

METAL WINDOW PANELS

PART 1 - GENERAL

1.01 Scope

1.01.1 The Panels required are as manufactured by Mapes Industries, Lincoln, NE. Panels consist of metal skins laminated to stabilizer substrates with an insulating core material. Panels are designed to be glazed into a window system or curtain wall system.

1.01.2 Related Work

A. Section 05100	Structural Steel
B. Section 06100	Back Up Walls
C. Section 07200	Insulation
D. Section 07600	Metal Flashing
E. Section 07920	Caulking
F. Section 08500	Windows
G. Section 08900	Storefront/Curtain Wall
H. Section 09200	Interior Wall Finish

1.02 Quality Assurance

1.02.1 Panel manufacturer shall have a minimum of 25 years experience.

1.02.2 Field measurements shall be taken prior to completion of manufacturing and cutting.

1.02.3 Maximum deviation from vertical and horizontal alignment of installed panels is 1/8" (3mm) in 20' (6m) non-commutative.

1.03 References

1.03.1 Porcelain Enamel Institute (P.E.I.)

- A- ASTM-C-282- Spot Acid
- B- ASTM-C-283- Boiling Acid
- C- ASTM-C-703- Antimony Chloride Spall Test
- D- ASTM-C-346- Gloss Retention
- E- ASTM-C-486- Spall Resistance
- F- Brunnel Hardness - 600-700

1.03.2 Aluminum Association

- A- AA-C22-A41: Anodized Clear
- B- AA-C22-A42: Integral Color Anodized

1.03.3 American Architectural Manufacturers Association (AAMA)

- A- 603.8-92 Pigmented Organic Coatings on Aluminum - (Polyester)
- B- 605.2-92 High Performance Organic Coatings on Aluminum - (Kynar)

1.03.4 American Society of Testing Materials (ASTM)

- A- E330-84: Structural Performance of Exterior Windows, Curtain Walls and Doors under the influence of wind loads.
- B- D1781-76: Climbing Drum Peel Test for Adhesives.
- C- D3363-74: Method for Film Hardness by Pencil Test.
- D- D2794-90: Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact)
- E- D3359-90: Method for Measuring Adhesion by the tape test.

1.04 Substitutions

- 104.1 The materials and products specified in this section establish a minimum standard of required function, design, appearance quality and warranty to be met by any proposed substitution.
- 104.2 No substitutions will be considered unless a written request for approval has been submitted by the bidder and received by the architect 10 days prior to the bid date.

1.05 Submittals

- 1.05.1 Submittals shall be in conformance with section _____. Included section number of Division and refer to CSI Division I, Section 1340 - Shop Drawings, Product Data and Samples.
- 1.05.2 Samples: A: Panel makeup - 2 samples - 10"x10"
B: Two samples of each color and finish texture - 3"x5"
- 1.05.3 Submission Drawings: Indicate thickness, dimension and components of parts. Detail glazing methods, framing and tolerances to accommodate thermal movement.
- 1.05.4 Affidavit certifying materials meet all requirements as specified.
- 1.05.5 2 copies of manufacturers standard literature for specified material.

1.06 Delivery, Storage and Handling

- 1.06.1 Protect finish and edge in accordance with panel manufacturer's recommendations.
- 1.06.2 Store materials in accordance with panel manufacturer's recommendations.

PART 2 - PRODUCTS

2.01 Panels - Laminated

- 2.01.1 Laminated metal faced panels as manufactured by Mapes Industries, Inc.
- 2.01.2 Acceptable alternatives: Panels having similar composite construction and finish providing manufacturer has a minimum of 25 years panel laminating experience and comparable published warranties.
- 2.01.3 Manufacturer shall produce the porcelain skin and laminate the panel in the same controlled manufacturing environment.

2.02 Finish

- 2.02.1 A: Porcelain on Aluminum (Embossed)
B: Porcelain on Steel (Smooth)
C: Kynar/Hylar - AAMA 665.2-92- resin based - 70%
D: Anodized Clear, Light, Medium, Dark Bronze and Black - Class I and II
E: Polyester - AAMA - 603.8-92
- 2.02.2 Color as specified from manufacturer's standards.

2.03 Panel Fabrication

- 2.03.1 Composition: Two sheets of aluminum bonded to stabilizer substrates with a insulative core.

- 2.03.2 Substrates: A: High density tempered hardboard
B: Fiber reinforced cement board
C: Fire code gypsum (Internal Only)
D: High-density polyethylene (HDPE)
- 2.03.3 Cores: A: 2-lb density polystyrene
B: 1.7-lb density Isocyanurate
C: Expanded Perlite
- 2.03.4 Aluminum Faces - Thickness range - .012 - .125
- 2.03.5 Tolerances - .8% of panels dimension length and width - $\pm 1/16$ " thickness
- 2.03.6 Panel Weight Range - 1/4"- 1.3 to 3.0 lbs./SqFt.
1"- 2.2 to 4.5 lbs./SqFt.
- 2.03.7 Panel Thickness - As required - Range 1/4" to 4 1/4"

2.04 Accessories

- 2.04.1 Recommended for use as an infill panel component in window and curtain wall systems. Related material to complete installation as recommended by the manufacturer.
- 2.04.2 Seals against moisture intrusion as recommended by the manufacturer. Polyurethane and silicone based sealant with a 20 year life are recommended.

PART 3 - EXECUTION

3.01 Execution

- 3.01.1 Panel surfaces shall be free from defects prior to installation.

3.02 Installation

- 3.02.1 Erect panels plumb, level and true.
- 3.02.2 Glaze panels securely and in accordance with approved shop drawings and manufacturers instructions to allow for necessary thermal movement and structural support.
- 3.02.3 Do not install panels that are observed to be defective including warped, bowed, dented, scratched and delaminating components.
- 3.02.4 Weatherseal all joints as required using methods and materials as previously specified.
- 3.02.5 Separate dissimilar metals using gasketed fasteners and blocking to eliminate the possibility of electrolytic reaction.

3.03 Adjusting and cleaning

- 3.03.1 Remove masking film as soon as possible after installation. Masking intentionally left in place after panel installation will be the responsibility of the contractor.
- 3.03.2 Weep holes and drainage channels must be unobstructed and free from dirt and sealant.