



INSULROCK FIRE RATED METAL PANELS

GENERAL SPECIFICATION FOR FIRE RATED APPLICATIONS

1. **GENERAL**

1.1. Summary

Fire-rated panels as shown on the drawings shall be INSULROCK brand panels as supplied by Green Span Profiles.

1.2. References

- 1.2.1. AISC
Steel Construction Manual – 13th Edition
- 1.2.2. AISI
North American Specification for the Design of Cold-Formed Structural Members, 2007
- 1.2.3. ASCE 7
Minimum Design Loads for Buildings and Other Structures
- 1.2.4. International Building Code, latest edition

1.3. Submittals

- 1.3.1. Manufacturer's product literature.
- 1.3.2. Shop drawings showing elevations, panel layout and calling out panel profile, thickness, gauge, width, finish and texture. The drawings shall also illustrate product components including fasteners, clips, sealants, trims and any other necessary accessories.
- 1.3.3. Engineering package illustrating the panels will resist the code stipulated loads.
- 1.3.4. Color chip and/or chart.
- 1.3.5. Installation instructions.
- 1.3.6. Sample warranties (substrate and finish).
- 1.3.7. Letter of Certification stating that all parts of this specification were satisfied.

1.4. Quality Assurance

- 1.4.1. Manufacturer - Experienced in the production of fire-rated metal panels.
- 1.4.2. Designer – Experienced in the design of fire-rated metal panels and a registered Professional Engineer.
- 1.4.3. Installer - Authorized by the manufacturer and having a minimum of (3) years experience installing fire-rated metal panels.

1.5. Delivery, Storage and Handling

- 1.5.1. Deliver panels in the original manufacturer's weather-resistant, shrink-wrapped packaging with clearly marked, weather-resistant labeling.
- 1.5.2. Store the panels in a clean, level, protected and sufficiently compacted area. Provide ventilation if the bundles are exposed to moisture; further, elevate one end of the bundle to

ensure adequate runoff. Do not stack more than two bundles high. Stack material to prevent twisting, bending, abrasion, scratching and denting.

- 1.5.3. Use proper care in unloading, storing and installing the fire-rated panels. Handle panels in a fashion that will not bend, dent, scratch or otherwise damage the product.
- 1.5.4. Refer to the Green Span Profiles Insulated Metal Panel Handling & Maintenance Guide for more specific information regarding handling, storage, strippable film, steel debris, corrosion, cleaning and field painting.

1.6. Warranty

- 1.6.1. All INSULROCK panels furnished by Green Span Profiles (GSP) shall conform to the specifications set forth herein and the Bill of Materials.
- 1.6.2. The panels shall be free from defects in material and workmanship when delivered to the project location.
- 1.6.3. The installer warrants the panels as free of defects in material installation and workmanship for a period of (2) years from the date of substantial completion.

1.7. Maintenance

- 1.7.1. Keep the interior and exterior panel surfaces clean. Immediately remove dust, dirt, mud, mortar, chalk, excess sealants or any other type of foreign substance from the panel surfaces.
- 1.7.2. Refer to the Green Span Profiles Insulated Metal Panel Handling & Maintenance Guide for more specific information regarding handling, storage, strippable film, steel debris, corrosion, cleaning and field painting.

2. **PRODUCT**

2.1. Supplier

Green Span Profiles
21200 FM 362
Waller, TX 77484
281-807-7400
www.GreenSpanProfiles.com

2.2. Panel Facings

- 2.2.1. Shall be permanently bonded to the insulating core with a heat polymerizing adhesive.
- 2.2.2. Exterior facings shall be 0.020" to 0.026" G-90 hot dipped galvanized or AZ-50 GALVALUME® steel, conforming to ASTM A653 Grade 33, pre-coated with a nominal 1 mil thick silicone modified polyester finish. Facings shall be designated as smooth or stucco embossed.
- 2.2.3. Exterior facings, where designated, shall be embossed, .020" G-90 hot dipped galvanized or AZ-50 Galvalume steel, conforming to ASTM A653 Commercial Quality, pre-coated with a nominal 1 mil thick Kynar finish (Beige, Sandstone, Light Gray or Surrey Beige).
- 2.2.4. Interior facings shall be .020" to .026" G-90 hot dipped galvanized or AZ-50 Galvalume steel, conforming to ASTM A653 Grade 33, pre-coated with a nominal 1 mil thick Polar White silicone modified polyester finish acceptable to the USDA. Facings shall be designated as smooth or stucco embossed.
- 2.2.5. Stainless steel interior facings, where designated, shall be .020" to .024" Type 304 stainless steel stucco embossed.
- 2.2.6. Plastic Coated Steel interior facings, where designated, shall be .020" galvanized steel, G-90 hot dipped, or Galvalume (AZ-50) steel conforming to ASTM A653 Commercial Quality, pre-coated with .004" White polyvinyl chloride Plastisol acceptable to the USDA.
- 2.2.7. Composite facings, where designated, shall be .090" fiberglass reinforced polyester laminated to .020" primed hot dipped galvanized (G-90) steel or Galvalume (AZ-50) steel. The FRP shall

have a flame-spread rating of 200 or less and a smoke developed rating of 450 or less when tested by ASTM E84.

- 2.2.8. Fiberglass reinforced polyester facings, where designated, shall be nominal .090" with a flame-spread rating of 25 or less and a smoke developed rating 450 or less when tested by ASTM E84 and shall be acceptable to the USDA.
- 2.2.9. Liner facings, where designated, shall be .020" Galvanneal A40.

2.3. Panel Edges

- 2.3.1. Shall be precisely formed to assure core to core contact and alignment of panel facings and to facilitate vapor barrier and sanitary sealing as required.
- 2.3.2. Tongue and Groove Edge Treatment (TAGET) shall be continuously roll formed into facings such that the formed tongue of one panel fits into the groove formed by the facing and core of the adjacent panel. In addition, the core shall be grooved to accept a .5" x 2.75" fiber reinforced cement board spline.
- 2.3.3. Panels with FRP or Composite Facings shall be formed and grooved to accept polyvinyl chloride H-Moldings. In addition, the core shall be grooved to accept a .5" x 2.75" fiber reinforced cement board spline.

2.4. Metal Facing Profile

- 2.4.1. Shall have a roll formed configuration which enhances appearance and panel strength.
- 2.4.2. Exterior facings with TAGET may have a continuously roll formed light mesa configuration.
- 2.4.3. Exterior facings with TAGET may have a continuously roll formed configuration consisting of 0.06" deep grooves spaced approximately 6" apart so that the joint between panels simulates a groove.
- 2.4.4. Interior facings with TAGET may have a continuously roll formed configuration consisting of 0.06" deep grooves spaced approximately 6" apart so that the joint between panels simulates a groove.
- 2.4.5. Interior facings with TAGET may have a continuously roll formed light mesa configuration.

2.5. Insulating Core

- 2.5.1. Thickness shall be determined based on the fire rating, temperature differential, and other building requirements.
- 2.5.2. Shall be ConRock L brand structural mineral wool insulation having the following typical physical properties:

• Density (pcf)	8.5
• Compressive Strength, 10% Defl.,psi	15
• Water Absorption (ASTM C-209), % by Vol	3
• K-Factor @ 40° F Mean (ASTM C-518)	0.277s
• Thermal Resistance @ 40° F Mean	3.61/in

2.6. Dimensions

- 2.6.1. Panel width shall be 47.375 inches +/- 1/16 inch.
- 2.6.2. Panel thickness shall be as ordered +/- 1/16 inch.
- 2.6.3. Panel length shall be full height unless otherwise designated. Length tolerance shall be +/- 1/8 inch.
- 2.6.4. Panels shall be fabricated in the field to fit the structure including sloping the wall edges to fit roof slope and fitting wall corners.

2.7. Flashing

- 2.7.1. Match all flashings and trims with the adjacent panels in material gauge and finish.

- 2.7.2. Angles and other trim painted to match the panels shall be made with .020" or thicker corrosion resistant steel sheets.
- 2.7.3. Install trims per the panel manufacturer's details.

2.8. Accessories

- 2.8.1. Fasteners - ¼-14, Self-Drilling or Self-Tapping, Hex Head of appropriate length.
- 2.8.2. Closures – UV resistant per the manufacturer's details (if necessary).

2.9. Sealers

- 2.9.1. Tube Sealants
 - 2.9.1.1. Silicone
 - 2.9.1.2. Polyurethane
- 2.9.2. Tape Sealants - Butyl

2.10. Splines

- 2.10.1. Fiber reinforced cement board splines shall be ½" x 2 ¾" x 8'.

3. **EXECUTION**

3.1. General

The Erector, upon entering into a contract to erect the Panel System, claims itself competent in the erection of these systems and is responsible for complying with all applicable local federal and state construction and safety regulations, including OSHA regulations.

3.2. Preparation

Erector - Before panel installation begins, meticulously review and accept the shop drawings as correct.

3.3. Examination

- 3.3.1. Shipment - Immediately upon delivery of the panels and accessories, crosscheck the delivered materials against the shipper to insure a complete shipment.
- 3.3.2. Substrate – Before installation begins, inspect and accept the structure with regard to plumb, level and true. The maximum deviation of steel alignment shall be limited to 0 (+\-) 3/16" from the control with a 1/8" maximum change in deviation for any member of any 10-ft panel run. The erector shall not proceed with installation if the structural steel is not within the specified tolerances.
- 3.3.3. Panels – During installation, examine the individual panels. Immediately notify the supplier of any panel defects. Do not install defective panels.

3.4. Installation

- 3.4.1. Panels
Install in accordance with the manufacturer's recommended procedures, details and the construction drawings. Install the panels plumb, level and true. If necessary, make panel cuts with a "metal cutting" circular saw.
- 3.4.2. Fasteners
Install fasteners in the locations shown on the construction drawings. Take care not to overdrive fasteners. Replace stripped fasteners by installing a new fastener in a different location.

- 3.4.3. Trim
Install the flashing true-to-line and level or plumb and in accordance with the manufacture's details and the construction drawings.
- 3.4.4. Sealants
Before sealants are applied, clean and prime the surfaces according to the sealant manufacturer's guidelines. Locate the sealants per the manufacturer's details and the shop drawings without skips or voids.
- 3.4.5. Manual
Refer to the Green Span Profiles General Installation Guide for specific information regarding accountability, conditions, heavy equipment, verification of structure, alignment, side-joints, vapor barrier, sealants, field applied insulation, threaded fasteners, strippable film, field cutting, appearance, general installation sequence and details.

3.5. Protection
Remove any and all strippable films either prior to or directly following installation. Take measures to avoid exposure of the film to direct sunlight for more than 24 hours.

- 3.6. Cleaning
- 3.6.1. Touch Up – “Touch up” minor damage to factory applied finishes using factory approved, matching coatings provided by the manufacturer.
 - 3.6.2. Soap - If necessary, clean panel surfaces with a combination of water and a light detergent.

END OF SECTION