

**SECTION 10260  
HANDRAILS**

**PART 1 GENERAL**

1.1 SECTION INCLUDES

- A. Aluminum and vinyl handrail systems.
- B. Mounting hardware, accessories, and trim.

1.2 RELATED SECTIONS

- A. Section 05520 - Handrails and Railings: Metal stair railings for fire stairs.
- B. Section 06114 - Wood Blocking and Curbing: Blocking and handrail support.
- C. Section 06430 - Wood Stairs and Railings: Wood handrails.
- D. Section 06620 - Plastic Handrails.
- E. Section 09210 - Gypsum Plaster: Stud spacing and bracing.
- F. Section 09260 - Gypsum Board Assemblies: Stud spacing and bracing.

1.3 REFERENCES

- A. ANSI/CABO A117.1 - American National Standard for Buildings and Facilities; Providing Accessible and Usable Buildings and Facilities; Council of American Building Officials.
- B. ASTM B 221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Shapes, and Tubes.
- C. ASTM D 256 - Standard Test Method for Determining the Pendulum Impact Resistance of Notched Specimens of Plastic.
- D. ASTM D 543 - Standard Test Methods for Resistance of Plastics to Chemical Reagents.
- E. ASTM D 635 - Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Self-Supporting Plastics in a Horizontal Position.
- F. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
- G. CAN/ULC S102.2 - Standard Method of Test for Surface Burning Characteristics of Building Materials.
- H. SAE J-1545 - Recommended Practice; Society of Automotive Engineers.
- I. UL 94 - Tests for Flammability of Plastic Materials for Parts in Devices and Appliances.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Provide manufacturer's current product data for each product required, including detail drawings and installation and maintenance instructions.
- C. Shop Drawings: Show locations of each item and installation details. Provide elevations of non-standard conditions.
- D. Selection Samples: Color charts demonstrating full range of available colors for initial color selection.
- E. Verification Samples: 12 inch (305 mm) long assemblies, including one wall return, in color specified.

1.5 QUALITY ASSURANCE

- A. Manufacturer: Shall have no less than five years experience in the production and supply of specified products with a record of successful performance.
- B. Installer: Shall have no less than three years experience in the installation of specified products or of products having a similar level of complexity.
- C. Flammability: Provide wall protection products with established listing label indicating materials have been tested in accordance with ASTM E84 (CAN/ULC S102.2) and conform to NFPA 101 Life Safety guidelines for Class A materials.
  - 1. Flame Spread: 25 or less
  - 2. Smoke developed: 450 or less

**Product Specification  
Pro•Tek® Handrail Systems**

**Pro•Tek®  
Systems  
Impact  
Protection**

**Architectural  
Building  
Products  
since 1945**

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- D. Accessibility and Safety: Products shall conform to ADA and ANSI accessibility, and NFPA Life safety guidelines.
- E. Color Control: Manufacturer shall control color to calibrated color standards. Color of all components shall be verified to these standards by visual and colorimetric means. A Delta E difference of 1.0 or less shall be maintained except where visual evaluation allows a greater range of numerical acceptability. Visual and spectrophotometer evaluation shall be performed under cool white fluorescent lighting.
- F. Single Source: To ensure compatibility of fit and function and to maintain color and finish texture consistency, all handrail system components shall be supplied by a single source.

## PART 2 PRODUCTS

### 2.1 MANUFACTURERS

- A. Provide Pro-Tek® Handrails as manufactured by Pawling Corporation, Architectural Products Division; 32 Nelson Hill Road, P.O. Box 200, Wassaic NY 12592; ASD. Tel. (800) 431-3456 (U.S. and Canada) or (845) 373-9300; Fax. (800) 377-4403 (U.S. and Canada) or (845) 373-7827; E-mail: [sales@pawling.com](mailto:sales@pawling.com). [www.pawling.com](http://www.pawling.com).
- B. Substitutions: Not permitted.

### 2.2 MATERIALS

- A. Vinyl: Provide handrail covers extruded or molded of fire retardant, high impact polyvinyl chloride (PVC) with an embossed matte finish.
  - 1. Minimum thickness: 0.080 inch.
  - 2. Vinyl Properties
    - a. Vinyl cell classification in accordance with ASTM D 1784: 16354.
    - b. Specific gravity, tested in accordance with ASTM D 792: 1.33, minimum.
    - c. Tensile strength at yield, tested in accordance with ASTM D 638: 6500 psi, minimum.
    - d. Modulus of elasticity, tested in accordance with ASTM D 638: 400,000 psi.
    - e. Tensile impact energy, tested in accordance with ASTM D 1822: 75 ft lb/sq inch.
    - f. Flexural strength, tested in accordance with ASTM D 790: 12,500 psi.
    - g. Modulus of rupture, tested in accordance with ASTM D 790: 400,000 psi.
    - h. Izod impact strength, tested in accordance with ASTM D 256: 23.0 ft lb/inch of notch, minimum, 1/8-inch notch.
    - i. Hardness, Shore D, tested in accordance with ASTM D 2240: 79, minimum.
    - j. Hardness, Rockwell, tested in accordance with ASTM D 785: 108, minimum.
    - k. Deflection temperature at 264 psi, tested in accordance with ASTM D 648: 162 degrees F (72 degrees C).
    - l. Flammability, tested in accordance with ASTM D 635: Self-extinguishing.
    - m. Flammability, tested in accordance with UL 94: V-O.
  - 3. Extruded Vinyl Component Properties:
    - a. Surface burning characteristics, tested in accordance with ASTM E 84: Flame spread 5, smoke developed 180; maximum.
    - b. Surface burning characteristics, tested in accordance with CAN/ULC S102.2: Flame spread 10, smoke developed 250-330; maximum.
    - c. Izod impact strength, tested in accordance with ASTM D 256: 25.3 ft lb/inch of notch, average.
    - d. Charpy impact strength, tested in accordance with ASTM D 256: 26 ft lb/inch of notch, average.
    - e. Chemical and stain resistance, tested in accordance with ASTM D 543, 7 day immersion in standard reagents: Results available upon request.
    - f. Color match when tested in accordance with SAE J-1545: Accurate to within 1.0 or less Delta E by CIE LAB 10 degree standard observer color difference and equation.
    - g. Combustion toxicity: Registered in accordance with New York State Uniform Fire Prevention and Building Code.
- B. Aluminum for Handrail Retainers: Alloy 6063-T5, in accordance with ASTM B 221 or FS QQ-A-200; anodized finish complying with AAMA 611, Class II minimum.
- C. Wood: Kiln dried solid maple, oak, ash, or cherry for handrails.

### 2.3 HANDRAILS

- A. BR-400C: Provide 6-1/4-inch (159 mm) high wood, aluminum and vinyl handrail system with 1-1/2-inch (38 mm) diameter oak, maple, cherry or ash hardwood gripping area, 4-inch (102 mm) high vinyl covered bumper, contrasting color vinyl transition strip, and 1-1/2-inch (38 mm) standoff from wall. Select handgrip wood stain and vinyl bumper and accent colors from Manufacturer's standards.
- B. BR-400CG: Provide 6-1/4-inch (159 mm) high wood, aluminum and vinyl handrail system with 1-1/2-inch (38 mm) diameter oak, maple, cherry or ash hardwood gripping area, 4-inch (102 mm) high vinyl covered bumper with horizontal grooved accent lines, contrasting color vinyl transition strip, and 1-1/2-inch (38 mm) standoff from wall. Select handgrip wood stain and vinyl bumper and accent colors from Manufacturer's standards.
- C. BR-400V: Provide 6-1/4-inch (159 mm) high aluminum and vinyl handrail system with 1-1/2-inch (38 mm) diameter vinyl covered gripping area, 4-inch (102 mm) high vinyl covered bumper, contrasting color vinyl transition strip, and 1-1/2-inch (38 mm) standoff from wall. Select vinyl handgrip, bumper, and accent colors from Manufacturer's standards.
- D. BR-400VG: Provide 6-1/4-inch (159 mm) high aluminum and vinyl handrail system with vinyl covered gripping area, 4-inch (102 mm) high vinyl covered bumper with horizontal grooved accent lines, contrasting color vinyl transition strip, and 1-1/2-inch (38 mm) standoff from wall. Select vinyl handgrip, bumper, and accent colors from Manufacturer's standards.
- E. BR-400W: Provide 6-1/4-inch (159 mm) high wood and aluminum system with 1-1/2-inch (38 mm) diameter oak, maple, cherry or ash hardwood gripping area, 4-inch (102 mm) oak, maple, cherry or ash hardwood bumper with two vinyl bumper inserts, vinyl contrasting color finger strips, and 1-1/2-inch (38 mm) handrail standoff from wall. Select handgrip and bumper wood stain and vinyl accent color from Manufacturer's standards. Flexible accent bumper standard in black.
- F. BR-500: Provide 5-1/2-inch (140 mm) aluminum and vinyl handrail system with 1-1/2-inch (38 mm) gripping area, contoured back, and 1-1/2-inch (38 mm) standoff from wall. Select vinyl handrail color from Manufacturer's standards.
- G. BR-502: Provide 5-1/2-inch (140 mm) aluminum and vinyl handrail system with 1-1/2-inch (38 mm) gripping area and contrasting co-extruded color strip, contoured back, and 1-1/2-inch (38 mm) standoff from wall. Select vinyl handrail and accent colors from Manufacturer's standards.
- H. BR-500G: Provide 5-1/2-inch (140 mm) aluminum and vinyl handrail system with 1-1/2-inch (38 mm) gripping area and four horizontal grooves, contoured back and 1-1/2 inch (38 mm) standoff from wall. Select vinyl handrail color from Manufacturer's standards.
- I. BR-530: Provide 5-1/2-inch (140 mm) aluminum and vinyl handrail system with 1-1/2-inch (38 mm) gripping area, contoured back, locking vinyl cover, aluminum reinforced wall return and corner accessories, and 1-1/2-inch (38 mm) standoff from wall. Select vinyl handrail color from Manufacturer's standards.
- J. BR-532: Provide 5-1/2-inch (140 mm) aluminum and vinyl handrail system with 1-1/2-inch (38 mm) gripping area, contoured back, locking vinyl cover with a co-extruded contrasting color accent, aluminum reinforced wall return and corner accessories, and 1-1/2-inch (38 mm) standoff from wall. Select vinyl handrail and accent colors from Manufacturer's standards.
- K. BR-530G: Provide 5-1/2-inch (140 mm) aluminum and vinyl handrail system with 1-1/2-inch (38 mm) gripping area, contoured back, locking vinyl cover with four horizontal grooves, aluminum reinforced wall return and corner accessories, and 1-1/2-inch (38 mm) standoff from wall. Select vinyl handrail color from Manufacturer's standards.
- L. BR-530X: Provide 5-1/2-inch (140 mm) aluminum and vinyl handrail system with 1-1/2-inch (38 mm) gripping area, contoured back, locking vinyl cover with 5 co-extruded contrasting color accent lines, aluminum reinforced wall return and corner accessories, and 1-1/2-inch (38 mm) standoff from wall. Select vinyl handrail and accent colors from Manufacturer's standards.
- M. BR-600V: Provide 5-1/2-inch (140 mm) high aluminum and vinyl handrail system with 1-1/2-inch (38 mm) elliptical vinyl covered gripping area, 4-3/8-inches (112 mm) high vinyl covered bumper with optional contrasting vertical color accents, and 1-1/2-inch (38 mm) standoff from wall. Select vinyl handgrip and bumper color from Manufacturer's standards.
- N. BR-600C: Provide 5-1/2-inch (140 mm) high wood, aluminum and vinyl handrail system with 1-1/2-inch (38 mm) elliptical oak, maple, cherry or ash gripping area, 4-3/8-inch (112 mm) high vinyl covered

bumper, with optional contrasting vertical color accents, and 1-1/2-inch (38 mm) standoff from wall. Select handgrip wood stain and vinyl bumper color from Manufacturer's standards.

- O. BR-800: Provide 5-3/8-inch (137 mm) angled aluminum and vinyl handrail and system with 1-1/2-inch (38 mm) diameter gripping area and 3-3/4-inch projection from wall. Select vinyl handrail color from Manufacturer's standards.
- P. BR-1200: Provide 1-1/2-inch (38 mm) diameter aluminum handrail system with vinyl cover, modified polymer brackets, and 1-1/2-inch (38 mm) standoff from wall. Select vinyl handrail color from Manufacturer's standards.
- Q. BR-2400: Provide two 1-1/2-inch (38 mm) diameter BR-1200 aluminum and vinyl handrails on special brackets, with 3-inch overall projection from wall. Select vinyl handrail color from Manufacturer's standards.
- R. BR-1500: Provide 1-1/2-inch (38 mm) oak, maple, cherry or ash hardwood handrail system, and 1-1/2-inch (38 mm) standoff from wall. Select handgrip stain color from Manufacturer's standards.
- S. BR-1600: Provide 1-1/2-inch (38 mm) diameter oak, maple, cherry or ash hardwood handrail system, with satin finish stainless steel mounting brackets, wall returns and corner accessories and 1-1/2-inch (38 mm) standoff from wall. Select handgrip stain color from Manufacturer's standards.
- T. BR-5500: Provide 5-1/2-inch (138 mm) oak, maple, cherry or ash hardwood handrail system with 1-1/2-inch (38 mm) vinyl bumper insert, 1-1/2-inch (38 mm) gripping area and 1-1/2-inch (38 mm) standoff from wall. Select handgrip stain color and flexible vinyl bumper color from Manufacturer's standards.
- U. BR-3500: Provide 3-1/2-inch (89 mm) oak, maple, cherry or ash hardwood handrail system with 1-1/2-inch (38 mm) gripping area and 1-1/2-inch (38 mm) standoff from wall. Product shall be factory mitered and joined according to verified field dimensions. Select handgrip stain color from Manufacturer's standards.

## 2.4 ACCESSORIES

- A. Provide appropriate returns, corners, and mounting brackets as required to properly finish handrail system and to support it in conformance with Uniform Federal Accessibility Standards.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Verify that wall surfaces are properly prepared to receive installation of handrails. Verify that required blocking and bracing is in place for stud walls before beginning installation.

### 3.2 INSTALLATION

- A. Install handrail systems in full compliance with manufacturer's installation instructions.
- B. Mount handrails at height indicated on project drawings.
- C. Allow materials to acclimate to building temperature (65°F to 75°F) for at least 24 hours prior to installation. Do not store materials in direct sunlight, exposed to the elements, or in extreme heat.

### 3.3 PROTECTION

- A. Protect handrail material during storage and upon completion of installation from damage by other trades.

### 3.4 CLEANING

- A. Upon completion of installation, clean handrail covers and accessories in accordance with manufacturer's cleaning and maintenance instructions.
- B. Clean areas of installation and packaging debris caused by installation.

END OF SECTION