SECTION 07 21 00

EXPANDED POLYSTYRENE INSULATION

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\*\* NOTE TO SPECIFIER \*\* Polar Industries, Inc.; expanded polystyrene building products.  
This section is based on the products of Polar Industries, Inc., which is located at:  
32 Gramar Avenue

Prospect, CT 06712

800.237.3763

for additional information visit website www.polarcentral.com .  
Polar Industries Inc. Our mission is to improve thermal performance in residential and commercial applications to provide our customers with year round energy cost savings.

GENERAL

1. GENERAL
   1. SECTION INCLUDES

\*\* NOTE TO SPECIFIER \*\* Delete types not required.

* + 1. Expanded polystyrene (EPS), and Graphite enhanced polystyrene (GPS) products including:
       1. Architectural EPS/GPS.
       2. Underlayment and Sheathing EPS/GPS.
       3. Foundation perimeter and slab EPS/GPS.
       4. Ventilation and Sealing EPS/GPS.
       5. Roofing EPS/GPS.
       6. Concrete Products and Forming EPS/GPS.
  1. RELATED SECTIONS

\*\* NOTE TO SPECIFIER \*\* Delete any sections below not relevant to this project; add others as required.

* + 1. Section 03 30 00 - Cast-in-Place Concrete.
    2. Section 05 40 00 - Cold-Formed Metal Framing.
    3. Section 06 10 00 - Rough Carpentry.
    4. Section 07 25 00 – Weather Barriers.
    5. Section 07 24 00 - Exterior Insulation and Finish Systems.
    6. Section 07 62 00 - Sheet Metal Flashing and Trim.
    7. Division 07 - Roofing Systems.
    8. Division 08 - Doors and Windows.
    9. Section 09 22 16.13 - Non-Structural Metal Stud Framing.
    10. Section 09 21 16.23 - Gypsum Board Shaft Wall Assemblies.
  1. REFERENCES

\*\* NOTE TO SPECIFIER \*\* Delete references from the list below that are not actually required by the text of the edited section.

* + 1. ASTM International (ASTM):
       1. ASTM C578 - Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation.
       2. ASTM D6817 - Standard Specification for Rigid Cellular Polystyrene Geofoam.
       3. ASTM E96 - Standard Test Methods for Water Vapor Transmission of Materials.
       4. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
    2. Underwriters Laboratories (UL)
       1. UL Classified 37AD
  1. SUBMITTALS
     1. Submit under provisions of Section 01 30 00 - Administrative Requirements.
     2. Product Data: Submit manufacturer's product data and technical bulletins including materials, profiles, physical properties, and accessories for each product to be used, including:
        1. Shipment information.
        2. Manufacturing materials and additives.
        3. Preparation instructions and recommendations.
        4. Storage and handling requirements and recommendations.
        5. Installation methods.
     3. Shop Drawings: Include the following:
        1. Project specific layouts, details, profiles and components.
     4. Test Reports: Submit summary of tests that products comply with specified performance requirements.

\*\* NOTE TO SPECIFIER \*\* Delete below if sustainable design documentation or LEED is not required.

* + 1. Sustainable Design Submittals:
       1. Recycled Content: Submit documentation of pre-consumer and post-consumer recycled content including manufacturing process recovery of recycled materials.
       2. Regional Materials: Submit documentation of manufacturing plant location relative to project location if less than 500 miles (800 km).
    2. Qualification Data: Submit manufacturer and installer qualifications.
    3. Warranty.
  1. QUALITY ASSURANCE
     1. Manufacturer Qualifications: Minimum 5 years experience manufacturing similar products.
     2. Installer Qualifications: Minimum 2 years experience installing similar products of the scope and complexity required for this project.
     3. Pre-Installation Meeting: Convene at the project site a minimum of two weeks prior to starting work of this section to verify project requirements, substrate conditions, installation instructions and manufacturer's warranty requirements.
  2. DELIVERY, STORAGE, AND HANDLING
     1. Comply with manufacturer's ordering instructions and lead time requirements to avoid construction delays.
     2. Deliver products in manufacturer's unopened packaging bearing the brand name and manufacturer's identification until ready for installation.
     3. Store and handle materials in accordance with the manufacturer’s instructions to avoid damage.
  3. PROJECT CONDITIONS
     1. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.

\*\* NOTE TO SPECIFIER \*\* Delete below if warranty is not required.

* 1. WARRANTY
     1. Warranty: Manufacturer's standard warranty that products will maintain performance values.
        1. Warranty Period: Thirty years.

1. PRODUCTS
   1. MANUFACTURERS
      1. Acceptable Manufacturer: Polar Industries, Inc., which is located at: 32 Gramar Avenue, Prospect, CT 06712; Toll Free Tel: 800.237.3763; Tel: 203.758.6651; Fax: 203.758.3162; Email: [sales@polarcentral.com](mailto:sales@polarcentral.com) Web:[www.polarcentral.com](http://www.polarcentral.com)

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

* + 1. Substitutions: Not permitted.
    2. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.
  1. MATERIALS
     1. Expanded Polystyrene Insulation (EPS/GPS): Closed cell, light-weight, resilient foamed plastic composed of hydrogen and carbon atoms with a compressive strength between 10 and 33 psi. Advantages include long term thermal insulating value and moisture resistance.
        1. Finish: EPS/GPS may be painted with water based acrylic paint or similar products that do not contain solvents.

\*\* NOTE TO SPECIFIER \*\* Delete below if architectural EPS/GPS is not required.

* 1. ARCHITECTURAL EPS/GPS INSULATION

\*\* NOTE TO SPECIFIER \*\* Polar Industries sells authorized EPS/GPS EIFS to Parex, Sto Corporation, Finestone, Masterwall, Senergy, Senergy Platinum CI, Sonowall, Energex, Generic and can work with EIFS manufacturers as required. Delete if not required.

* + 1. EIFS Expanded Polystyrene Insulation (EPS/GPS): Provide products manufactured by Polar Industries Inc. Provide for exterior wall cladding system in locations and configurations as shown on the drawings, and to meet the following properties:

\*\* NOTE TO SPECIFIER \*\* Select types to be used. Delete types not required.

* + - 1. Typical EIFS R Values:
         1. 1 inch EIFS 4.17 @ 40°F.
         2. 1 inch EIFS 3.85 @ 75°F.
         3. 1 inch EIFS GPS (graphite polystyrene) 4.7 @ 75°F.

\*\* NOTE TO SPECIFIER \*\* Select drainage or standard, drainage recommended. Delete not required.

* + - 1. Type: Standard.
      2. Type: Drainage.
      3. Dimensions: As shown on the drawings.
      4. Independent third party tested and approved.
      5. Contains no ozone depleting CFCs.

\*\* NOTE TO SPECIFIER\*\* PolarGuard® Perimeter Insulation is typically installed below concrete slab and under slab vapor barrier and at vertical foundation walls. Ideal for use with radiant heat. Delete below if PolarGuard® is not required.

* + 1. PolarGuard® C10 Insulation: Provide products manufactured by Polar Industries Inc. Provide in locations and configurations as shown on the drawings, and to meet the following:
       1. Compressive strength 10 – 14PSI
       2. Density: 1.0 pound per cubic foot.
       3. Flame Spread: < 25, Smoke Developed: < 450.
       4. Water Absorption: less than 4 percent by volume.
       5. Treated with PolymerFR fire retardant.
       6. Contains no CFCs, HCFCs, or formaldehyde.
       7. Significantly reduces heat loss through foundations.
       8. Protects water proofing membrane.
       9. Increases energy savings.
    2. PolarGuard® C25 Insulation: Provide products manufactured by Polar Industries Inc. Provide in locations and configurations as shown on the drawings, and to meet the following:
       1. Compressive strength 25 – 33PSI
       2. Density: 2.0 pound per cubic foot.
       3. Flame Spread: < 25, Smoke Developed: < 450.
       4. Water Absorption: less than 2 percent by volume.
       5. Treated with PolymerFR fire retardant.
       6. Contains no CFCs, HCFCs, or formaldehyde.
       7. Significantly reduces heat loss through foundations.
       8. Protects water proofing membrane.
       9. Increases energy savings.
    3. PolarGuard® GPS C13 Insulation: Provide products manufactured by Polar Industries Inc. Provide in locations and configurations as shown on the drawings, and to meet the following:
       1. Compressive strength 13 – 15PSI
       2. Density: 1.25 pound per cubic foot.
       3. Flame Spread: < 25, Smoke Developed: < 450.
       4. Water Absorption: less than 4 percent by volume.
       5. Treated with PolymerFR fire retardant.
       6. Contains no CFCs, HCFCs, or formaldehyde.
       7. Significantly reduces heat loss through foundations.
       8. Protects water proofing membrane.
       9. Increases energy savings.
  1. UNDERLAYMENT AND SHEATHING EPS

\*\* NOTE TO SPECIFIER\*\* WeatherAll® Pro polystyrene fanfold continuous insulation. Delete if not required.

* + 1. WeatherAll® Insulation: Provide products manufactured by Polar Industries Inc. Provide in locations and configurations as shown on the drawings, and to meet the following:

\*\* NOTE TO SPECIFIER\*\* Select thickness and R-Value. R-values are at 75°F based on data from the ASHRAE Handbook of Fundamentals. System R-Value includes 3/8 inch foil lined air space. Delete thicknesses not required.

* + - 1. Thickness and R-Value: 1/4 inch, WeatherAll® R 1.3, Typical System R 4.7.
      2. Thickness and R-Value: 3/8 inch, WeatherAll® R 1.6, Typical System R 5.0.
      3. Thickness and R-Value: 1/2 inch, WeatherAll® R 2.1, Typical System R 5.5.
      4. Thickness and R-Value: 3/4 inch, WeatherAll® R 3.1, Typical System R 6.5.
      5. Thickness and R-Value: 1 inch, WeatherAll® R 4.2, Typical System R 7.6.
      6. Panel Size: 24 feet wide by 4 feet high, accordion fan folded.
      7. Core Material: Expanded Polystyrene (EPS/GPS) to meet or exceed ASTM C578.

\*\* NOTE TO SPECIFIER\*\* Select facing material. Delete not required.

* + - 1. Facing: Clear / Clear
      2. Facing: Clear / Reflective
      3. Facing: Reflective / Reflective
      4. Facings are perforated for vapor permeability.
      5. EPS Core Water Vapor Permeance: 5.0 at 1 inch thickness per Test Method ASTM E96.
      6. Mold resistant.
    1. WeatherAll® GPS Insulation: Provide products manufactured by Polar Industries Inc. Provide in locations and configurations as shown on the drawings, and to meet the following:

\*\* NOTE TO SPECIFIER\*\* WeatherAll® GPS – Graphite Enhanced Polystyrene; Select thickness and R-Value. R-values are at 75°F based on data from the ASHRAE Handbook of Fundamentals. System R-Value includes 3/8 inch foil lined air space. Delete thicknesses not required.

* + - 1. Thickness and R-Value: 1/4 inch, WeatherAll® GPS R 1.1, Typical System R 3.1.
      2. Thickness and R-Value: 3/8 inch, WeatherAll® GPS R 1.7, Typical System R 3.7.
      3. Thickness and R-Value: 5/8 inch, WeatherAll® GPS R 3.1, Typical System R 5.1.
      4. Thickness and R-Value: 3/4 inch, WeatherAll® GPS R 3.4, Typical System R 5.4.
      5. Thickness and R-Value: 1 inch, WeatherAll® GPS R 5.0, Typical System R 6.9.
      6. Panel Size: 24 feet wide by 4 feet high, accordion fan folded.
      7. Core Material: Graphite Expanded Polystyrene (GPS) to meet or exceed ASTM C578.

\*\* NOTE TO SPECIFIER\*\* Select facing material. Delete not required.

* + - 1. Facing: Clear / Clear
      2. Facing: Clear / Reflective
      3. Facing: Reflective / Reflective
      4. EPS Core Water Vapor Permeance: 5.0 at 1 inch nominal thickness per Test Method ASTM E96.
      5. Mold resistant.

\*\* NOTE TO SPECIFIER\*\* WeatherAll® Sheathing can be applied to exterior sheathing, direct to studs, internal basement walls, shingle roof over plywood, external foundation walls, brick cavities and other applications. Delete if not required.

* + 1. WeatherAll® Continuous Insulation Sheathing: Provide products manufactured by Polar Industries Inc. Provide in locations and configurations as shown on the drawings, and to meet the following:

\*\* NOTE TO SPECIFIER\*\* Select thickness and R-Value. R-values are at 75°F based on data from the ASHRAE Handbook of Fundamentals. System R-Value includes 3/8 inch foil lined air space. Delete thicknesses not required.

* + - 1. Thickness and R-Value: 1/2 inch, WeatherAll® Pro Sheathing R 2.0, Typical System R 3.9.
      2. Thickness and R-Value: 3/4 inch, WeatherAll® Pro Sheathing R 2.9, Typical System R 4.9.
      3. Thickness and R-Value: 1 inch, WeatherAll® Pro Sheathing R 3.9, Typical System R 5.9.
      4. Thickness and R-Value: 1-1/2 inch, WeatherAll® Pro Sheathing R 5.8, Typical System R 7.8.
      5. Thickness and R-Value: 2 inch, WeatherAll® Pro Sheathing R 7.8, Typical System R 9.7.
      6. Panel Dimensions: 4 by 8 feet.

\*\* NOTE TO SPECIFIER\*\* Select facing material. Delete not required.

* + - 1. Facing: Clear / Clear
      2. Facing: Clear / Reflective
      3. Facing: Reflective / Reflective
      4. Complies with HUD/FHA requirements when installed according to the specific instructions of HUD/FHA Use of Materials.

\*\* NOTE TO SPECIFIER\*\* Stress-Skin Panels are manufactured in a controlled environment to ensure superior quality. Delete if not required.

* + 1. Stress-Skin Panels: Provide products manufactured by Polar Industries Inc. Provide in locations and configurations as shown on the drawings, and to meet the following:

\*\* NOTE TO SPECIFIER\*\* Select materials based on manufacturer recommendations. Delete not required.

* + - 1. Provide the following substrates:
         1. Oriented Strand Board (OSB).
         2. Plywood.
         3. Gypsum board,
         4. Fiberglass Reinforced Plastic.
         5. CDX.
         6. Pressure Treated CDX.
         7. Medium Density Overlay (MDO).
         8. High Density Overlay (HDO).
      2. Panel Size: 4 by 16 feet unless otherwise indicated.
      3. Provide with chase holes for electrical conduit and piping if indicated on the drawings.

\*\* NOTE TO SPECIFIER\*\* Select vinyl siding products to be provided. Delete products not required.

* + 1. Vinyl Siding Products: Provide products manufactured by Polar Industries Inc. Provide in locations and configurations as shown on the drawings, and to meet the following:
       1. Corner Post Insert: Installed behind vinyl siding corners.
          1. Fast and easy to install.
          2. Reduced air infiltration.
          3. Eliminates access by animals and insects.
          4. Straighter corners.
       2. PolarBack™: Installed between vinyl siding and water resistant barrier.
          1. Density: 1.0 pound per cubic foot.
          2. Flame Spread: < 25.
          3. Smoke Developed: < 450.
          4. Water Absorption: less than 4 percent by volume.
          5. Thermal Expansion: 0.000035 inch / inch / degree F. Nearly identical coefficient of expansion as vinyl siding.
          6. Contains no CFCs, HCFCs, or formaldehyde.
          7. Provides permeability, reducing the risk of condensation.
          8. Custom cut and designed to give siding maximum support to improve siding strength and eliminate buckling.
  1. VENTILATION AND SEALING EPS

\*\* NOTE TO SPECIFIER\*\* RafterVent are excellent for behind paneling or wall board in basements or CMU walls. Delete if not required.

* + 1. Rafter Vents: Provide products manufactured by Polar Industries Inc. Provide in locations and configurations as shown on the drawings, and to meet the following:
       1. High efficiency panels install between foundation walls and basement wall finishes.
       2. Tacks up with adhesives, staples, or friction fit between furring strips.
       3. Combustibility: Product shall not be exposed to fire or high heat, do not leave exposed or inadequately protected by gypsum board or other materials.
  1. ROOFING EPS

\*\* NOTE TO SPECIFIER\*\* Tapered Insulation is for new and retrofitted roofing systems. Delete if not required.

* + 1. Tapered Insulation: Provide products manufactured by Polar Industries Inc. Provide in locations and configurations as shown on the drawings, and to meet the following:

\*\* NOTE TO SPECIFIER\*\* Select type of tapered insulation to be used. Delete if not required.

* + - 1. EPS Composite Board: Structural board laminated to EPS/GPS insulation to provide greater strength and durability, and a top surface that acts as a protective layer for traffic, hot asphalt, single ply adhesive or a variety of roofing materials laminated one or both sides as indicated on the drawings.

\*\* NOTE TO SPECIFIER\*\* Geofoam is used on green roofs to resist moisture and provide thermal value. Delete if not required.

* + 1. Green Roofs Geofoam: Provide EPS/GPS insulation manufactured by Polar Industries Inc. in locations and configurations as shown on the drawings, and to meet the following properties:

\*\* NOTE TO SPECIFIER \*\* Select EPS/GPS geofoam type based on project requirements, the relationship between foam density and compressive resistance at 1% strain is critical. Delete types not required.

* + - 1. EPS 15, 1.0#, Type I in accordance with ASTM D6817:
         1. Minimum Density: 0.90 pounds per cubic foot (14.4 kilograms per cubic meter).
         2. Compressive Resistance:

At 1% Deformation: Minimum 3.6 psi, 520 psf (25 kPa).

At 5% Deformation: Minimum 8 psi, 1150 psf (55 kPa).

At 10% Deformation: Minimum 10.2 psi, 1470 psf (70 kPa).

* + - * 1. Elastic Modulus: 360 psi (2500 kPa).
        2. Flexural Strength: 25.0 psi (172 kPa).
        3. Water Absorption, Maximum Total Immersion: 4 percent.
        4. Oxygen Index: 24.0 percent.
        5. Buoyancy Force: 61.5 pounds per cubic foot (980 kilograms per cubic meter).
      1. EPS 19, 1.25#, Type VIII in accordance with ASTM D6817:
         1. Minimum Density: 1.15 pounds per cubic foot (18.4 kilograms per cubic meter).
         2. Compressive Resistance:

At 1% Deformation: Minimum 5.8 psi, 835 psf (40 kPa).

At 5% Deformation: Minimum 13.1 psi, 1890 psf (90 kPa).

At 10% Deformation: Minimum 16.0 psi, 2300 psf (110 kPa).

* + - * 1. Elastic Modulus: 580 psi (4000 kPa).
        2. Flexural Strength: 30.0 psi (207 kPa).
        3. Water Absorption, Maximum Total Immersion: 3 percent.
        4. Oxygen Index: 24.0 percent.
        5. Buoyancy Force: 61.3 pounds per cubic foot (980 kilograms per cubic meter).
      1. EPS 22, 1.5#, Type II in accordance with ASTM D6817:
         1. Minimum Density: 1.35 pounds per cubic foot (21.6 kilograms per cubic meter).
         2. Compressive Resistance:

At 1% Deformation: Minimum 7.3 psi, 1050 psf (50 kPa).

At 5% Deformation: Minimum 16.7 psi, 2400 psf (115 kPa).

At 10% Deformation: Minimum 19.6 psi, 2820 psf (135 kPa).

* + - * 1. Elastic Modulus: 730 psi (5000 kPa).
        2. Flexural Strength: 35.0 psi (240 kPa).
        3. Water Absorption, Maximum Total Immersion: 3 percent.
        4. Oxygen Index: 24.0 percent.
        5. Buoyancy Force: 61.1 pounds per cubic foot (980 kilograms per cubic meter).
      1. EPS 29, 2.0#, Type IX in accordance with ASTM D6817
         1. Minimum Density: 1.80 pounds per cubic foot (28.8 kilograms per cubic meter).
         2. Compressive Resistance:

At 1% Deformation: Minimum 10.9 psi, 1570 psf (75 kPa).

At 5% Deformation: Minimum 24.7 psi, 3560 psf (170 kPa).

At 10% Deformation: Minimum 29.0 psi, 4180 psf (200 kPa).

* + - * 1. Elastic Modulus: 1090 psi (7500 kPa).
        2. Flexural Strength: 50.0 psi (345 kPa).
        3. Water Absorption, Maximum Total Immersion: 2 percent.
        4. Oxygen Index: 24.0 percent.
        5. Buoyancy Force: 60.6 pounds per cubic foot (970 kilograms per cubic meter).

\*\* NOTE TO SPECIFIER\*\* Polar Flute Fillers are typically used to fill voids between ribs on metal roofing, bridges or floor decking to reduce weight and facilitate resurfacing. Delete if not required.

* + 1. Flute Fillers, EPS/GPS Flute Fillers for Metal Decks: Provide products manufactured by Polar Industries Inc. Provide in locations and configurations as shown on the drawings, and to meet the following:
       1. Install between metal decking flutes to reduce weight and increase thermal properties.
       2. Will not absorb moisture.
       3. Provides lighter weight spans.
       4. Use less concrete, making the entire deck lighter.
  1. CONCRETE PRODUCTS AND FORMING EPS

\*\* NOTE TO SPECIFIER\*\* Polar Flute Fillers are typically used to fill voids between ribs on metal roofing, bridges or floor decking to reduce weight and facilitate resurfacing.

Delete if not required.

* + 1. Flute Fillers, EPS/GPS Flute Fillers for Metal Decks: Provide products manufactured by Polar Industries Inc. Provide in locations and configurations as shown on the drawings, and to meet the following:
       1. Install between metal decking flutes to reduce weight and increase thermal properties.
       2. Will not absorb moisture.
       3. Provides lighter weight spans.
       4. Use less concrete, making the entire deck lighter.

\*\* NOTE TO SPECIFIER\*\* Concrete Form Liners are used to ensure accurate and consistent pour surfaces to form against. Delete if not required.

* + 1. Custom Concrete Form Liners: Provide products manufactured by Polar Industries Inc. Provide in locations and configurations as shown on the drawings, and to meet the following:
       1. Expanded Polystyrene (EPS/GPS) to have a smooth or textured pour face as shown on the drawings.

\*\* NOTE TO SPECIFIER\*\* Select laminate material. Delete if not required.

* + - 1. Laminate: None.
      2. Laminate: Plywood.
      3. Laminate: Oriented Strand Board (OSB).
      4. Textured Reinforced Fiberglass.
      5. Smooth Reinforced Fiberglass.
      6. Reuse forms only as permitted by the manufacturer.

\*\* NOTE TO SPECIFIER\*\* Polar prestressed Beam Voids provide lightweight Filler for concrete members . Delete if not required.

* + 1. Custom EPS/GPS Box Beam Void Fillers: Provide products manufactured by Polar Industries Inc. Provide in locations and configurations as shown on the drawings, and to meet the following:
       1. Lightweight.
       2. Custom Shapes.

\*\* NOTE TO SPECIFIER\*\* Polar Continuous Insulation for Concrete Tilt-Up Walls are built flat on the ground in box form, then tilted vertically to form a section of wall. Delete if not required.

* + 1. Insulation for Concrete Tilt-Up Wall Panels: Provide products manufactured by Polar Industries Inc. Provide in locations and configurations as shown on the drawings, and to meet the following:
       1. Typical location is between placed concrete poured flat and tilted up to form walls.
       2. Custom manufactured based on plans and details provided.

\*\* NOTE TO SPECIFIER\*\* PolarGuard® Insulation is typically installed below concrete slab and under slab vapor barrier and at vertical foundation walls. Ideal for use with radiant heat. Delete if not required.

* + 1. PolarGuard® C10 Insulation: Provide products manufactured by Polar Industries Inc. Provide in locations and configurations as shown on the drawings, and to meet the following:
       1. Compressive strength 10 – 14PSI
       2. Density: 1.0 pound per cubic foot.
       3. Flame Spread: < 25, Smoke Developed: < 450.
       4. Water Absorption: less than 4 percent by volume.
       5. Treated with PolymerFR fire retardant.
       6. Contains no CFCs, HCFCs, or formaldehyde.
       7. Significantly reduces heat loss through foundations.
       8. Protects water proofing membrane.
       9. Increases energy savings.
    2. PolarGuard® C25 Insulation: Provide products manufactured by Polar Industries Inc. Provide in locations and configurations as shown on the drawings, and to meet the following:
       1. Compressive strength 25 – 33PSI
       2. Density: 2.0 pound per cubic foot.
       3. Flame Spread: < 25, Smoke Developed: < 450.
       4. Water Absorption: less than 2 percent by volume.
       5. Treated with PolymerFR fire retardant.
       6. Contains no CFCs, HCFCs, or formaldehyde.
       7. Significantly reduces heat loss through foundations.
       8. Protects water proofing membrane.
       9. Increases energy savings.
    3. PolarGuard® GPS C13 Insulation: Provide products manufactured by Polar Industries Inc. Provide in locations and configurations as shown on the drawings, and to meet the following:
       1. Compressive strength 13 – 15PSI
       2. Density: 1.25 pound per cubic foot.
       3. Flame Spread: < 25, Smoke Developed: < 450.
       4. Water Absorption: less than 4 percent by volume.
       5. Treated with PolymerFR fire retardant.
       6. Contains no CFCs, HCFCs, or formaldehyde.
       7. Significantly reduces heat loss through foundations.
       8. Protects water proofing membrane.
       9. Increases energy savings.

1. EXECUTION
   1. EXAMINATION
      1. Examine and measure installation areas and subgrade conditions are prepared to receive EPS/GPS insulation to confirm conditions are within the manufacturer’s limits.
      2. Do not begin installation until substrates have been properly prepared.
      3. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
   2. PREPARATION
      1. Verify surrounding construction, dimensions, and other conditions which would affect installation.
      2. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
   3. INSTALLATION
      1. Install in accordance with the manufacturer's current published instructions, and details and drawings issued for the project.
         1. Conflicts between the manufacturer instructions and project documents shall be resolved in writing prior to installation.
      2. Trim insulation neatly to fit spaces. Insulate miscellaneous gaps and voids.
      3. Install exterior cladding as recommended by the cladding manufacturer and as specified in other sections of this specification.
      4. Exposed insulation must be protected from open flame.
   4. PROTECTION
      1. Protect installed products and surface finishes from damage during construction.
      2. Repair or replace damaged products before Substantial Completion.
      3. Remove and legally dispose of construction debris from project site.

END OF SECTION