

## SECTION 10 26 00 - WALL AND DOOR PROTECTION

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. Section Includes:

1. Wall guards.
2. Corner guards.
3. Impact-resistant wall coverings.
4. Door protection systems.

- B. Related Sections:

1. Section 05 50 00 "Metal Fabrications" for [metal angle corner guards] [pipe guards] [wheel guards].
2. Section 08 71 00 "Door Hardware" for metal armor, kick, mop, and push plates.

#### 1.3 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Provide handrails capable of withstanding the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:
  1. Uniform load of 50 lbf/ft. (0.73 kN/m) applied in any direction.
  2. Concentrated load of 200 lbf (0.89 kN) applied in any direction.
  3. Uniform and concentrated loads need not be assumed to act concurrently.

#### 1.4 ACTION SUBMITTALS

- A. Product Data: Include construction details, material descriptions, impact strength[, fire-test-response characteristics], dimensions of individual components and profiles, and finishes for each impact-resistant wall protection unit.
- B. LEED Submittals (Projects authorized for LEED certification only)
  1. Certificates for [Credit MR 6] [Credit MR 7]: Chain-of-custody certificates certifying that wood rails comply with forest certification requirements. Include evidence that

- manufacturer is certified for chain of custody by an FSC-accredited certification body. Include statement indicating cost for each certified wood product.
2. Product Data for Credit IEQ 4.1: For adhesives, documentation including printed statement of VOC content.
  3. Product Data for Credit IEQ 4.4: For particleboard, documentation indicating that products contain no urea formaldehyde.
  4. Laboratory Test Reports for Credit IEQ 4: For **[adhesives] [and] [composite wood products]**, documentation indicating that products comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."
- C. Shop Drawings: For each impact-resistant wall protection unit showing locations and extent. Include sections, details, and attachments to other work.
1. For installed products indicated to comply with design loads, include structural analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
- D. Samples for Initial Selection: For each type of impact-resistant wall protection unit indicated.
1. Include similar Samples of accent strips and accessories involving color selection.
- E. Samples for Verification: For each type of exposed finish required, prepared on Samples of size indicated below. **[ Include Samples of accent strips to verify color selected.]**
1. **[Wall] [and] [Corner] Guards: 12 inches (300 mm) long.** Include examples of joinery, corners, **[end caps,] [top caps,]** and field splices.
  2. Handrails: **12 inches (300 mm) long.** Include examples of joinery, corners, and field splices.
  3. Impact-Resistant Wall Covering: **6 by 6 inches (150 by 150 mm) square.**
  4. Door-Surface Protection: **6 by 6 inches (150 by 150 mm) square.**
  5. Door**[-Edge] [and] [-Frame] Protectors: 12 inches (300 mm) long.**
  6. Door-Knob and -Lever Protectors: Full-size unit of each type.
- 1.5 INFORMATIONAL SUBMITTALS
- A. Qualification Data: For qualified **[Installer] [testing agency]**.
  - B. Material Certificates: For each impact-resistant plastic material, from manufacturer.
  - C. Material Test Reports: For each impact-resistant plastic material.
  - D. Warranty: Sample of special warranty.

## 1.6 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For each impact-resistant wall protection unit to include in maintenance manuals.
  - 1. Include recommended methods and frequency of maintenance for maintaining optimum condition of plastic covers under anticipated traffic and use conditions. Include precautions against using cleaning materials and methods that may be detrimental to plastic finishes and performance.

## 1.7 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
  - 1. **[Wall-Guard] [and] [Handrail] Covers:** Full-size plastic covers of maximum length equal to **[2] <Insert number>** percent of each type, color, and texture of units installed, but no fewer than **[two, 8-foot- (2.4-m-)] <Insert number and size>** long units.
  - 2. **Corner-Guard Covers:** Full-size plastic covers of maximum length equal to **[2] <Insert number>** percent of each type, color, and texture of units installed, but no fewer than **[two, 4-foot- (1.2-m-)] <Insert number and size>** long units.
- B. Include mounting and accessory components. Replacement materials shall be from same production run as installed units.

## 1.8 QUALITY ASSURANCE

- A. Installer Qualifications: An employer of workers trained and approved by manufacturer.
- B. Source Limitations: Obtain impact-resistant wall protection units from single source from single manufacturer.
- C. Product Options: Drawings indicate size, profiles, and dimensional requirements of impact-resistant wall protection units and are based on the specific system indicated. Refer to Section 01 40 00 "Quality Requirements."
- D. Revise subparagraph below to suit Project.
  - 1. Do not modify intended aesthetic effects, as judged solely by Architect, except with Architect's approval. If modifications are proposed, submit comprehensive explanatory data to Architect for review.
- E. Surface-Burning Characteristics: Provide impact-resistant, plastic wall protection units with surface-burning characteristics as determined by testing identical products per ASTM E 84, NFPA 255, or UL 723 by UL or another qualified testing agency.

- F. Regulatory Requirements: Comply with applicable provisions in [the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines] [and] [ICC/ANSI A117.1].
- G. Preinstallation Conference: Conduct conference at [Project site] <Insert location>.

#### 1.9 DELIVERY, STORAGE, AND HANDLING

- A. Store impact-resistant wall protection units in original undamaged packages and containers inside well-ventilated area protected from weather, moisture, soiling, extreme temperatures, and humidity.
  - 1. Maintain room temperature within storage area at not less than 70 deg F (21 deg C) during the period plastic materials are stored.
  - 2. Keep plastic sheet material out of direct sunlight.
  - 3. Store plastic wall protection components for a minimum of 72 hours, or until plastic material attains a minimum room temperature of 70 deg F (21 deg C).
    - a. Store corner-guard covers in a vertical position.
    - b. Store [wall-guard] [bed-locator] [and] [handrail] covers in a horizontal position.

#### 1.10 PROJECT CONDITIONS

- A. Environmental Limitations: Do not deliver or install impact-resistant wall protection units until building is enclosed and weatherproof, wet work is complete and dry, and HVAC system is operating and maintaining temperature at 70 deg F (21 deg C) for not less than 72 hours before beginning installation and for the remainder of the construction period.

#### 1.11 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of impact-resistant wall protection units that fail in materials or workmanship within specified warranty period.
  - 1. Failures include, but are not limited to, the following:
    - a. Structural failures.
    - b. Deterioration of plastic and other materials beyond normal use.
  - 2. Warranty Period: [Five] <Insert number> years from date of Substantial Completion.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. PVC Plastic: ASTM D 1784, Class 1, textured, chemical- and stain-resistant, high-impact-resistant PVC or acrylic-modified vinyl plastic with integral color throughout; extruded and sheet material, thickness as indicated.
  - 1. Impact Resistance: Minimum **25.4 ft-lbf/in. (1356 J/m)** of notch when tested according to ASTM D 256, Test Method A.
  - 2. Self-extinguishing when tested according to ASTM D 635.
  - 3. Flame-Spread Index: 25 or less.
  - 4. Smoke-Developed Index: 450 or less.
- B. Polycarbonate Plastic Sheet: ASTM D 6098, S-PC01, Class 1 or 2, abrasion resistant; with a minimum impact-resistance rating of **15 ft-lbf/in. (800 J/m)** of notch when tested according to ASTM D 256, Test Method A.
- C. Aluminum Extrusions: Alloy and temper recommended by manufacturer for type of use and finish indicated, but with not less than strength and durability properties specified in **ASTM B 221 (ASTM B 221M)** for Alloy 6063-T5.
- D. Stainless-Steel Sheet: ASTM A 240/A 240M.
- E. Brass: ASTM B 249/B 249M for extruded shapes and ASTM B 36/B 36 M for sheet.
- F. Solid Wood: Clear hardwood lumber of species indicated, free of appearance defects, and selected for compatible grain and color.
- G. Particleboard: Not allowed.
- H. Adhesive: As recommended by impact-resistant plastic wall protection manufacturer.

### 2.2 WALL GUARDS

- A. Crash Rail : Heavy-duty assembly consisting of continuous snap-on plastic cover installed over concealed retainer system; designed to withstand impacts.
  - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following :
  - 2. Basis-of-Design Product: Subject to compliance with requirements, provide comparable product by one of the following:
    - a. IPC Door and Wall Protection Systems; Division of InPro Corporation.
    - b. Korogard Wall Protection Systems; a division of RJF International Corporation.
    - c. Substitutions: See Section 01 25 00 – Substitution Procedures.
  - 3. Cover: Extruded rigid plastic, minimum **0.100-inch (2.5-mm)** wall thickness; as follows:

- a. Profile: Flat .
    - 1) Dimensions: Nominal 6 inches high by 1 inch deep (150 mm high by 25 mm deep) .
    - 2) Surface: Uniform .
  - b. Color and Texture: As selected by Architect from manufacturer's full range .
4. Continuous Retainer: Minimum 0.080-inch- (2.0-mm-) thick, one-piece, extruded aluminum.
  5. Retainer Clips: Manufacturer's standard impact-absorbing clips designed for heavy-duty performance.
  6. Bumper: Continuous rubber or vinyl bumper cushion(s).
  7. End Caps and Corners: Prefabricated, injection-molded plastic; matching color cover; field adjustable for close alignment with snap-on cover.
  8. Accessories: Concealed splices and mounting hardware.
  9. Mounting: Surface mounted directly to wall .

## 2.3 CORNER GUARDS

- A. Flush-Mounted, Resilient, Plastic Corner Guards : Assembly consisting of snap-on plastic cover that is flush with adjacent wall surface, installed over continuous retainer; including mounting hardware; fabricated with 90- or 135-degree turn to match wall condition; full wall height.
  1. Manufacturers: Subject to compliance with requirements, provide products by one of the following :
  2. Basis-of-Design Product: Subject to compliance with requirements, or comparable product by one of the following:
    - a. IPC Door and Wall Protection Systems; Division of InPro Corporation.
    - b. Korogard Wall Protection Systems; a division of RJF International Corporation.
    - c. Substitutions: See Section 01 25 00 – Substitution Procedures.
  3. Cover: Extruded rigid plastic, minimum 0.078-inch (2.0-mm) wall thickness; as follows:
    - a. Profile: Nominal 3-inch- (75-mm-) long leg and 1/4-inch (6-mm) corner radius .
    - b. Height: 8 feet (2.4 m) .
    - c. Color and Texture: As selected by Architect from manufacturer's full range .
  4. Retainer: Minimum 0.060-inch- (1.5-mm-) thick, one-piece, extruded aluminum.
  5. Retainer Clips: Manufacturer's standard impact-absorbing clips.

## 2.4 DOOR PROTECTION SYSTEMS

- A. General: Comply with BHMA A156.6.
  1. For fire-rated doors, provide door protection systems that are UL listed and labeled.

- B. Protection Plates: Fabricated from extruded rigid plastic, of thickness indicated.
  - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following :
  - 2. Basis-of-Design Product: Subject to compliance with requirements, or comparable product by one of the following:
    - a. IPC Door and Wall Protection Systems; Division of InPro Corporation.
    - b. Korogard Wall Protection Systems; a division of RJF International Corporation.
    - c. Substitutions: See Section 01 25 00 – Substitution Procedures.
  
- C. Door-Edge Protection : Fabricated from extruded rigid plastic, minimum **0.040-inch (1.0-mm)** wall thickness; formed to fit over door edge without mortising.
  - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following :
  - 2. Basis-of-Design Product: Subject to compliance with requirements, or comparable product by one of the following:
    - a. IPC Door and Wall Protection Systems; Division of InPro Corporation.
    - b. Korogard Wall Protection Systems; a division of RJF International Corporation.
    - c. Substitutions: See Section 01 25 00 – Substitution Procedures.
  - 3. Shape: L .
  - 4. Color and Texture: As selected by Architect from manufacturer's full range .
  - 5. Mounting: Countersunk screws through factory-drilled mounting holes .

## 2.5 FABRICATION

- A. Fabricate impact-resistant wall protection units to comply with requirements indicated for design, dimensions, and member sizes, including thicknesses of components.
- B. Preform curved semirigid, impact-resistant sheet wall covering in factory for radius and sheet thickness as follows:
  - 1. Sheet Thickness of **0.040 Inch (1.0 mm)**: **24-inch (610-mm)** radius.
- C. Assemble components in factory to greatest extent possible to minimize field assembly. Disassemble only as necessary for shipping and handling.
- D. Fabricate components with tight seams and joints with exposed edges rolled. Provide surfaces free of wrinkles, chips, dents, uneven coloration, and other imperfections. Fabricate members and fittings to produce flush, smooth, and rigid hairline joints.
- E. Miter corners and ends of wood handrails for returns.

## 2.6 METAL FINISHES

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
  - 1. Remove tool and die marks and stretch lines, or blend into finish.
  - 2. Grind and polish surfaces to produce uniform finish, free of cross scratches.
  - 3. Run grain of directional finishes with long dimension of each piece.
  - 4. When polishing is completed, passivate and rinse surfaces. Remove embedded foreign matter and leave surfaces chemically clean.
- B. Protect finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates and wall areas, with Installer present, for compliance with requirements for installation tolerances[, **fire rating**,] and other conditions affecting performance of work.
- B. Examine walls to which impact-resistant wall protection will be attached for blocking, grounds, and other solid backing that have been installed in the locations required for secure attachment of support fasteners.
  - 1. For impact-resistant wall protection units attached with adhesive or foam tape, verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Complete finishing operations, including painting, before installing impact-resistant wall protection system components.
- B. Before installation, clean substrate to remove dust, debris, and loose particles.

### 3.3 INSTALLATION

- A. General: Install impact-resistant wall protection units level, plumb, and true to line without distortions. Do not use materials with chips, cracks, voids, stains, or other defects that might be visible in the finished Work.
  - 1. Install impact-resistant wall protection units in locations and at mounting heights indicated on Drawings or, if not indicated, at heights indicated below:

- a. Crash Rails: <Insert dimension> above finished floor.
  - b. Bumper Rails: <Insert dimension> above finished floor.
  - c. Rub Rails: <Insert dimension> above finished floor.
  - d. Chair Rails: <Insert dimension> above finished floor.
  - e. Handrails: <Insert dimension> above finished floor.
  - f. Bed Locators: <Insert dimension> above finished floor.
  - g. <Insert product and location>.
2. Provide splices, mounting hardware, anchors, and other accessories required for a complete installation.
    - a. Provide anchoring devices to withstand imposed loads.
    - b. Where splices occur in horizontal runs of more than **20 feet (6.1 m)**, splice aluminum retainers and plastic covers at different locations along the run, but no closer than **12 inches (305 mm)**.
    - c. Adjust **[end] [and] [top]** caps as required to ensure tight seams.
  - B. Impact-Resistant Wall Covering: Install top and edge moldings, corners, and divider bars as required for a complete installation.

### 3.4 CLEANING

- A. Immediately after completion of installation, clean plastic covers and accessories using a standard, ammonia-based, household cleaning agent.
- B. Remove excess adhesive using methods and materials recommended in writing by manufacturer.

END OF SECTION 10 26 00