

SECTION 10 26 00
WALL AND DOOR PROTECTION

PART 1 - GENERAL

1.1 DESCRIPTION:

- A. This section specifies wall guards, handrail/wall guard combinations, corner guards, high impact wall covering, door frame protectors and wall panels.

1.2 RELATED WORK:

- A. Armor plates and kick plates not specified in this section: Section 08 71 00, DOOR HARDWARE.
- B. Color and texture of aluminum and resilient material: Section 09 06 00, SCHEDULE FOR FINISHES.

1.3 QUALITY ASSURANCE:

- A. Manufacturer's Qualifications: Manufacturer with a minimum of three (3) years' experience in providing items of type specified.
 - 1. Obtain wall and door protection from single manufacturer.
- B. Installer's Qualifications: Installers are to have a minimum of three (3) years' experience in the installation of units required for this project.

1.4 SUBMITTALS:

- A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Shop Drawings: Show design and installation details.
- C. Manufacturer's Literature and Data:
 - 1. Handrail/Wall Guard Combinations.
 - 2. Crash Rail.
 - 3. Corner Guards.
 - 4. High Impact Wall covering.
- D. Test Report: Showing that resilient material complies with specified fire and safety code requirements.
- E. Manufacturer's qualifications.
- F. Installer's qualifications.
- G. Manufacturer's warranty.

1.5 DELIVERY AND STORAGE:

- A. Deliver materials to the site in original sealed packages or containers marked with the name and brand, or trademark of the manufacturer.

- B. Protect from damage from handling and construction operations before, during and after installation.
- C. Store in a dry environment of approximately 21 degrees C (70 degrees F) for at least 48 hours prior to installation.

1.6 WARRANTY:

- A. Construction Warranty: Comply with FAR clause 52.246-21 "Warranty of Construction".
- B. Manufacturer Warranty: Manufacturer shall warranty their wall and door protection for a minimum of five (5) years from date of installation and final acceptance by the Government. Submit manufacturer warranty.

1.7 APPLICABLE PUBLICATIONS:

- A. Publications listed below form a part of this specification to extent referenced. Publications are referenced in text by basic designation only.
- B. ASTM International (ASTM):
 - A240/A240M-14Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and For General Applications
 - B221-14Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Shapes, and Tubes
 - B221M-13Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Shapes, and Tubes (Metric)
 - D256-10Impact Resistance of Plastics
 - D635-10Rate of Burning and/or Extent and Time of Burning of Self-Supporting Plastics in a Horizontal Position
 - E84-14Surface Burning Characteristics of Building Materials
- C. Aluminum Association (AA):
 - DAF 45-09Designation System for Aluminum Finishes
- D. American Architectural Manufacturers Association (AAMA):
 - 611-14Anodized Architectural Aluminum
- E. Code of Federal Regulation (CFR):
 - 40 CFR 59Determination of Volatile Matter Content, Water Content, Density Volume Solids, and Weight Solids of Surface Coating
- F. The National Association of Architectural Metal Manufacturers (NAAMM):

AMP 500-06Metal Finishes Manual

G. National Fire Protection Association (NFPA):

80-13Standard for Fire Doors and Windows

H. SAE International (SAE):

J 1545-05(R2014)Instrumental Color Difference Measurement for
Exterior Finishes.

I. Underwriters Laboratories Inc. (UL):

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PART 2 - PRODUCTS

2.1 MATERIALS:

A. Stainless Steel: A240/A240M, Type 304.

B. Aluminum Extruded: ASTM B221M (B221), Alloy 6063, Temper T5 or T6.

Provide aluminum alloy used for colored anodizing coating as required
to produce specified color.

C. Resilient Material:

1. Provide resilient material consisting of high impact resistant rigid
engineered PETG, non-polyvinyl chloride based resilient material, or
injection molded thermal plastic conforming to the following:

a. Minimum impact resistance of 960.8 N-m/m (18 ft.-lbs./sq. inch)
when tested in accordance with ASTM D256 (Izod impact, ft.-lbs.
per inch notched).

b. Class 1 fire rating when tested in accordance with ASTM E84,
having a maximum flame spread of 25 and a smoke developed rating
of 450 or less.

c. Rated self-extinguishing when tested in accordance with
ASTM D635.

d. Provide material labeled and tested by Underwriters Laboratories
or other approved independent testing laboratory.

e. Provide resilient material for protection on fire rated doors and
frames assemblies that is listed by the testing laboratory
performing the tests.

f. Provide resilient material installed on fire rated wood/steel
door and frame assemblies that have been tested on similar type
assemblies. Test results of material tested on any other
combination of door and frame assembly are not acceptable.

- g. Provide integral color with colored components matched in accordance with SAE J 1545 to within plus or minus 1.0 on the CIE-LCH scales.

2.2 CORNER GUARDS: (CG)

- A. Resilient **PVC-FREE**, Shock-Absorbing Corner Guards: Surface mounted type.
 - 1. Snap-on corner guard formed from resilient material, minimum 1.98 mm (0.078-inch) thick, free floating on a continuous 1.52 mm (0.060-inch) thick extruded aluminum retainer. Provide appropriate mounting hardware, cushions and base plates as required.
 - 2. Profile: Minimum 76 mm (3 inch) long leg and 6 mm (1/4 inch) corner radius.
 - 3. Height: 2.43 m (8 feet).
 - 4. Retainer Clips: Provide manufacturer's standard impact-absorbing clips.
 - 5. Provide factory fabricated end closure caps at top and bottom of surface mounted corner guards.
 - 6. Flush mounted corner guards installed on any fire rated wall to be installed in a manner that maintains the fire rating of the wall. Provide fire test of proposed corner guard system to verify compliance.
 - a. Where insulating materials are an integral part of the corner guard system, provide insulating materials furnished by the manufacturer of the corner guard system.

A. Resilient **PVC-FREE** Handrail/Crash Rail and Wall Guard:

1. Handrail/Crash Rail Combination:

- a. Snap-on covers of resilient material, minimum 2 mm (0.078-inch) thick.
- b. Free-floating on a continuous, extruded aluminum retainer, minimum 1.82 mm (0.072-inch) thick.
- c. Anchor to wall at maximum 762 mm (30 inches) on center.
- d. Solid Wood Components: Shall be manufactured from plain sawn, FAS grade hardwood, kiln dried to a moisture content of 6% to 10%. All wood components shall be factory finished. Wood components to be final coated with catalyzed, high solids, clear conversion varnish using a two coat process. Finish shall be in accordance with specified AWI finish system. Coverage shall be a minimum of

3-5 mils. Gloss shall be measured on 60° gloss meter as per ASTM D523.

e. Engineered PETG: Extruded material should be high-impact Acrovyn 4000 with Shadowgrain texture, nominal .078" (1.98mm) thickness. Chemical and stain resistance should be per ASTM D543 standards as established by the manufacturer. Colors to be indicated in the finish schedule from one of manufacturer's available colors and patterns.

f. Aluminum: Extruded aluminum should be 6063-T6 alloy. Crash rail retainer to be nominal .08" (1.98mm) thickness. Minimum strength and durability properties as specified in ASTM B221.

g. Stainless Steel: Cast brackets to be type 304 alloy with #4 satin finish.

2. Bumper Rail:

a. Snap-on covers of resilient material, minimum 2.54 mm (0.100-inch) thick free-floated over a continuous extruded aluminum retainer, minimum 2.03 mm (0.080-inch) thick anchored to wall at maximum 610 mm (24 inches) on center.

3. Provide handrails, bumper rails and crash rails with prefabricated end closure caps, inside and outside corners, concealed splices, cushions, mounting hardware and other accessories as required. End caps and corners to be field adjustable to assure close alignment with handrails and wall guards. Screw or bolt closure caps to aluminum retainer in a concealed manner.

2.4 HIGH IMPACT PVC-FREE WALL COVERING AND WALL PANELS: (WPG)

A. Provide wall covering/panels consisting of high impact rigid engineered PETG non-polyvinyl chloride resilient material that are PVC-FREE.

B. Panel sizes: Refer to drawings.

C. Submit fire rating and extinguishing test results for resilient material.

D. Submit statements attesting that the items comply with specified fire and safety code requirements.

E. Rigid PVC-FREE Vinyl Acrylic Wall Covering: Wall covering thickness to be 1.02 mm (0.040 inch).

F. Provide adhesive as recommended by the wall covering manufacturer.

Provide adhesive with VOC content of 250 g/L or less when calculated according to 40 CFR 59, (EPA Method 24).

H. Provide metal trim at the top of wall high impact wallcovering that is not behind a handrail. Provide matching trim pieces for all inside and outside corners of high impact wallcovering.

I. High Impact Wall PVC-FREE Panels: Wall panel face and edge thickness to be 1.02 mm (0.040 inch). Panel face to be factory banded to a fiberboard core for a demountable depth of 19 mm (.75 inches). The backside of the panel is to be laminated with a moisture resistant vapor barrier.

K. Rub Strip:

1. Thickness to be 1.52 mm (0.060 inch).

2.5 DOOR FRAME PROTECTION (DFP-1):

- A. Provide PVC-FREE resilient material consisting of high impact resistant rigid engineered PETG, non-polyvinyl chloride based resilient material, or injection molded thermal plastic conforming to the following:
- Impact resistance: Tested in accordance with ASTM F476.
 - Thickness: 1.02 mm (.040 inches)
 - Height: 1.1 m (48 inches)
 - Class 1 fire rating when tested in accordance with ASTM E84, having a maximum flame spread of 25 and a smoke developed rating of 450 or less.
 - Provide material labeled and tested by Underwriters Laboratories or other approved independent testing laboratory.
 - Provide resilient material for protection on fire rated frame assemblies that is listed by the testing laboratory performing the tests.

2.6 FASTENERS AND ANCHORS:

- A. Provide fasteners and anchors as required for each specific type of installation.
- B. Where type, size, spacing or method of fastening is not shown or specified in construction documents, submit shop drawings showing proposed installation details.

2.7 FINISH:

- A. Aluminum: In accordance with AA DAF-45.
- Exposed aluminum: AAMA 611 AA-M12C22A31 chemically etched medium matte, with clear anodic coating, Class II Architectural, .01 mm (0.4 mil) thick.
 - Concealed aluminum: Mill finish as fabricated, uniform in color and free from surface blemishes.

- B. Stainless Steel: In accordance with NAAMM AMP 500 finish Number 4.
- C. Resilient Material: Embossed textures and color in accordance with SAE J1545.

PART 3 - INSTALLATION

3.1 RESILIENT CORNER GUARDS:

- A. Install corner guards on walls in accordance with manufacturer's instructions.

3.2 STAINLESS STEEL CORNER GUARDS:

- A. Mount guards on external corners of interior walls, partitions and columns as shown on construction documents.
- B. Where corner guards are installed on walls, partitions or columns finished with plaster or ceramic tile, provide continuous 16 gauge perforated, galvanized Z-shape steel anchors welded to back edges of corner guards and wired to metal studs or expansion bolt to concrete or masonry with four 9.52 mm (3/8-inch) diameter bolts, spaced 406 mm (16 inches) on centers. Coat back surfaces of corner guards, where shown on construction documents, with a non-flammable, sound deadening material. Corner guards to overlap finish plaster surfaces.
- C. Where corner guards are installed on gypsum board, clean surface and anchor guards with a neoprene solvent-type contact adhesive specifically manufactured for use on gypsum board construction. Remove excess adhesive from around edge of guard and allow curing undisturbed for 24 hours.

3.3 RESILIENT WALL GUARDS BUMPER RAILS, HANDRAILS, WALL GUARD HANDRAIL COMBINATION AND CRASH RAILS

- A. Secure guards to walls with mounting cushions and/or brackets and fasteners in accordance with manufacturer's details and instructions.

3.4 HIGH IMPACT WALL COVERING

- A. Surfaces to receive protection to be clean, smooth and free of obstructions.
- B. Apply with adhesive in controlled environment according to manufacturer's recommendations.

3.5 WALL PANELS

- A. Provide demountable wall panel system with snap system for mounting wall panels.

3.6 DOOR FRAME PROTECTION:

- A. Surfaces to receive protection to be clean, smooth and free of obstructions.
- B. Apply with adhesive in controlled environment according to manufacturer's recommendations.
- C. Clean immediately upon completion of installation in accordance with manufacture's written instructions and recommended cleaning method.
- D. Protect installed materials to prevent damage by other trades. Use materials that are easily removed without leaving residue or permanent stains.

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