



SPECIFICATIONS – Designwall 4000 Series Section 07410 Wall Panel Systems

Part 1 GENERAL

1.01 Work Included

- A. All factory assembled panels with insulating foam cores for the exterior walls as shown on the contract drawings.
- B. All related trims, extrusions, accessories, fasteners and sealants indicated on the contract drawings as part of this section.
- C. Furnish detailed drawings showing profile, gauge or thickness of interior and exterior sheets, location and type of fasteners, location, gauges, shapes and method of attachment of all trim, location and type of sealants and any other details as may be required for a weathertight installation.

1.02 Warranty

- A. This contractor shall warrant for two years from the date of substantial completion of the work related to this section, that the work is not defective in workmanship or material.

1.03 Performance Testing

- A. Structural Tests: Design criteria for windload shall have been derived from tests based upon the "Chamber Method" per ASTM E72. A deflection limit of L/180 shall apply to positive load only.

- B. Thermal Properties: 2" panels shall provide a "U" value of .07 BTU/hr/sq. ft./degrees F per ASTM C236 (corrected to 15 mph wind outside and still air inside).
- C. Air Infiltration: When tested per ASTM E283 at a uniform static pressure of 6.24 psf, air infiltration shall not exceed .03 cfm per sq. ft. of wall area.
- D. Water Penetration: When tested per ASTM E331 at a uniform static pressure of 6.24 psf there shall be no uncontrolled water penetration through the panel jointery.
- E. Fire Tests: Panels shall be acceptable to building code and insurance authorities for use where non-load bearing wall construction is permitted. The polyisocyanurate core composite panel shall be qualified by the following fire tests:
 - 1) Factory Mutual FMRC standard 4880, Class I Rating
 - 2) Unfaced foam core shall not exceed the following values when tested per ASTM E84 (steiner tunnel test):
Flame Spread:<25
Smoke
Density:<450

Part 2 PRODUCTS

2.01 Acceptable Manufacturers

- A. Products meeting these specifications which establish a standard of quality required shall be Designwall 4000 or equal.

2.02 Products

- A. Factory fabricated panel units consisting of roll-formed exterior and interior sheets bonded by foaming in place the insulation core.
- B. Panel units shall be Benchmark Designwall 4000 V or H (select appropriate panel or panels).
- C. The longitudinal tongue and groove panel edges shall be formed to allow hidden anchor clips and fasteners to be used as shown on the contract drawings.

2.03 Materials

- A. Metal face sheet shall be 22 gauge galvanized steel conforming to ASTM A653, hot dipped, commercial quality, galvanized coating, designation G-90, with a stucco embossed flat profile as shown on the contract drawings.
- B. Metal liner sheet shall be 24 gauge G-90 galvanized steel.
- C. The panel core material shall be foamed-in-place polyisocyanurate, minimum 95% closed cell structure and shall have the following minimum physical properties:

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Benchmark Architectural Systems, Inc.

- 1) Density (in place): 2.8-3.0 pcf
- 2) Compressive Strength: 35 psi
- 3) Tensile Strength: 45 psi
- 4) Shear Strength: 25 psi
- 5) R-Value: 6.80 per inch (initial)
- 6) Humidity Aging: 14 days at 158°F, 95% RH, 2.5% maximum volume increase.
- 7) Heat Aging: 14 days of 158°F, 1% maximum volume increase.

maximums as defined by AISC specifications. Building tolerances at corners and soffits should be within +/- 1/8" of theoretical girt plane.

completed or installed walls from damage by other trades. Installed areas or portions of the work shall be inspected by the owner or general contractor and approved immediately following the completion of such areas. Any subsequent damage will then be the responsibility of others.

3.02 Installation

- A. Install panels, fasteners, trim and related sealants in accordance with approved shop drawings and as may be required for a weathertight installation.
- B. Provide a dry wipe-down cleaning of panels as they are erected.

2.04 Finishes

- A. Coatings for face and liner sheets shall be factory applied to coil before forming or embossing. Finishes shall be as shown on the approved drawings and shall be in accordance with the "Specifications for Finishes."

3.03 On-Site Storage and Handling

- A. Manufacturer shall provide panel contractor with printed instructions for recommended product storage and handling.

3.05 CLEANING

- A. The panel erecting contractors shall provide a dry wipe-down cleaning of all work as it is erected and prior to moving to the next portion or area.
- B. The general contractor and/or owner shall be responsible for the subsequent and final cleaning of the wall system.

Part 3 EXECUTION

3.01 Inspection

- A. Examine alignment of the structural steel and/or panel support system prior to installation and do not proceed until any defects are corrected by the responsible contractor.
- B. Building tolerances shall not exceed

3.04 Damaged Material

- A. Repair or replace all damaged material to the satisfaction of the architect and/or contractor if damage has been caused by manufacturer or wall panel erector / contractor. The general contractor or builder shall be responsible for the protection of

Benchmark reserves the right to change design or details without notice. Specific information for job details and drawings should be obtained from your Benchmark sales engineer. To the best of our knowledge the information contained herein is accurate, however, final determination of the suitability of any information or material for the use contemplated, the manner of use and whether such use is an infringement of a patent is the sole responsibility of the user. The appearance of minor "oil canning" which is inherent in light gauge metal facings under conditions of heat and angled light, is not a cause for rejection of this product.



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