

SECTION 062020

EXTERIOR PVC RAILINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and other Contract Documents, listed in the agreement between the Owner and Contractor, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Exterior PVC railings.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials, dimensions, profiles, and colors and include construction and application details.
- B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.
- C. Samples for Initial Selection: For each type of product involving selection of colors, profiles, or textures.
- D. Samples for Verification:
 - 1. For cellular PVC railing components, with half of exposed surface finished; 50 sq. in.
- E. Delegated-Design Submittal: For railing systems, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.4 INFORMATIONAL SUBMITTALS

- A. Evaluation Reports: For the following, from ICC-ES:
 - 1. Cellular PVC.
- B. Warranties: Provide sample warranties.

1.5 QUALITY ASSURANCE

- A. Engineer PVC railing system to withstand design loads indicated on Drawings.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store materials flat with spacers between bundles to provide air circulation. Protect materials with waterproof covering.
- B. Do not store packaging materials in direct sunlight to prevent heat build up.

1.7 FIELD CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecast weather conditions permit work to be performed.
- B. Do not install PVC materials that are damaged.

1.8 WARRANTY

- A. Manufacturer's Warranty for Cellular PVC Railings Systems: Manufacturer agrees to replace components that fails due to defects in manufacturing within specified warranty period.
 - 1. Warranty Period: Limited Lifetime Warranty. Refer to manufacturer's website for details.

PART 2 - PRODUCTS

2.1 MANUFACTURER

- A. INTEX Millwork Solutions, LLC; 20 Bogden Blvd., Millville, NJ 08332; Tel: (856) 293-4100, Fax: (856) 293-4102.

2.2 HAMPTON EXTRUDED RAIL SYSTEM

- A. Cellular PVC: Extruded, expanded PVC with a small-cell microstructure, recommended by manufacturer for exterior use, made from UV- and heat-stabilized, rigid material.
 - 1. Basis of Design Product: Subject to compliance with requirements, provide the following: Intex Millwork Solutions; Hampton Extruded Rail System.
- B. Top Rail Base: 1-1/2 inch high by 2-15/16 inch wide extruded rigid cellular PVC contoured rail profile.
- C. Bottom Rail: 1-1/2 inch high by 2-15/16 inch wide extruded rigid cellular PVC contoured rail profile.
- D. Aluminum Reinforcing Insert: 1 inch high by 1-3/4 inch wide 6063-T5 extruded aluminum "C" section (0.12 inch thick web; 0.06 inch thick flanges) with four raceway channels running the entire length. Used in top and bottom rail of all systems.
- E. Balusters: Model # RS40BAL-42. 1-1/4 in square extruded rigid cellular PVC pickets.

- F. Newel Caps and Trim: Model # RS40PYCAP5 (Pyramidal cap), and #RS40BT5-WM75 (Base trim ring).
- G. Decorative Panels: Manufacturer's [**standard**] [**custom**] design.
- H. Support Block: 1-1/4 in square extruded rigid cellular PVC picket cut to length and secured to the underside of the bottom rail.
- I. Rail to Post Connection: Manufacturer's standard.
- J. Support Post: Preservative-treated wood (Southern Pine) 4 by 4 inches.

2.3 DARTMOUTH EXTRUDED RAIL SYSTEM

- A. Cellular PVC: Extruded, expanded PVC with a small-cell microstructure, recommended by manufacturer for exterior use, made from UV- and heat-stabilized, rigid material.
 - 1. Basis of Design Product: Subject to compliance with requirements, provide the following: Intex Millwork Solutions; Dartmouth Extruded Rail System.
- B. Top Rail Base: 1-1/2 inch high by 2-15/16 inch wide extruded rigid cellular PVC contoured rail profile.
- C. Bottom Rail: 1-1/2 inch high by 2-15/16 inch wide extruded rigid cellular PVC contoured rail profile.
- D. Aluminum Reinforcing Insert: 1 inch high by 1-3/4 inch wide 6063-T5 extruded aluminum "C" section (0.12 inch thick web; 0.06 in thick flanges) with four raceway channels running the entire length. Used in top and bottom rail of all systems.
- E. Balusters: Model # RS40BAL-42. 1-1/4 in square extruded rigid cellular PVC pickets.
- F. Newel Caps and Trim: Model # RS40PYCAP5 (Pyramidal cap), and #RS40BT5-WM75 (Base trim ring).
- G. Decorative Panels: Manufacturer's [**standard**] [**custom**] design.
- H. Column Wraps: Manufacturer's "Flat Panel" in height and width as indicated on Drawings.
- I. Support Block: 1-1/4 in square extruded rigid cellular PVC picket cut to length and secured to the underside of the bottom rail.
- J. Rail to Post Connection: Manufacturer's standard.
- K. Support Post: Preservative-treated wood (Southern Pine) 4 by 4 inches.

2.4 LIBERTY EXTRUDED RAIL SYSTEM

- A. Cellular PVC: Extruded, expanded PVC with a small-cell microstructure, recommended by manufacturer for exterior use, made from UV- and heat-stabilized, rigid material.

1. Basis of Design Product: Subject to compliance with requirements, provide the following: Intex Millwork Solutions; Dartmouth Extruded Rail System.
- B. Top Rail Base: 1-1/2 inch high by 2-15/16 inch wide extruded rigid cellular PVC contoured rail profile.
- C. Bottom Rail: 1-1/2 inch high by 2-15/16 inch wide extruded rigid cellular PVC contoured rail profile.
- D. Aluminum Reinforcing Insert: 1 inch high by 1-3/4 inch wide 6063-T5 extruded aluminum “C” section (0.12 inch thick web; 0.06 in thick flanges) with four raceway channels running the entire length. Used in top and bottom rail of all systems.
- E. Balusters: Model # RS40BAL-42. 1-1/4 in square extruded rigid cellular PVC pickets.
- F. Newel Caps and Trim: Model # RS40PYCAP5 (Pyramidal cap), and #RS40BT5-WM75 (Base trim ring).
- G. Decorative Panels: Manufacturer’s [standard] [custom] design.
- H. Column Wraps: Manufacturer’s “Flat Panel” in height and width as indicated on Drawings.
- I. Support Block: 1-1/4 in square extruded rigid cellular PVC picket cut to length and secured to the underside of the bottom rail.
- J. Rail to Post Connection: Manufacturer’s standard.
- K. Support Post: Preservative-treated wood (Southern Pine) 4 by 4 inches.

2.5 NAUTILUS MILLED RAIL SYSTEM

- A. Cellular PVC: Extruded, expanded PVC with a small-cell microstructure, recommended by manufacturer for exterior use, made from UV- and heat-stabilized, rigid material.
 1. Basis of Design Product: Subject to compliance with requirements, provide the following: Intex Millwork Solutions; Nautilus Milled Rail System.
- B. Top Rail Base: 1-1/2 inch high by 2-15/16 inch wide extruded rigid cellular PVC contoured rail profile.
- C. Bottom Rail: 1-1/2 inch high by 2-15/16 inch wide extruded rigid cellular PVC contoured rail profile.
- D. Aluminum Reinforcing Insert: 1 inch high by 1-3/4 inch wide 6063-T5 extruded aluminum “C” section (0.12 inch thick web; 0.06 in thick flanges) with four raceway channels running the entire length. Used in top and bottom rail of all systems.
- E. Balusters: Model # RS40BAL-42. 1-1/4 in square extruded rigid cellular PVC pickets.
- F. Newel Caps and Trim: Model # RS40PYCAP5 (Pyramidal cap), and #RS40BT5-WM75 (Base trim ring).

- G. Decorative Panels: Manufacturer's [standard] [custom] design.
- H. Column Wraps: Manufacturer's "Flat Panel" in height and width as indicated on Drawings.
- I. Support Block: 1-1/4 in square extruded rigid cellular PVC picket cut to length and secured to the underside of the bottom rail.
- J. Rail to Post Connection: Manufacturer's standard.
- K. Support Post: Preservative-treated wood (Southern Pine) 4 by 4 inches.

2.6 MISCELLANEOUS MATERIALS

- A. Fasteners for PVC Railing Components: Provide manufacturer's recommended fasteners.
 - 1. (A) Rail Bracket Screws: #8 x 1-1/4 inches Flat Head Square Drive.
 - 2. (B) Rail Attachment Screws: #10 x 3 inches Slot Hex Washer Head.
 - 3. Top Rail Cap Attachment Screws:
 - a. (C) #8 x 1-3/4 inches Flat Head Square Drive (RS40 Flat Cap ONLY).
 - b. (D) #8 x 2-1/4 inches Flat Head Square Drive (RS40 Peaked Cap ONLY).
 - 4. (E) Baluster Screws: #8 x 2-1/2 inches Flat Head Square Drive.
 - 5. (F) Baluster Lock Screws: #8 x 1-1/2 inches Flat Head Square Drive.
 - 6. (G) Rail Attachment Screws: #12 x 4 inches Slot Hex Washer Head. For level sections greater than 8 ft. long and all stair rails.
- B. Adhesive for Cellular PVC: Product recommended by manufacturer.
- C. Sealants: Type as recommended by manufacturer and complying with ASTM C 834 and with applicable requirements in Division 07 Section "Joint Sealants."

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance.
- B. Examine PVC materials before installation. Reject materials that are damaged.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Clean substrates of projections and substances detrimental to application.

3.3 INSTALLATION, GENERAL

- A. Do not use materials that are unsound or warped.
 - 1. Do not use manufactured units with defective surfaces, sizes, or patterns.
- B. Install exterior finish carpentry level, plumb, true, and aligned with adjacent materials.
 - 1. Scribe and cut PVC components to fit adjoining work.
 - 2. Coordinate PVC components with materials and systems in or adjacent to it. Provide cutouts for mechanical and electrical items that penetrate exterior finish carpentry.

3.4 INSTALLATION - GENERAL

- A. Install PVC railing systems in strict accordance with manufacturer's written installation instructions, and detailed shop drawings.
- B. Refer to manufacturer's website for latest information and installation videos.

3.5 ADJUSTING

- A. Replace PVC components that is damaged or does not comply with requirements. Adjust joinery for uniform appearance.

3.6 CLEANING

- A. Clean exposed and semiexposed PVC surfaces.

3.7 PROTECTION

- A. Protect installed products from damage from weather and other causes during construction.
- B. Remove and replace PVC materials that are damaged.

END OF SECTION