

# PG-1000 SERIES CERAMICSTEEL INTERIOR WALL PANEL SYSTEM

## SECTION 05 75 00

### **PART 1 – GENERAL**

#### **1.01 SECTION INCLUDES:**

- A. Pre-engineered PG-1000 Series Wall System including all Wall Panels, mounting extrusions, reveals and trims.
  - 1. Wall System shall be provided “ready to install” with fasteners, adhesives, and other materials required for a complete assembly and installation.
  - 2. Fasteners shall be concealed type.
- B. PG 1000 CeramicSteel Interior Wall Panel System
  - 1. Stainless Steel corner guards
  - 2. Stainless Steel end guards
  - 3. Stainless Steel base

#### **1.02 RELATED DOCUMENTS/SECTIONS:**

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions.
- B. Division 1 Specification sections apply to work of this Section.
- C. Finish Schedule or Finish Legend apply to work of this Section.

#### **1.03 REFERENCES:**

- A. GENERAL
  - 1. Comply with applicable requirements of the following, except where more stringent requirements are indicated by building codes.
- B. ASTM (American Society for Testing and Materials)
  - 1. ASTM A424 Standard Specification for Steel, Sheet, for Porcelain Enameling
  - 2. ASTM B491 Standard Specification for Aluminum and Aluminum-Alloy for General-Purpose Applications
  - 3. ASTM C481 Standard Test Method for Laboratory Aging of Sandwich Constructions
  - 4. ASTM C538 Standard Test Method for Color of Red, Yellow and Orange Porcelain Enamels
  - 5. ASTM D2244 Standard Practice for Calculation of Color Tolerances and Color Differences from Instrumentally Measured Color Coordinates
  - 6. ASTM E84 Surface Burning Characteristics of Building Materials
  - 7. ASTM D3363 Standard Test Method for Film Hardness by Pencil Test
  - 8. ASTM C501 Standard Test Method for Relative Resistance to Wear by the Taber Abrader

- C. ISO (International Organization for Standardization)
  - 1. ISO 4532 Vitreous and porcelain enamels — Determination of the resistance of enameled articles to impact — Pistol test
  - 2. ISO 15695 Vitreous and porcelain enamels — Determination of scratch resistance of enamel finishes
  - 3. ISO 28722 Vitreous and porcelain enamels — Characteristics of enamel coatings applied to steel panels intended for architecture – Graffiti Resistance
  - 4. ISO 28706-1 Vitreous and porcelain enamels — Part 1: Determination of resistance to chemical corrosion by acids at room temperature
  - 5. ISO 28706-2 Vitreous and porcelain enamels — Part 2: Determination of resistance to chemical corrosion by boiling acids, boiling neutral liquids, alkaline liquids and/or their vapors
- D. PEI (Porcelain Enamel Institute)
  - 1. PEI-1001 Specifications for Architectural Porcelain Enamel
- E. ANSI/BIFMA (American National Standards Institute/Business and Institutional Furniture Manufacturers Association)
  - 1. Indoor Advantage™ Gold

**1.04 DESIGN/PERFORMANCE REQUIREMENTS:**

- A. All components of the PG 1000 CeramicSteel Interior Wall Panel System shall be provided by one (1) Manufacturer to ensure single source responsibility and quality control.
- B. Coordinate all blocking, bracing and support requirements for all mounting requirements.

**1.05 SUBMITTALS:**

- A. Refer to Section 013000 Administrative Requirements Submittal Procedures
- B. Product Data: Submit Manufacturer's:
  - 1. Product Specifications
  - 2. Catalogues
  - 3. Technical Product Data
  - 4. Certifications
  - 5. Standard Details
  - 6. Installation Recommendations
- C. Shop Drawings: Submit Shop Drawings for fabrication and installation of PG 1000 CeramicSteel Interior Wall Panel System including the following:
  - 1. Elevations and Column Cover layouts
  - 2. Detail sections of typical joint conditions in the system and adjoining conditions
  - 3. Anchorages and reinforcements
  - 4. Expansion provisions
  - 5. Installation details
- D. Samples:
  - 1. Submit pairs of 4-1/2" X 7-1/2" samples of each type a3™ CeramicSteel Panel along with a3™ CeramicSteel color chips.
  - 2. Submit 6" lengths of all standard system extrusions and required trim accessories.
- E. LEED Requirements as indicated (LEED is a registered trademark of USGBC)
  - 1. Materials and Resources

- a. MR Credit 4 – Recycled Content
  - b. MR Credit 5 – Regional Materials
- 2. Indoor Environmental Quality
  - a. IEQ Credit 4.2 – Low Emitting Materials, Finishes
- F. Closeout Submittals
  - 1. Provide Manufacturer’s Cleaning and Maintenance Instructions
  - 2. Warranty Documents

**1.06 QUALITY ASSURANCE:**

- A. Manufacturers’ Qualifications: Provide PG 1000 CeramicSteel Interior Wall Panel System produced by Manufacturer with not less than ten (10) years successful experience in the lamination of CeramicSteel Interior Panels and not less than ten (10) years successful experience in the fabrication of Interior Wall Panel Systems.
- B. Installer’s Qualifications: For installation of PG 1000 CeramicSteel Interior Wall Panel System, use only personnel who are thoroughly trained and experienced in skills required and who are completely familiar with the Manufacturer’s current methods of installation, as well as requirements of this work. Installing Contractor shall be selected and approved in writing for such installation by the system Manufacturer.

**1.07 PRODUCT DELIVERY, STORAGE AND HANDLING:**

- A. Deliver Panels and all system hardware to the job site in Manufacturer’s original packaging, unopened and undamaged, just prior to installation.
- B. Avoid warpage and damage by storing Panels and all system hardware above floor, flat and in a dry, humidity and temperature controlled interior location.
- C. Follow Manufacturer’s instructions and exercise care during off loading, handling and installation to avoid damage and marring of finishes.

**1.08 PROJECT CONDITIONS:**

- A. Field Measurements: System Panels cannot be field trimmed to size; check actual conditions by field measurement before fabrication to ensure proper fitting of work. Coordinate fabrication schedule with construction progress to avoid delay in the work.
- B. Environmental Conditions: Temperature within the space shall be above a constant minimum of 65 degrees F. with relative humidity not over 70%. During erection of PG 1000 CeramicSteel Interior Wall System when required, the General Contractor shall furnish heat. Erection of the Panel System shall not begin until the building exterior provides complete protection from the outside weather. Panels shall not be stored where they are subjected to temperature, moisture or humidity extremes.

**1.09 SEQUENCING:**

- A. Ensure that locating templates and other information required for installation of products of this Section are furnished to affected trades in time to prevent interruption of construction progress.
- B. Ensure that products of this Section are supplied to affected trades in time to prevent interruption of construction process.

## **1.10 WARRANTY:**

- A. Furnish Manufacturer's:
  - 1. Standard 20-year surface warranty
  - 2. 10-year panel workmanship warranty for CeramicSteel Panels.

## **PART 2 - PRODUCTS**

### **2.01 MANUFACTURERS:**

- A. Acceptable System: Subject to compliance with requirements, furnish and install PG 1000 CeramicSteel Interior Wall Panel System with nominal 13 mm thick CeramicSteel Interior Panels as manufactured by PolyVision Corporation. Panels and all system hardware to be supplied as a single source by Gordon, Inc. For all inquiries contact, Gordon, Inc., 5023 Hazel Jones Road, Bossier City, LA 71111, (800) 747-8954, polyvision@gordon-inc.com.
- B. Furnish factory finished panel construction consisting of 28 Gauge a3™ CeramicSteel Face, and 12 mm Water-Resistant Medium Density Fiberboard, 0.015" Mill Finished Aluminum; and possessing the following minimum Surface Burning Characteristics per ASTM E-84-16 in order to achieve a Class A as indicated by National Fire Protection Association NFPA 101 Life Safety Code, which also corresponds to Class I for other codes.
- C. Requests for Substitution will be considered in accordance with provisions of Section 0160000 – Product Requirements.

### **2.02 CERAMICSTEEL INTERIOR WALL PANEL SYSTEM:**

- A. PG 1000 CeramicSteel Interior Wall Panels:
  - 1. Construction:
    - i. Face Sheets: 28 Gauge CeramicSteel
    - ii. Core: 12 mm moisture-resistant medium density fiberboard
    - iii. Balancing sheet: 0.015" Aluminum sheet, mill finish. Minimum alloy 3005, H19 temper.
    - iv. Bonding: Face sheet, core and balance sheet are thermally bonded with hot melt polyurethane with bond strength equal to or better than the core.
- B. Panel Size:
  - 1. Provide the sizes and configurations indicated on the Drawings.
  - 2. Panel thickness: PG 1000 Panel: nominal 13 mm.
- C. Physical Characteristics:
  - 1. ASTM C481 Laboratory Aging of Panel: Cycle B – no delamination 6-cycles
  - 2. ASTM C538 Color Stability:  $\Delta E_{94} \leq 5$  (24 h)
  - 3. ASTM D2244 Color Tolerance:  $\Delta E_{94} \leq 1.5$  (compared to reference sample)
  - 4. ASTM E84 Surface Burning: Flame Spread 0 Class A, Class 1
  - 5. ASTM E84 Surface Burning: Smoke Developed 200 Class A, Class 1
  - 6. ASTM D3363 Hardness: > 9H

7. ASTM C501 Wear Resistance: Max. 0.1g (abrasive S33 1 kg/1000 rev)
8. ISO 4532 Impact Resistance — Pistol Test: No damage over 2mm after 24h (20 N load)
9. ISO 15695 Scratch Resistance: Minimum 7N
10. ISO 28722 Graffiti Resistance: No color or gloss change after cleaning
11. ISO 28706-1 Acid Resistance: Class A
12. ISO 28706-2 Boiling Acid Resistance: ≤ Max. 18.5 g/m<sup>2</sup>
13. I ANSI/BIFMA: Furniture Indoor Advantage™: Gold

### **2.03 FINISHES:**

- A. Panel Finish: Furnish a3™ CeramicSteel Column Covers with finish as indicated:
  1. Face Sheet:
    - a. a3™ CeramicSteel coating shall be 99% recyclable, made from 100% inorganic materials and be minimum Type A, acid resistant, continuously coil-coated and fused at approximately 1500 degrees F (800 degrees C).
    - b. Color:
      - i. Manufacturer's standard solid colors
      - ii. Custom imagery/graphics
  2. Balancing Sheet:
    - a. Color: Mill Finished Aluminum
- B. Panel Edge Treatment: High build, high solids, factory-applied two-component catalyzed coating.
- C. System Aluminum Mounting Extrusion Finish: Exposed surface: 5-Stage pretreatment, AAMA 2604 powder coating, per Architect's approved color.
- D. Stainless Steel Finish: Per Architect's approved finish.
- E. Custom Imagery/Graphics: [DELETE BELOW IF NO GRAPHICS ARE REQUIRED.]
  1. Custom Imagery/Graphics shall be factory manufactured PolyVision Digital 1 single or multicolor digitally printed inorganic images. Printed to high visual quality using stable ceramic mediums fired onto the base porcelain ceramic surface of a3 CeramicSteel at temperatures fired in the range of 1292° – 1652° F (700° – 900° C) to produce a surface finish with the same performance characteristics as the porcelain ceramic surface of the wall panel. Process shall achieve a minimum resolution for grayscale, duotone and CMYK images is 150 DPI at 100%.
  2. Customer shall provide original art in the following formats, Adobe Illustrator CC2015 (or earlier), Adobe Photoshop CC2015 (or earlier), Adobe InDesign CC2015 (or earlier).

### **2.04 FABRICATION:**

- A. a3™ CeramicSteel: Both surfaces of continuously coiled pre-cleaned and treated enameling grade steel base metal shall receive a ground coat of porcelain enamel which shall be fused to the metal in a firing operation used exclusively for ground coat application. A color cover coat of porcelain enamel shall be applied to one surface of the ground coat and fused by a firing operation used exclusively for color coat application. All a3™ CeramicSteel "slip" shall be machine applied with automatic spray or roll coat equipment. Firing temperature shall be approximately 1500 degrees F (800 degrees C).

CeramicSteel shall be covered with a protective film covering to be removed at the job site immediately before erection. Ensure consistency of PEC coating thickness, color, texture, specular gloss and flatness of a3™ CeramicSteel finish by use of continuous coil process.

- B. Construction and Design: PG 1000 CeramicSteel Interior Wall Panel System panels shall consist of a3™ CeramicSteel finish face, a stabilizer core, and a balancing sheet laminated into a monolithic unit. The adhesive used in laminating the finish face, core and back face shall be 100% applied to surfaces being laminated.

## **PART 3 - EXECUTION**

### **3.01 EXAMINATION:**

- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another trade, notify Architect of unsatisfactory preparation before proceeding.

### **3.02 PREPARATION:**

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the Manufacturer to achieving the best result for the substrate und the project conditions.

### **3.03 INSTALLATION:**

- A. Install in accordance with Manufacturer's PG 1000 CeramicSteel Interior Wall Panel System Shop Drawings for instructions and recommendations for system installation.
- B. The PG 1000 CeramicSteel Interior Wall System requires preparation and planning to ensure proper starting and ending conditions for an optimum finished appearance.
- C. Extrusions are to be shimmed and leveled as necessary and mechanically anchored to the framing members, sheathing or other structural support system per Manufacturer's recommendations.
- D. Make field cuts as necessary for penetrations in panels using a jig saw. Use metal cutting, high tooth-count, carbide tip blades. The use of eye protection and a NIOSH approved respirator is recommended when saw cutting MDF core panels. All penetrations shall be covered with escutcheon plates.
- E. Repair Panels with minor damage such that repairs are not discernible at a distance of ten (10) feet (3.1m).
- F. Remove and replace Panels damaged beyond repair.
- G. Remove protective film immediately after installation of CeramicSteel Interior Wall Panel work.

### **3.04 CLEANING:**

- A. Remove temporary protective coverings and strippable films as each Panel is installed.
- B. Clean Panel System surfaces: Remove excess dirt and other substances from Panels and moldings after installation using only a mild soap or detergent solution such as TSP-90 or Ivory. (see Manufacturer's Care & Cleaning Instructions).

**3.05 PROTECTION:**

- A. Institute protective measures required throughout the remainder of the construction period to ensure that PG 1000 CeramicSteel Interior Wall Panel System will be without damage or deterioration at time of acceptance.

**END OF SECTION**