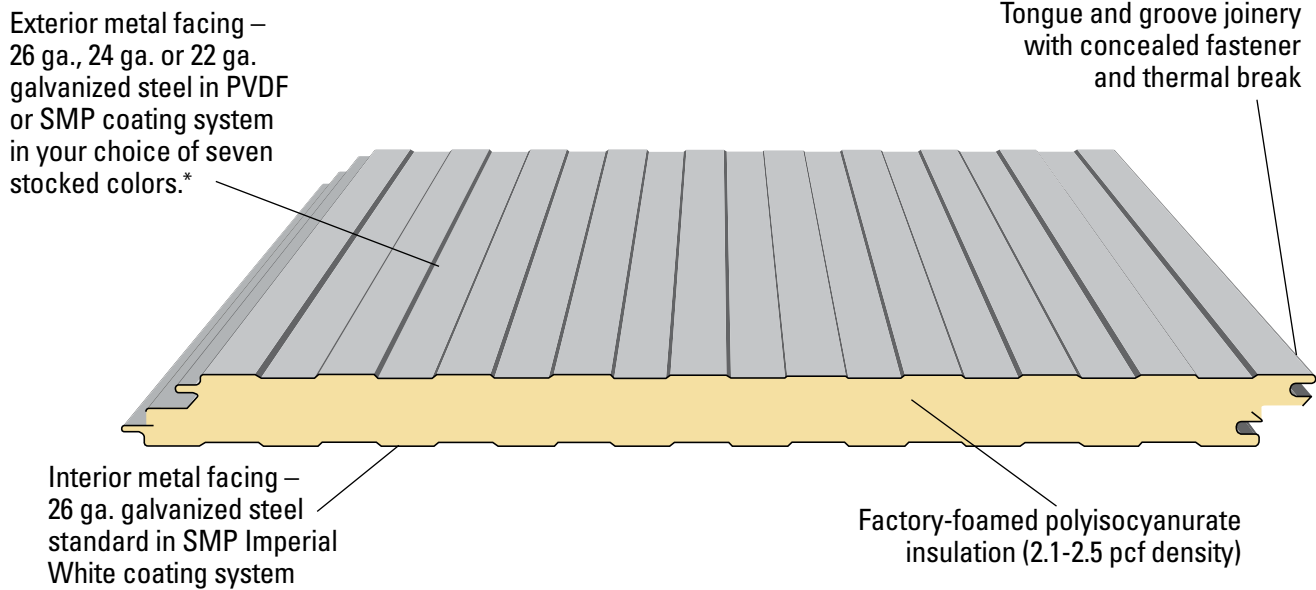
Panel Thickness:	2"	2.5"	3"	4"
R-Value (per inch): ¹	7.1 @ mean temperature of 75° 7.9 @ mean temperature of 40°			
Panel Width:	40"			
Panel Length: ²	8'-0" minimum to 50'-0" maximum			
Application:	Vertical or horizontal wall			
Insulation Material:	Factory-foamed polyisocyanurate (2.1 to 2.5 pcf density)			
Joint Configuration:	Off-set tongue and groove with concealed fastener			
Accessories:	Fasteners, concealed fastened clips, sealants, trims and brake formed flashing			
Exterior Coating:	PVDF or SMP			

1. R-Values shown for general use only. They do not reflect system or specific end-use values. Please contact Metal Sales for project-specific analysis.

2. Information shown is all-inclusive. Please see product pages for details.

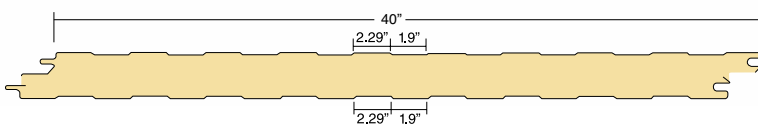
IMPower Series™ System Components

IMPower Series™ panels are manufactured with the highest quality materials and are available in a variety of exterior profiles to meet your design needs. The information in the following pages will help you find the right panel for your next project.



*Additional non-stock colors may be available. Contact your Metal Sales representative for more information.

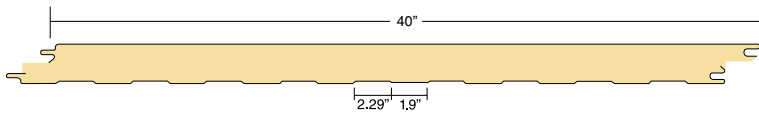
DM40 Double Mesa Wall Panel



- ▶ Concealed fastener designed for uninterrupted aesthetic and virtually zero thermal bridging
- ▶ Self-aligning tongue and groove joinery
- ▶ Panel width: 40" standard
- ▶ Panel length: 8'-0" minimum – 50'-0" maximum
- ▶ Gauges: 26 ga. standard, 22 ga. and 24 ga. optional
- ▶ Double Mesa profile on interior and exterior ideal for thicker, long-length walls

Panel Thickness	2"	2.5"	3"	4"
Insulating Value	R-16	R-20	R-24	R-32

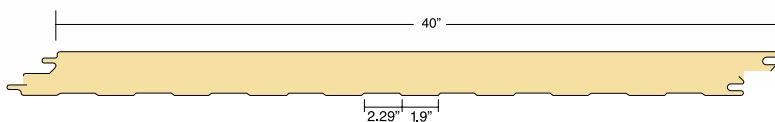
FL40 Flat Wall Panel



- ▶ Concealed fastener designed for uninterrupted aesthetic and virtually zero thermal bridging
- ▶ Self-aligning tongue and groove joinery
- ▶ Panel width: 40" standard
- ▶ Panel length: 8'-0" minimum – 32'-0" maximum
- ▶ Gauges: 22 ga. standard smooth, 24 ga. standard light embossed
- ▶ Flat profile delivers monolithic aesthetic, either vertically or horizontally

Panel Thickness	2"	2.5"	3"
Insulating Value	R-16	R-20	R-24

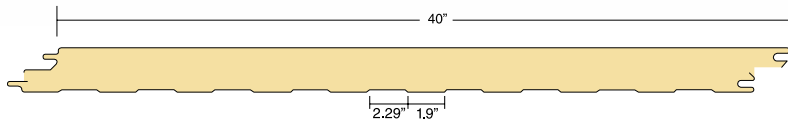
HE40 Heavy Embossed Wall Panel



- ▶ Concealed fastener designed for uninterrupted aesthetic and virtually zero thermal bridging
- ▶ Self-aligning tongue and groove joinery
- ▶ Panel width: 40" standard
- ▶ Panel length: 8'-0" minimum – 40'-0" maximum
- ▶ Gauges: 26 ga. standard, 24 ga. optional
- ▶ Pre-painted heavy embossing adds surface rigidity and a unique patterned design; can be field-sprayed with elastomeric coatings for additional texture

Panel Thickness	2"	2.5"	3"	4"
Insulating Value	R-16	R-20	R-24	R-32

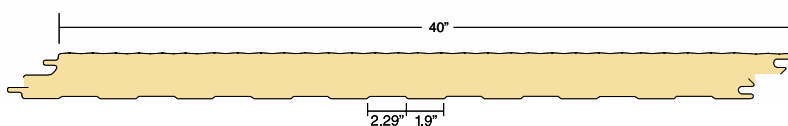
HE40A AdobeTexture™ Wall Panel



- ▶ Concealed fastener designed for uninterrupted aesthetic and virtually zero thermal bridging
- ▶ Self-aligning tongue and groove joinery
- ▶ Panel width: 40" standard
- ▶ Panel length: 8'-0" minimum – 40'-0" maximum
- ▶ Gauges: 26 ga. standard, 24 ga. optional
- ▶ Arrives on site pre-painted with a heavily textured stucco-like appearance to eliminate the need for field-spraying elastomeric coatings

Panel Thickness	2"	2.5"	3"	4"
Insulating Value	R-16	R-20	R-24	R-32

ST40 Striated Wall Panel



- ▶ Concealed fastener designed for uninterrupted aesthetic and virtually zero thermal bridging
- ▶ Self-aligning tongue and groove joinery
- ▶ Panel width: 40" standard
- ▶ Panel length: 8'-0" minimum – 40'-0" maximum
- ▶ Gauges: 26 ga. standard, 22 ga. and 24 ga. optional
- ▶ Nominal embossed striations add rigidity and ensure acceptable flatness tolerance

Panel Thickness	2"	2.5"	3"	4"
Insulating Value	R-16	R-20	R-24	R-32

IMPower Series™ Insulated Metal Roof Systems

IMPower Series™ insulated metal roof panels offer the design flexibility, long-term durability and low maintenance you've come to expect from all Metal Sales roofing panels. Perfect for new and retrofit projects, these single-component systems create high performance insulated roofs faster and more efficiently than traditional multi-component assemblies. Panels are applied directly over steel purlins, eliminating the need for an underlayment while delivering excellent spanning capabilities and load-carrying capacity. Once panels are installed, they create a working platform for the remainder of the installation, speeding project completion.

IMPower Series insulated metal roof panels provide a continuous air barrier to prevent unwanted air infiltration and exfiltration through the roof. The robust polyisocyanurate foam core also delivers up to R-49 insulation, exceeding ASHRAE 90.1 energy standards.

The six highly durable and long-lasting PVDF color coatings are applied to smooth exterior steel facings (26 gauge standard with 22 and 24 gauge options), offering supreme aesthetic flexibility. Interior facings are lightly embossed in an Imperial White SMP finish. Both PVDF and SMP coating systems are warranted for long lasting durability and chalk and fade resistance.

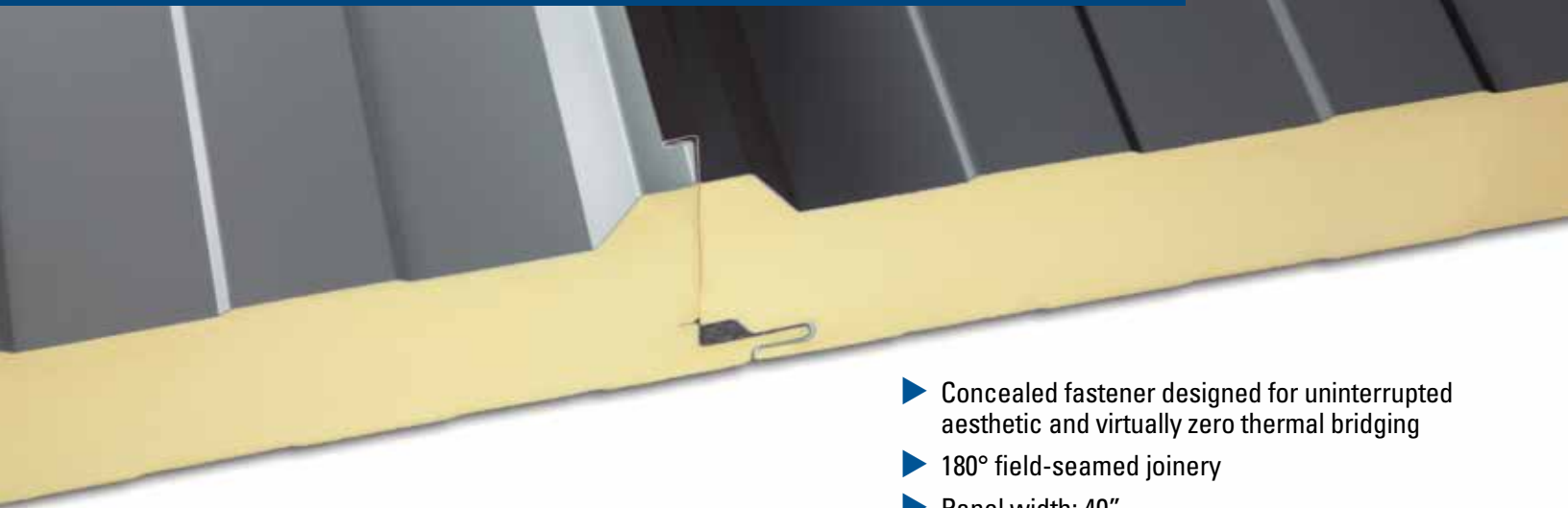
Choose IMPower Series insulated metal roof systems for the look, reliability and high performance of traditional metal roofing with the time and energy-saving benefits of single component insulated metal panels.

ROOF SYSTEM CHARACTERISTICS

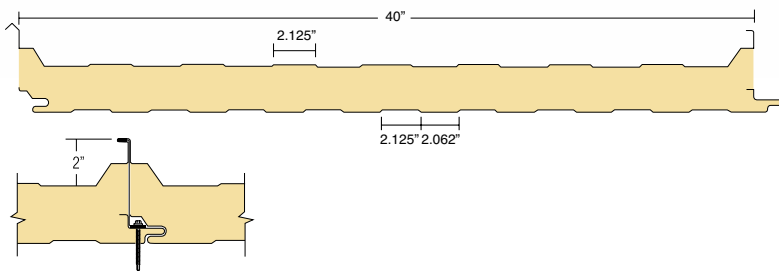
Panel Thickness:	2"	3.25"	4"	5"	6"
R-Value (per inch):*	7.1 @ mean temperature of 75° 7.9 @ mean temperature of 40°				
Panel Width:	40"				
Panel Length:	8'-0" minimum to 50'-0" maximum				
Application:	Roof				
Insulation Material:	Factory-foamed polyisocyanurate (2.1 to 2.5 pcf density)				
Joint Configuration:	SR2 – 180° field-seamed joinery HR3 – Self-aligning overlapping joinery with exposed fasteners and saddle clips				
Accessories:	Fasteners, standing seam clip assemblies, saddle fastener clips, sealants, trims and brake formed flashing				
Exterior Coating:	PVDF or SMP				

* R-Values shown for general use only. They do not reflect system or specific end-use values. Please contact Metal Sales for project-specific analysis.

SR2 Standing Seam Roof Panel

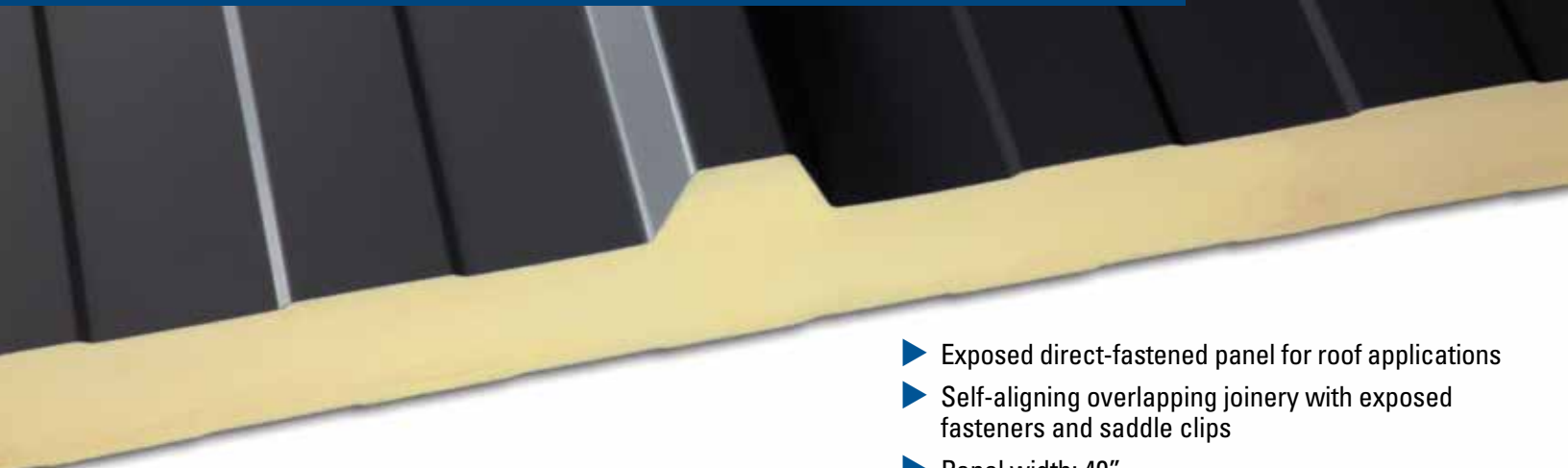


- ▶ Concealed fastener designed for uninterrupted aesthetic and virtually zero thermal bridging
- ▶ 180° field-seamed joinery
- ▶ Panel width: 40"
- ▶ Panel length: 8'-0" minimum – 50'-0" maximum
- ▶ Rib height: 2"
- ▶ Gauges: 26 ga. standard, 22 ga. and 24 ga. optional

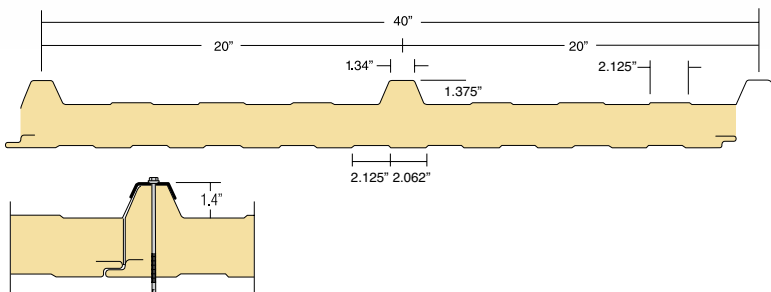


Panel Thicknesses	3.25"	4"	5"	6"
Insulating Value	R-26	R-32	R-41	R-49

HR3 High Rib Roof Panel



- ▶ Exposed direct-fastened panel for roof applications
- ▶ Self-aligning overlapping joinery with exposed fasteners and saddle clips
- ▶ Panel width: 40"
- ▶ Panel length: 8'-0" minimum – 50'-0" maximum
- ▶ Rib height: 1.4" at 20" centers
- ▶ Gauges: 26 ga. standard, 22 ga. and 24 ga. optional



Panel Thickness	2.5"	4"	5"	6"
Insulating Value	R-20	R-32	R-41	R-49

INSULATED METAL WALL SYSTEMS STRUCTURAL LOAD TABLE – THREE OR MORE SPANS

PANEL THICKNESS	FASTENING PATTERN	SPAN (ft)								
		5	6	7	8	9	10	11	12	13
3" WEIGHT = 2.62 PSF	FS-A	48	40	34	30	27	24	22	20	18
	FS-B	60	50	43	38	33	30	27	25	23
	FS-C	75	62	52	45	40	36	32	30	27
	FS-D	73	61	52	45	40	36	32	30	27
	FS-E	75	62	52	45	40	36	32	30	27
	FS-F	32	27	23	20	18	16	14	13	12

Notes:

- Spans shown are based on transverse load testing per ASTM E 72 and strength of fastening patterns. Fastening is based on Tek 3 fasteners installed on minimum 16 gauge girts.
- Spans calculated with 26 gauge exterior and interior facings.
- Deflection Limit: L/180
- Safety factor = 2.5 for buckling, 3.0 for shear, 3.0 for fastening
- FS-A = WC-01 Wall Clip with (3) fasteners,
- FS-B = WC-01 with (3) fasteners + (1) Fablok
- FS-C = WC-01 with (3) fasteners + (3) Fablok
- FS-D = WC-01 with (3) fasteners + (2) Fablok
- FS-E = WC-01 with (3) fasteners + (4) Fablok
- FS-F = WC-01 with (2) fasteners

Load data shown is contingent on panel thickness. Please consult your Metal Sales representative or visit metalsales.us.com for more information.

HR3 HIGH RIB ROOF SYSTEM – STRUCTURAL LOAD TABLE – THREE OR MORE SPANS

PANEL THICKNESS	PANEL WEIGHT	DESIGN CRITERIA	SPAN (ft)								
			2.5	3	3.5	4	4.5	5	5.5	6	7
2.5"	2.33	Panel/Deflection Limit	139	114	96	83	73	65	59	54	45
4"	2.65	Panel/Deflection Limit	191	158	134	116	102	90	81	73	61
5"	2.86	Panel/Deflection Limit	239	198	168	146	128	114	102	93	77
6"	3.12	Panel/Deflection Limit	286	238	202	175	155	138	124	112	94

FASTENING PATTERN	CONNECTION STRENGTH	SPAN (ft)								
		2.5	3	3.5	4	4.5	5	5.5	6	7
(1) fastener, 20" on center	16 gauge purlins	71	59	50	44	39	35	32	29	25
	12 gauge purlins	149	124	106	93	83	75	68	62	53
	3/16" thick purlins	298	248	212	186	165	148	135	124	106
(1) fastener, 10" on center	16 gauge purlins	141	118	101	88	78	71	64	59	50
	12 gauge purlins	298	248	213	186	166	149	135	124	107

SR2 STANDING SEAM ROOF SYSTEM – STRUCTURAL LOAD TABLE – THREE OR MORE SPANS

PANEL THICKNESS	PANEL WEIGHT	DESIGN CRITERIA	SPAN (ft)								
			3.25	3	3.5	4	4.5	5	5.5	6	7
3.25"	2.48	Panel/Deflection Limit	149	123	104	90	79	70	62	56	46
4"	2.65	Panel/Deflection Limit	185	153	130	112	98	87	78	71	59
5"	2.86	Panel/Deflection Limit	233	192	164	142	125	111	100	90	75
6"	3.12	Panel/Deflection Limit	262	233	198	172	151	135	121	110	92

FASTENING PATTERN	CONNECTION STRENGTH	SPAN (ft)								
		2.5	3	3.5	4	4.5	5	5.5	6	7
(2) fasteners per clip	16 gauge purlins	70	59	50	44	39	35	32	29	25
	12 gauge purlins	149	124	106	93	83	75	68	62	53
	3/16" thick purlins	294	247	213	186	165	148	136	124	106
(3) fasteners per clip	16 gauge purlins	105	88	76	66	59	53	48	44	38
	12 gauge purlins	223	186	160	140	124	112	102	93	80

Notes:

- Spans shown are based on transverse load testing per ASTM E 72 and strength of fastening patterns.
- Spans calculated with 26 gauge exterior and interior facings.
- The lowest allowable load between panel design and connection strength must be used to determine maximum span.
- Fastening calculated with 1/4-14 Tek 3 for 16 gauge and 12 gauge purlins and 1/4-20 Tek 5 for 3/16" thick purlins.
- Deflection Limit: L/240
- Safety factor = 2.5 for buckling, 3.0 for shear, 3.0 for fastening
- Structural capacity of purlins have not been considered.
- Thermal effect due to temperature differentials have not been considered.

IMPower Series™ Insulated Metal Panels are available in a wide variety of colors that are ENERGY STAR® listed and may contribute to LEED® certification. Please contact your Metal Sales representative for color samples and more information.

	Solar Reflectance ASTM C 1549a	Thermal Emittance ASTM C 1371	Solar Reflectance Index ASTM E 1980	ENERGY STAR® Steep Slope	ENERGY STAR® Low Slope	LEED® 2009 Steep Slope	LEED® 2009 Low Slope	LEED® V4 Steep Slope	LEED® V4 Low Slope
PVDF									
Sandstone	0.61	0.84	71	■		■		■	
Surrey Beige	0.50	0.84	57	■		■		■	
Regal White	0.71	0.84	85	■	■	■	■	■	■
Royal Blue	0.32	0.86	33	■		■			
Natural Green	0.32	0.85	32	■		■			
Pearl Gray	0.50	0.83	56	■		■		■	
Warm White	0.65	0.85	77	■	■	■		■	
Slate Gray	0.39	0.86	42	■		■		■	
Evergreen	0.28	0.85	27	■					
Slate Blue	0.44	0.86	48	■		■		■	
Colonial Red	0.36	0.86	37	■		■			
Weathered Copper	0.34	0.84	34	■		■			
SMP									
Imperial White	0.69	0.85	83	■	■	■	■	■	■
Sandstone	0.56	0.87	66	■	■	■		■	
Surrey Beige	0.43	0.87	48	■		■		■	

LOW SLOPE: Surface with a slope of 2:12 or less. STEEP SLOPE: Surface with a slope greater than 2:12.

TEST CATEGORY	TEST PROTOCOL	DESCRIPTION
FIRE	FM 4880	Class 1 of Insulated Wall or Wall and Roof/Ceiling Panels; Interior Finish Materials or Coatings consider fire rating
	FM 4881	Class 1 Exterior Wall Systems; considers rain, wind, hail, water infiltration, heat, cold building movement and sunlight
	ASTM E 84	Flame Spread
STRUCTURAL	ASTM E 72	Positive and negative wind loads for walls and roofs
LOAD CAPABILITIES	FM 4471	Class 1 Panel Roofs; considers fire, wind, foot traffic and hail damage resistance
THERMAL TRANSMITTANCE	ASTM C 1363 ASTM C 518	Test of completed panel assembly including side joints at 75°F mean temperature per ASHRAE 90.1 requirements
WATER PENETRATION	ASTM E 331	Water penetration of exterior curtain walls
	ASTM E 1646	Water penetration of exterior metal roof panel; test is run in conjunction with ASTM E 1680
AIR INFILTRATION	ASTM E 283	Air leakage through exterior curtain walls; test is run in conjunction with ASTM E 331
	ASTM E 1680	Air leakage through exterior metal roof panel
OTHER	AAMA 501.1	Air/Water Infiltration
FLORIDA APPROVALS	FL 14700	Insulated Structural Roof Panel
	FL 15060	Insulated Structural Wall Panel

NOTE: The above tests were conducted on various IMPower Series products; not all products have been tested per all tests. Please visit metalsales.us.com for additional information and/or consult our Technical Services team about specific products and test results. It is the responsibility of the customer to verify compliance requirements for local, state, and national requirements for their plans and specifications.

Simply Sustainable

Metal Sales is committed to advancing sustainable design, including architectural strategies toward greater energy efficiency, LEED® certification, Net-Zero building, Cool Roof Rating Council certification and meeting the rigorous standards of the Living Future Institute.

Our portfolio of durable products containing recycled and recyclable material is ideal for use in high performance buildings, whether new or retrofit. Metal Sales products optimize energy efficiency, minimize construction waste and provide the most sensible platform for renewable energy technology and rainwater harvesting systems.

Metal Sales products are materially efficient, promote resource optimization and divert waste from landfills.

IMPower Series™ Insulated Metal Panels offer a host of sustainable benefits including:

- ▶ Provides thermal efficiency up to R-40 for walls and R-50 for roofs
- ▶ Made from a minimum of 30% recycled steel
- ▶ 100% recyclable
- ▶ Fewer materials required compared to traditional wall and roof assemblies
- ▶ No CFCs (Chlorofluorocarbons)
- ▶ No VOCs (Volatile Organic Compounds)
- ▶ No ODPs (Ozone Depleting Potential) – No limits by the EPA for use
- ▶ Meets current EPA blowing agent requirements for the reduction of Global Warming Potential
- ▶ SRI (Solar Reflectance Index) – Values meet steep slope and/or low slope requirements for ENERGY STAR® and LEED®
- ▶ Effective platform for renewable energy systems

Build sustainably with Metal Sales.



ms metal sales[™]
manufacturing corporation

metalsales.us.com 800.406.7387

