

## Perma-Cap & Perma-Plank

### SECTION 12610 VINYL BLEACHER COVERS WITH STEEL CORE

#### PART 1 GENERAL

##### 1.1 SECTION INCLUDES

- A. Extruded vinyl bleacher covering system with galvanized steel plank core.

##### 1.2 RELATED SECTIONS

- A. Section 06100 - Rough Carpentry.
- B. Section 13125 - Grandstands and Bleachers.

##### 1.3 REFERENCES

- A. ASTM International (ASTM):
  1. ASTM D 256 – Standard Test Method for Determining the Izod Pendulum Impact Resistance of Plastics.
  2. ASTM D 638 – Standard Test Method for Tensile Properties of Plastics.
  3. ASTM D 648 – Standard Test Method for Deflection Temperature of Plastics Under Flexural Load in the Edgewise Position.
  4. ASTM A 653 - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
  5. ASTM D 785 – Standard Test Method for Rockwell Hardness of Plastics and Electrical Insulating Materials
  6. ASTM D 790 – Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials
  7. ASTM D 792 – Standard Test Methods for Density and Specific Gravity (Relative Density) of Plastics by Displacement
  8. ASTM D 2240 – Standard Test Method for Rubber Property – Durometer Hardness
  9. ASTM D 4216 - Standard Specification for Rigid Poly(Vinyl Chloride) (PVC) and Related PVC and Chlorinated Poly(Vinyl Chloride) (CPVC) Building Products Compounds.

##### 1.4 MANUFACTURER'S SYSTEM ENGINEERING DESCRIPTION

- A. Manufacturer's System Design Criteria:
  1. Perma Cap Exterior Bleacher Cover Material (Flammability) shall satisfy applicable test, codes, standards, or requirements as follows:
    - a. Shall achieve a burn rating of HB per ASTM D 635-10.
    - b. Shall be tested for both Flash Ignition Temperature as well as Spontaneous Ignition Temperature per ASTM D 1929-11.
    - c. Shall be tested for Maximum Smoke Density as well as Smoke Density Rating per ASTM D 2843-1.

## 1.5 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
  - 1. Preparation instructions and recommendations.
  - 2. Storage and handling requirements and recommendations.
  - 3. Installation methods.
  - 4. Maintenance manuals.
- C. Shop drawings will indicate bleacher system layout. Show seat height, aisle widths and locations, material types and dimensions and method of anchorage to supporting structure.
- D. Selection Samples: For each finish product specified, one complete set of color chips representing manufacturer's full range of available colors and patterns.
- E. Verification Samples: For each finish product specified, one sample representing actual product, color, and patterns.

## 1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Regularly engaged in manufacturing extruded vinyl bleacher covering system, and capable of providing field service representation during construction, approving acceptable installer and approving application method.
- B. Installer Qualifications: Installer must be approved by the manufacturer.
- C. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
  - 1. Finish areas designated by Architect.
  - 2. Do not proceed with remaining work until workmanship, color, and sheen are approved by Architect.
  - 3. Refinish mock-up area as required to produce acceptable work.
  - 4. Approved mock-up may be incorporated into finished work.

## 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened labeled packaging, within absolute limits recommended by manufacturer for environmental conditions, until ready for installation.

## 1.8 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

## 1.9 WARRANTY

- A. Warranty: Provide manufacturer's standard 5 year limited warranty for defects in material.

## **PART 2 PRODUCTS**

### 2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Perma-Cap; 38 Dyer Street Ext, North Berwick, ME 03906. Toll Free Tel: (800) 726-7328 Email: [info@perma-cap.com](mailto:info@perma-cap.com). Web: [www.perma-cap.com](http://www.perma-cap.com).

- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01600.

## 2.2 EXTRUDED VINYL BLEACHER COVERING SYSTEM

- A. Outdoor Bleacher Covering System: As manufactured by Perma-Cap.
  - 1. System Description: Support planks (core) and vinyl seat tops with acrylic capcoat, designed and intended for use together to create final bench system; for exterior use, with galvanized steel core, end caps and joint covers.
- B. Galvanized Steel Brackets and Core:
  - 1. Brackets: 2 inches x 2 inches x 3/16 inch (51 mm x 51 mm x 4.7 mm) welded steel support brackets, in sizes, configurations and quantities shown on drawings. Brackets are galvanized after fabrication (for outdoor use), or finished in powder coat (for indoor use).
  - 2. Core: Sized to match vinyl cover, ASTM A 653 Grade 40, G90 galvanized, minimum spangle finish, 0.052 inch (1.3 mm) wall thickness (with coating).
  - 3. Expansion Anchors: 3/8 inch (9.5 mm) diameter steel concrete expansion anchors in length appropriate for thickness and strength of concrete, equal to Red Head Trubolt wedge anchor, or 3/8 inch (9.5 mm) diameter steel studs, installed in holes drilled in concrete with epoxy or acrylic adhesive equal to Red Head A7 acrylic adhesive, per manufacturer's instructions. Finish of anchors to be appropriate for application.
  - 4. Attachments: 5/16 inch (8 mm) - 18 machine bolts, nuts and washers used to attach galvanized steel core to support brackets. Tec screws or other self-threading screws which leave exposed sharp points accessible by occupants not permitted.
- C. Seat Covering: Extruded vinyl shape with UV stabilizers for outdoor use.
  - 1. Thickness: 0.110 inch (2.8 mm).
  - 2. Surface Profile: Fluted for slip resistance.
  - 3. Material: Manufactured from principally rigid PVC, ASTM D-4216.
    - a. Weathering Properties, Performance: Meets ASTM D-4216, section 11.
    - b. Acrylic Co-Ex Surface: Manufacturer standard.
- D. Substrate Compliance:
  - 1. ASTM D 256: IZOD impact, notched, 16 ft-lbs/inch
  - 2. ASTM D 638: Tensile strength, 6,000 psi
  - 3. ASTM D 638: Tensile modulus, 350,000 psi
  - 4. ASTM D 648: DTUL at 264 psi, unannealed, 70 C
  - 5. ASTM D 648: DTUL at 264 psi, annealed, 77 C
  - 6. ASTM D 790: Flexural strength, 12,000 psi
  - 7. ASTM D 790: Flexural modulus, 444,000 psi
  - 8. ASTM D 792: Specific gravity, 1.42
  - 9. ASTM D 2240: Hardness (Durometer D/10 +/- 2), 82
- E. Acrylic Compliance:
  - 1. ASTM D 638: Tensile Strength at maximum, 3,400 psi

2. ASTM D 638: Tensile Elongation at break, 90%
  3. ASTM D 638: Tensile Modulus, 180,000 psi
  4. ASTM D 790: Flexural Strength, maximum (yield), 4,800 psi
  5. ASTM D 790: Flexural Modulus, 170,000 psi
  6. ASTM D 256: Izod Impact, Notched, 73\_\_ F, 1.4 ft-lbs/inch notch
  7. ASTM D 785: Rockwell Hardness, 70 R,
- E. Factory Applied Finishes:
1. Steel Core: Galvanized.
  2. Seat Caps: Exterior acrylic finish from manufacturer's standard colors, as selected by Architect.
  3. Seat Caps: Exterior acrylic finish from manufacturer's custom color options, as selected by Architect.
  4. Seat Caps: As indicated on Drawings.
  5. Steel Support Brackets: Galvanized
  6. Steel Support Brackets: Powder coated in standard color as selected by Architect.
  7. Steel Support Brackets: Powder coated in custom color as selected by Architect.
  8. Steel Support Brackets: Powder coat color as indicated on the Drawings.

### **PART 3 EXECUTION**

#### **3.1 EXAMINATION**

- A. Installer shall verify that area to receive bleacher covering system is free of impediments or dimensional irregularities which might interfere with proper installation.
- B. Do not begin installation until substrates have been properly prepared. Prior to installation, verify substrate is prepared in accordance with manufacturer's recommendations.
- C. If substrate preparation is the responsibility of another installer, do not proceed with installation. Notify Architect of unsatisfactory preparation immediately.
- D. Beginning of installation constitutes acceptance of substrate conditions.

#### **3.2 PREPARATION**

- A. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

#### **3.3 CLEANING AND PROTECTION**

- A. During and after installation make sure understructure and seat caps are properly sized and aligned to provide neat joints and uniform appearance.
- B. Clean bleacher covering after installation.
- C. Protect installed system until completion of project.
- D. Touch-up, repair or replace damaged components before Substantial Completion.

**END OF SECTION**