SECTION 066400 - PLASTIC PANELING

Revise this Section by deleting and inserting text to meet Project-specific requirements.

Verify that Section titles referenced in this Section are correct for this Project's Specifications; Section titles may have changed.

1. GENERAL
   * + 1. RELATED DOCUMENTS
          1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
       2. SUMMARY
          1. Section Includes:

Plastic sheet paneling.

Factory-laminated plastic sheet paneling.

* + - 1. DEFINITIONS

Retain both paragraphs below or delete as necessary.

* + - * 1. Plastic Sheet Paneling: Glass-fiber reinforced polyester plastic panels without substrate backer.
        2. Factory Laminated Plastic Sheet Paneling: Plastic panels factory laminated to substrate backer.
      1. SUBMITTALS
         1. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.
         2. Manufacturer’s installation instructions shall be provided along with product data.
         3. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).
         4. Product Data: For each type of product.
         5. Sustainable Design Submittals:

Retain "Samples for Initial Selection" Paragraph below for single-stage Samples when a color is specified. Retain "Samples for Initial Selection" and "Samples for Verification" paragraphs for two-stage Samples when color selection is required.

* + - * 1. Samples for Initial Selection: For plastic sheet paneling and for each color and texture specified, 3 inches in size.
        2. Samples for Verification: For each component indicated and for each exposed finish required, prepared on Samples of sizes indicated below:

Plastic Sheet Paneling: 12 inch square pieces of each color and texture specified.

Retain the following if field installation of factory laminated plastic sheet paneling is specified

Factory Laminated Plastic Sheet Paneling: 12 inch square pieces on each type of substrate specified.

Accessories and Moldings: 12 inches long, full section, each type.

Fasteners: One each type.

Retain the following if field installation of plastic sheet paneling is specified

Adhesive: One pint or standard size tube.

Retain the paragraph below if factory laminated plastic sheet paneling is required

* + - * 1. Quality Control Submittals: Fabricator's Qualifications Data.

Name and address of proposed fabricator and name and telephone number of contact person at proposed fabricator's facility.

Names, addresses, and telephone number of 3 similar projects that the proposed fabricator's plastic boards have been installed at for a minimum of 3 years.

* + - 1. CLOSEOUT SUBMITTALS
         1. Maintenance Data: Deliver 2 copies, covering the installed products, to the Director's Representative.
      2. QUALITY ASSURANCE

"Testing Agency" Paragraph below applies to flame-spread testing. Retain second option if required for insurance purposes.

* + - * 1. Testing Agency: Acceptable to authorities having jurisdiction.

Retain the paragraph below if factory laminated plastic sheet paneling is required

* + - * 1. Fabricator's Qualifications: The fabricator of the plastic board shall be regularly engaged in the lamination of plastic panels to substrate backer for a minimum of 5 years and shall be subject to the approval of the Director's Representative.
      1. DELIVERY, STORAGE, AND HANDLING
         1. Packing and Shipping: Deliver panels with protection sheets intact on exposed finished surfaces. Deliver accessories and fasteners in original, unopened containers.
         2. Storage and Protection: Store materials in a manner to prevent soiling. Protect materials from physical damage and wetting.
      2. PROJECT CONDITIONS
         1. Environmental Limitations: Do not deliver or install plastic paneling until spaces are enclosed and weathertight and temporary HVAC system is operating and maintaining ambient temperature and humidity conditions at occupancy levels during the remainder of the construction period. Comply with manufacturer's written recommendations regarding environmental conditions under which materials can be installed.

1. PRODUCTS

See Editing Instruction No. 1 in the Evaluations for cautions about named manufacturers and products.

* + - 1. MANUFACTURERS
         1. Source Limitations: Obtain plastic paneling and trim accessories from single manufacturer.
      2. PLASTIC SHEET PANELING

If both Class A and Class C paneling is required copy the article below and re-edit as necessary

* + - * 1. Glass-Fiber-Reinforced Plastic Paneling: Gelcoat-finished, glass-fiber-reinforced plastic panels complying with ASTM D5319.[**Panels shall be USDA accepted for incidental food contact.**]

[Manufacturers:](http://www.specagent.com/Lookup?ulid=7578) Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

[Crane Composites, Inc](http://www.specagent.com/Lookup?uid=123457003362).

[Glasteel](http://www.specagent.com/Lookup?uid=123457003363).

[Marlite](http://www.specagent.com/Lookup?uid=123457003364).

[Nudo Products, Inc](http://www.specagent.com/Lookup?uid=123457003366).

Approved equivalent.

Products with flame-spread index of 25 or less are readily available and are usually designated Class A. Most other products have flame-spread index of 200 or less and are designated Class C.

Surface-Burning Characteristics: As follows when tested by a qualified testing agency according to ASTM E84. Identify products with appropriate markings of applicable testing agency.

Flame-Spread Index: [**25**] [**200**] or less.

Smoke-Developed Index: 450 or less.

Verify availability with manufacturers before retaining a thickness in "Nominal Thickness" Subparagraph below. 3/32 inch is slightly greater than 0.09 inch.

Nominal Thickness: Not less than [**0.075 inch**] [**0.09 inch**] [**0.12 inch**].

Surface Finish: [**Smooth**] [**Molded pebble texture**] [**Smooth surface with filled grooves at 4 inches o.c. to resemble tile**] [**As indicated by manufacturer's designations**] [**Match Director’s Representative's sample**] [**As selected by Director’s Representative from manufacturer's full range**].

Color: [**White**] [**As indicated by manufacturer's designations**] [**Match Director’s Representative's sample**] [**As selected by Director’s Representative from manufacturer's full range**].

If both Class A and Class C paneling is required copy the article below and re-edit as necessary

* + - 1. FACTORY-LAMINATED PLASTIC SHEET PANELING
         1. Factory-Laminated Glass-Fiber-Reinforced Plastic Paneling: Gelcoat-finished, glass-fiber-reinforced plastic panels complying with ASTM D5319, laminated to [**plywood**] [**oriented strand board**] [**fire-retardant particleboard**] [**gypsum board**] [**high-impact gypsum board**] [**water-resistant gypsum board**].[**Panels shall be USDA accepted for incidental food contact.**]

[Products:](http://www.specagent.com/Lookup?ulid=7582) Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to the following:

[Crane Composites, Inc](http://www.specagent.com/Lookup?uid=123457003373).; Kemply®.

Fiber-Tech Industries, Inc.; CladTuff®.

[Nudo Products, Inc](http://www.specagent.com/Lookup?uid=123457003376).; NuFiber™.

Approved equivalent.

Products with flame-spread index of 25 or less are readily available and are usually designated Class A. Most other products have flame-spread index of 200 or less and are designated Class C.

Surface-Burning Characteristics: As follows when tested by a qualified testing agency according to ASTM E84. Identify products with appropriate markings of applicable testing agency.

Flame-Spread Index: [**25**] [**200**] or less.

Smoke-Developed Index: 450 or less.

Verify availability with manufacturers before retaining a thickness in "Glass-Fiber-Reinforced Plastic Panel Nominal Thickness" Subparagraph below. 3/32 inch is slightly greater than 0.09 inch.

Glass-Fiber-Reinforced Plastic Panel Nominal Thickness: Not less than [**0.03 inch**] [**0.05 inch**] [**0.075 inch**] [**0.09 inch**].

Surface Finish: [**Smooth**] [**Molded pebble texture**] [**Smooth surface with filled grooves at 4 inches o.c. to resemble tile**] [**As indicated by manufacturer's designations**] [**Match Director’s Representative's sample**] [**As selected by Director’s Representative from manufacturer's full range**].

Color: [**White**] [**As indicated by manufacturer's designations**] [**Match Director’s Representative's sample**] [**As selected by Director’s Representative from manufacturer's full range**].

Plywood: DOC PS 1, Exterior B-C, [**1/4 inch**] [**3/8 inch**] [**1/2 inch**] [**5/8 inch**] [**3/4 inch**] thick.

Oriented Strand Board: DOC PS 2, Exposure 1, [**1/4 inch**] [**3/8 inch**] [**1/2 inch**] [**3/4 inch**] thick.

Gypsum Board: ASTM C1396/C1396M, [**Regular, 1/2 inch**] [**Type X, 5/8 inch**].

"High-Impact Gypsum Board" Subparagraph below specifies National Gypsum's "High-Impact Brand Wallboard" gypsum board.

High-Impact Gypsum Board: ASTM C1396/C1396M, 5/8 inch, with Type X core, and [**0.010-inch**] [**0.020-inch**] [**0.030-inch**] [**0.081-inch**] plastic film laminated to back side for greater resistance to penetration (impact resistance).

Water-Resistant Gypsum Board: ASTM C1396/C1396M or ASTM C1178/C1178M, 5/8 inch, Type X, with water-resistant core and surfaces.

* + - 1. ACCESSORIES

Retain one of first two options in "Trim Accessories" Paragraph below if paneling is installed with trim. One-piece trim is available only for plastic sheet paneling and factory-laminated sheet paneling with 3/8-inch- thick backing. Delete "outside corners" option if using corner guards specified in Section 102600 "Wall and Door Protection" instead of using outside corner trim.

* + - * 1. Trim Accessories: Manufacturer's standard [**one-piece**] [**two-piece, snap-on**] vinyl extrusions designed to retain and cover edges of panels. Provide division bars, inside corners,[**outside corners,**] and caps as needed to conceal edges.

Color: [**White**] [**Match panels**] [**As indicated by manufacturer's designations**] [**Match Director’s Representative's sample**] [**As selected by Director’s Representative from manufacturer's full range**].

* + - * 1. Exposed Fasteners: Nylon drive rivets recommended by panel manufacturer. Color to match plastic paneling.
        2. Concealed Mounting Splines: Continuous, H-shaped aluminum extrusions designed to fit into grooves routed in edges of factory-laminated panels and to be fastened to substrate. Color to match plastic paneling.

Retain the following if field installation of plastic sheet paneling is specified

* + - * 1. Adhesive: As recommended by plastic paneling manufacturer.

Manufacturers recommend the use of sealant with trim accessories in high-moisture or wet areas. Sealant can also be used with factory-laminated panels without trim in areas where moisture and wetting are not a concern.

* + - * 1. Sealant: Mildew-resistant, single-component, neutral-curing silicone sealant recommended by plastic paneling manufacturer and complying with requirements in Section 079200 "Joint Sealants."

Sealants shall have a VOC content of 250 g/L or less.

1. EXECUTION
   * + 1. EXAMINATION
          1. Examine substrates and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
          2. Proceed with installation only after unsatisfactory conditions have been corrected.
       2. PREPARATION

Retain any or all of first three paragraphs below for adhesive application; first two are primarily for renovation work.

* + - * 1. Remove wallpaper, vinyl wall covering, loose or soluble paint, and other materials that might interfere with adhesive bond.
        2. Prepare substrate by sanding high spots and filling low spots as needed to provide flat, even surface for panel installation.
        3. Clean substrates of substances that could impair adhesive bond, including oil, grease, dirt, and dust.

Manufacturers' recommendations for conditioning vary.

* + - * 1. Condition panels by unpacking and placing in installation space before installation according to manufacturer's written recommendations.
        2. Lay out paneling before installing. Locate panel joints [**where indicated**] [**to provide equal panels at ends of walls not less than half the width of full panels**] [**so that trimmed panels at corners are not less than 12 inches wide**].

Mark plumb lines on substrate at [**trim accessory**] [**panel joint**] locations for accurate installation.

Locate [**trim accessories**] [**panel joints**] to allow clearance at panel edges according to manufacturer's written instructions.

* + - 1. INSTALLATION
         1. Install plastic paneling according to manufacturer's written instructions.

Retain one of first two paragraphs below to suit installation method required for substrate.

* + - * 1. Install panels in a full spread of adhesive.
        2. Install panels with fasteners. Layout fastener locations and mark on face of panels so that fasteners are accurately aligned.

Drill oversized fastener holes in panels and center fasteners in holes.

Apply sealant to fastener holes before installing fasteners.

Retain first paragraph below in addition to one of last two paragraphs above if required for factory-laminated panels.

* + - * 1. Install factory-laminated panels using concealed mounting splines in panel joints.
        2. Install trim accessories with [**adhesive**] [**and**] [**nails**] [**or**] [**staples**].[**Do not fasten through panels.**]

Retain first paragraph below if using sealant with trim accessories. Manufacturers recommend the use of sealant in high-moisture or wet areas.

* + - * 1. Fill grooves in trim accessories with sealant before installing panels, and bed inside corner trim in a bead of sealant.

Usually retain first paragraph below whether using or not using trim accessories. Delete if not applicable.

* + - * 1. Maintain uniform space between panels and wall fixtures. Fill space with sealant.
        2. Remove excess sealant and smears as paneling is installed. Clean with solvent recommended by sealant manufacturer and then wipe with clean dry cloths until no residue remains.

END OF SECTION 066400