

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.
 - 2. Finishing of 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 ATI:
 - 1. CCRR-0155.
- B. Warranties: Provide sample warranties.

1.5 QUALITY ASSURANCE

- A. Engineer PVC Railing System to meet design loads indicated in CCRR report.

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 buildup.

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. Rail Section Length: [6] [8] [10] ft. lengths for level and radius rail runs. [6] [8] ft. lengths for stairway applications.
- C. Rail Section Height: [36] [42] inches.

- D. Top Rail: [**Model RS40350F (Flat cap top rail)**] [**Model # RS402350P (Peaked style top rail)**]. 1/2 inch high by 3-1/2 inch wide extruded rigid cellular PVC contoured rail profile.
- E. Top Rail Base: 1-1/2 inch high by 2-15/16 inch wide extruded rigid cellular PVC contoured rail profile.
- F. Bottom Rail: 1-1/2 inch high by 2-15/16 inch wide extruded rigid cellular PVC contoured rail profile.
- G. Aluminum Reinforcing Insert: 6063-T5 extruded aluminum “C” section. Used in top and bottom rail of all systems.
- H. Balusters: Model # RS40BAL-[**36**] [**42**]. 1-1/4 inch square extruded rigid cellular PVC pickets.
- I. Newel Post Cover: Model # RS40NP548 Standard 5 by 5 inches by 48 inches. Optional [**6**] [**8**] [**10**] [**12**] inches.
- J. Newel Caps and Trim: [**Model # RS40NPC5 (Plain flat cap)**] [**Model # RS40NPC5-IM (Injection Molded Plain flat cap)**] [**Model # RS40PYCAP5 (Pyramidal cap)**] [**Model # RS40HAR5 (Harbor style cap)**] and [**Model #RS40BT5-WM75 (Base trim ring)**] [**Model #RS40BTR5-IM (Injection Molded Base trim ring)**].
- K. Decorative Panels: Manufacturer’s [**standard**] [**custom**] design.
- L. Support Block: 1-1/4 in square extruded rigid cellular PVC picket cut to length and secured to the underside of the bottom rail.
- M. Rail to Post Connection: Manufacturer’s standard.

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. Rail Section Length: [**6**] [**8**] [**10**] [**12**] ft. lengths.
- C. Rail Section Height: [**36**] [**42**] inches.
- D. Top Rail: [**Model RS30350 (Flat cap top rail), 2 inches high by 3-1/2 inches wide**] [**Model # RS30400 (Peaked style top rail), 2.5 inches high by 4 inches wide**] extruded rigid cellular PVC contoured rail profile.
- E. Bottom Rail: 1-3/4 inch high by 3-1/2 inch wide extruded rigid cellular PVC contoured rail profile.
- F. Aluminum Reinforcing Insert: 6063-T5 extruded aluminum “C” section. Used in top and bottom rail of all systems.

- G. Balusters: Model # RS30 [**Plain**] [**Chamfered**] [**T1**] [**T2**] balusters; [**1-1/2**] [**2**] [**2-1/2**] inch extruded rigid cellular PVC pickets.
- H. Newel Post Wrap: Model # RS30NP548 Standard 5-1/16 by 5-1/16 inches by 48 inches.
- I. Newel Caps and Trim: [**Model # RS30NPTC5 (Plain cap)**] [**Model # RS30PYCAP5 (Pyramidal cap)**] [**Model # RS30HAR5 (Harbor cap)**] and #RS30NPTR5-75B (Base trim).
- J. Decorative Panels: Manufacturer’s [**standard**] [**custom**] design.
- K. Support Block: 1-1/2 in square extruded rigid cellular PVC picket cut to length and secured to the underside of the bottom rail.
- L. Rail to Post Connection: Manufacturer’s standard.

2.4 NAUTILUS MILLED RAIL SYSTEM

- A. Cellular PVC: Milled PVC, 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. Rail Section Length: [**6**] [**8**] [**10**] ft. lengths.
- C. Rail Section Height: [**36**] [**42**] inches.
- D. Top Rail: [**Model # RS10375 for use with 1-1/2 inch balusters**] [**Model # RS10600 for use with 1-1/2, 2-1/2, and 3-1/2 inch balusters**] [**Model # RS20500 for use with 1-1/2 and 2-1/2 inch balusters**] [**Model # RS50500 for use with 1-1/2, 2, and 2-1/2 inch balusters**] [**Model # RS20700 for use with 1-1/2, 2-1/2, and 3-1/2 inch balusters**] [**Model # RS20800 for use with all balusters**], milled rigid cellular PVC contoured rail profile.
- E. Gooseneck Rail: Model # RSGN500 milled rigid cellular PVC contoured rail profile. Available in Model RS50500 only.
- F. Top Rail Base: Manufacturer’s standard milled rigid cellular PVC contoured rail profile.
- G. Bottom Rail: Manufacturer’s standard milled rigid cellular PVC contoured rail profile.
- H. Aluminum Reinforcing Insert: 6063-T5 extruded aluminum “C” section. Used in top and bottom rail of all systems.
- I. Balusters:
 - 1. [**Plain**] [**Chamfered**] balusters; [**1-1/2**] [**2**] [**2-1/2**] [**3-1/2**] inch milled rigid cellular PVC pickets.
 - 2. [**T1**] [**T2**] balusters; [**1-1/2**] [**2**] [**2-1/2**] [**3-1/2**] [**5**] inch milled rigid cellular PVC pickets.
 - 3. [**T3**] balusters; 5 inch milled rigid cellular PVC pickets.
- J. Newel Post Wrap: Size as indicated.

- K. Newel Caps and Trim: As selected by Architect.
- L. Decorative Panels: Manufacturer's [**standard**] [**custom**] design.
- M. Support Block: Milled rigid cellular PVC, sized to match baluster size selected, and secured to the underside of the bottom rail. Available in 1-1/4, 1-1/2, 2, 2-1/2, 3-1/2, and 5 inches.
- N. Rail to Post Connection: Manufacturer's standard.
- O. NOTE: Nautilus Rail System requires finishing in the field. These products are shipped factory primed and paint ready. There is a 90 day finishing window. If parts are not finished within 90 days of installation, the surfaces will need to be lightly scuffed and thoroughly cleaned to ensure paint adhesion.

2.5 MISCELLANEOUS MATERIALS

- A. Fasteners for PVC Railing Components: All fasteners should be 18-8 Stainless Steel. Fasteners are provided by the manufacturer with each railing kit.
- B. Adhesive for Cellular PVC:
 - 1. Extreme Adhesives; PVC Trim Welder.
 - 2. Christy's Red Hot White Vinyl Adhesive.
- C. Sealants: Type as recommended by manufacturer and complying with ASTM C 834 and with applicable requirements in Division 07 Section "Joint Sealants."

2.6 FINISHING

- A. If railings will be painted, INTEX recommends the use of premium grade acrylic paints with solar reflective pigment. Use paints designed for use with PVC products.
- B. Colors: Due to the inherent expansion and contraction characteristics of PVC, INTEX PVC millwork products should only be painted using colors with an LVR (light reflective value) greater than 55. Use of darker colors may cause damage due to excessive expansion/contraction, and will void the product warranty.

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 are 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