**PART 1 - GENERAL**

**1.01 SUMMARY**

A. Provisions of Division 01 apply to this section.

B. Section Includes:

1. Roof and non-tapered polyisocyanurate roof insulation as indicated.

C. Related Sections:

**NOTE TO PROJECT ARCHITECT:**

**EDIT RELATED SECTIONS TO ADDRESS SPECIFIC PROJECT REQUIREMENTS.**

1. Section 06 10 00: Rough Carpentry

2. Section 07 55 20: Modified Bituminous Membrane Roofing Cold Adhesive Applied

3. Section 07 60 0: Flashing and Sheet Metal.

**1.02 SYSTEM DESCRIPTION**

A. Regulatory Requirements: Comply with requirements of DSA and/or authorities having jurisdiction over the Work.

**1.03 SUBMITTALS**

A. Shop Drawings: Submit roof plans and details. Include roof dimensions, drain and scupper locations, gutter locations, and the layout of insulation boards. Provide details indicating components, attachment and insulation thickness. Provide calculations indicating the average R-value for the system. Indicate drainage patterns and slopes required.

B. Product Data: Submit manufacturer’s data substantiating the insulation complies with specified requirements.

C. Installation Instructions: Submit manufacturer’s installation instructions.

**1.04 QUALITY ASSURANCE**

A. Comply with the following as a minimum requirement:

1. ASTM C 1289 - Faced Rigid Cell Polyisocyanurate Thermal Insulation Board; Type 2.

2. Provide systems complying with requirements for FM Class 1.

3. Provide systems complying with requirements for UL Class A.

4. Achieve a minimum thermal resistance value of R-7 for re-roofing projects, unless noted otherwise.

B. Qualifications: Installers: Minimum 5 years experience installing specified type of insulation under roofing systems, and certified by the insulation manufacturer to install the Work of this section.

C. Pre-installation Meetings: In accordance with related Division 01 sections, conduct a pre-installation meeting on the Project site.

**1.05 DELIVERY, STORAGE AND HANDLING**

A. Deliver materials in manufacturer’s original sealed and labeled containers.

B. Avoid exposure to sunlight and the elements.

C. Handle materials in a manner to avoid damage or contamination with moisture or foreign matter.

**1.06 PROJECT CONDITIONS**

A. Environmental requirements:

1. Install products in strict accordance with manufacturer’s recommendations.
2. Do not install any materials when water in any form is present on the deck or materials are wet. Do not install any materials if precipitation is forecast and partially completed Work will be left unprotected.
3. Do not install the Work of this section if the temperature of the roof deck is below 40 degrees F.

**PART 2 - PRODUCTS**

**2.01 GENERAL**

A. Roof and Deck insulation components shall be manufactured by:

1. Dyplast Products Dyplast Products

1-800-433-5551

12501 NW 38th Ave

Miami, FL 33054

www.dyplastproducts.com

2. Celotex Insulation Celotex Building Products

32332 Camino Capistrano

San Juan Capisrano, CA 92675

3. GAFTEMP G.A.F.

11800 Industry Avenue

Fontana, CA 92337

B. Insulation shall be rigid polyisocyanurate foam insulation, with specially formulated organic/inorganic facers as manufactured by Dyplast Products, Celotex Building Products, or G.A.F.

**2.02 DESCRIPTION**

A. Tapered Roof insulation shall provide 1/4 inch minimum per foot slope and provide minimum R19 insulation value.

B. Roof and Deck insulation shall consist of polyisocyanurate foam panels, chemically bonded during the foaming process to special organic/inorganic facers on the top and bottom surfaces, and shall conform to the following:

|  |  |  |
| --- | --- | --- |
| **PROPERTIES** | **TEST METHOD** | **VALUE** |
| Compressive Strength | ASTM D 1621 | 16PSI min. |
| Dimensional Stability  (Thermal & Humid Aging) | ASTM D 2126  (-4 degrees F, amb RH)  (158 degrees F, 97 percent RH)  (200 degrees F, ambient RH) | <2.0 percent  Linear change  <2.0 percent  Linear change  <2.0 percent  Linear change |
| Flexural Strength  (Modulus of Rupture)  (Break load) | ASTM C 203 | 40 PSI min.  17 PSI min. |
| Tensile Strength  (Perpendicular to surface) | ASTM C 203 | 500 PSF min. |
| Water Absorption | ASTM C 209 |  |
| Water Vapor Transmission | ASTM E 96 |  |
| Core Foam Flame Spread | ASTM E 84 |  |

**PART 3 - EXECUTION**

**3.01 EXAMINATION**

A. Verify suitability of substrates to receive the Work. Do not proceed until unsatisfactory conditions have been corrected.

B. Verify suitability of related Work such as the following:

1. Roof drains and scuppers are properly installed.

2. Roof curbs, nailers, equipment supports, vents, and other items penetrating the roof are of the proper height, properly prepared and fastened to the substrate.

3. Concrete surface is sufficiently dry, free from extremes in pH, properly primed and free of fines, edges, or voids.

**3.02 INSULATION APPLICATION**

A. General:

1. Install the Roof and Deck insulation in accordance with the manufacturer’s recommendations and to provide the R values indicated. Butt the panels snugly together.

2. Start boards from either the roof drain or the high point depending on the insulation system. Stencil direction of slope on each board. Stagger joints of underlayment boards from insulation boards.

3. Cut valleys and hips. Field cut crickets from insulation boards. Install valleys, hips, and crickets as required for R values and drainage.

B. All Roofing Systems: Fasten insulation with a method recommended by the manufacturer. Method of attachment shall provide a minimum FM 1-90 Wind Uplift Rating.

**3.03 PROTECTION**

A. Protect the Work of this section until Substantial Completion.

**3.04 CLEANUP**

A. Remove rubbish, debris, and waste materials and legally dispose of off the Project site.

## **END OF SECTION**