

SECTION 07 2210 – POLYISOCYANURATE ROOF INSULATION**PART 1 - GENERAL**

1.1 SUMMARY

- A. Provide roof insulation under other roofing systems, where shown on the Drawings, as specified herein, and as needed for a complete and proper installation. Section includes:
 - 1. Rigid insulation under specified spray polyurethane foam roofing.
- B. Related Sections:
 - 1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division I of these Specifications.
 - 2. Section 06 1100: Rough carpentry.
 - 3. Section 07 5710: Spray polyurethane foam roofing.

1.2 SUBMITTALS

- A. Submit in accordance with Section 01 3300.
 - 1. Product Data: Submit manufacturer's descriptive literature and product specifications for each product. Include data to indicate compliance with the specified requirements.
 - 2. Installation Procedures: Submit manufacturer's recommended installation procedures which, when approved by the Architect, will become the basis for accepting or rejecting actual installation procedures used on the Work.

1.3 SYSTEM DESIGN

- A. Wind Uplift: Meet or exceed the minimum design loads of ASCE 7-10. Meet wind uplift securement requirements for **1-90** windstorm rating.

PART 2 - PRODUCTS

2.1 RIGID BOARD INSULATION

- A. Closed cell polyisocyanurate foam core laminated to glass fiber reinforced felt facers. UL- 790 rated for use with Class A roof system, ASTM C1289-95 Type II, 16 psi minimum compressive strength, flame spread 75 maximum.
 - 1. 2" thickness polyisocyanurate foam insulation, 10.7 conditioned R-value per PIMA Bulletin No. 101. Total thickness as required per the plans.
 - 2. Products specified are for establishing the type, design, and quality required. Products of equal or better type, design, and quality produced by other manufacturers will be considered provided the request for substitution is submitted in accordance with Section 01 2500.

2.2 OTHER MATERIALS

- A. Fasteners for Factory Mutual Windstorm Rated Installation:
 - 1. HP-X Fastener: A heavy duty #15 threaded fastener with a #3 Phillips drive used with Piranha Fastening Plate to secure mechanically fastened roof insulation system.
 - 2. Piranha Plate: A 2-3/8" diameter metal barbed fastening plate used with HP-X Fasteners for insulation securement.
 - 3. Meet or exceed Factory Mutual Standard 4470 for corrosion resistance.

- B. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the Architect.

PART 3 - EXECUTION

3.1 SURFACE CONDITIONS

- A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.
- B. Remove, or protect against, projections in construction framing which may damage or prevent proper insulation.

3.2 RIGID BOARD INSULATION INSTALLATION

- A. Lay insulation board directly on metal deck in parallel courses with joints tight and end joints staggered.
- B. Mechanically secure insulation to make the requirements for FM 1-90 rating, based on uplift wind pressures from ASCE 7-10 as follows:
 - Zone 1: (field) = -31.2 psf
 - Zone 2: (perimeter) = -52.3 psf
 - Zone 3: (corners) = -78.8 psf
 - Overhangs: = -73.4 psfNote: Pressures listed are at Strength Level (LRFD).
Use minimum of #10 sheet metal screw with 5/8" penetration into roof sheathing; 8 fasteners min per sheet (4'x8' standard sheets).

END OF SECTION 07 2210