

SECTION 06 20 23

INTERIOR FINISH CARPENTRY (Architectural Elements made of Cold Cast metal)

PART 1 - GENERAL

1.1 SUMMARY

- A. This section includes furnishing all materials, labor, equipment, and related services necessary to supply and install decorative Cold Cast metal fabrications, parts and/or panels for interior use as indicated in the contract documents, and in compliance with applicable codes.

1.2 RELATED SECTIONS

- A. Section 09 27 13 Glass Fiber Reinforced Plaster Fabrications
- B. Section 06 10 00 Rough Carpentry – for connection attachment to structural steel framing.
- C. Section 09 22 00 Supports for Plaster and Gypsum Board – for connection attachment to structural steel framing.

1.3 REFERENCES

- A. ASTM International (ASTM)
 - 1. E84 Standard Test Method for Surface Burning Characteristics of Building materials.
 - 2. C754 Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products.
 - 3. C1007 Specification for Installation of Load Bearing (Transverse and Axial) Steel Studs and Related Accessories.

1.4 ACTION SUBMITTALS

- A. Product Data: Submit product data sheets for each specified product.
- B. Past Projects: Submit a minimum of 3 previously completed installations of similar materials and complexity. Include contact name, e-mail address and phone number for each project.

- C. Shop Drawings: Submit drawings for approval showing plans, sections, details, joint treatment, reinforcing, fastening devices and the relation of the Cold Cast metal parts to the surrounding construction.
- D. Samples: Submit a minimum of 3 flat samples of Cold Cast metal for each color and textured indicated.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications:
 - a. Manufacturer shall have a minimum of 10 years' experience having successfully supplied Cold Cast metal parts or panels for other projects similar in scope and complexity for the work of this Contract.
 - b. Manufacturer shall have a minimum of 10 years' experience using 3D modelling software and CNC machines for the creation of master patterns used to make molds for fabricated Cold Cast metal components.
- B. Installer Qualifications: Installer shall have a minimum of 5 years' experience having successfully completed projects similar in scope and complexity for the work of this Contract.
- C. Substrates to accept Cold Cast metal parts shall be installed straight and true within 1/8 in. in 8 linear ft. (3mm in 2500mm) and shall be free of obstructions and interference that prohibits the correct alignment and attachment of the Cold Cast metal parts.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Cold Cast metal parts shall be kept clean and dry and stored to prevent distortion, warping, and other physical damage in accordance with the manufacturer's recommendations.
- B. The Cold Cast metal parts shall not be stacked or placed on other parts. Do not "lean" as this may result in warpage. Parts must be protected from jobsite damage prior to, during, and after installation.

1.7 PROJECT CONDITIONS

- A. Environmental Limitations: Do not deliver or install Cold Cast metal parts until building is enclosed and weatherproof, wet work is complete, and the HVAC system maintains temperature and humidity at normal occupancy levels.
- B. Acclimatize the Cold Cast metal parts for a minimum of 48 hours to the ambient temperature and humidity levels of spaces in which they are to be installed.

1.8 WARRANTY

- A. Manufacturer Warranty: Provide manufacturer's standard product warranty.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

- A. Formglas Products Ltd. – Tel: +1.416.635.8030 | +1.866.635.8030
Contact your local Formglas representative – www.formglas.com/contact
or send requests for quotations directly to estimating@formglas.com

2.2 MetalCast® Architectural Elements made of Cold Cast metal

- A. Fabrications: Cold Cast metal parts are to be made in accordance with the approved shopped drawings and samples.
- B. Color and Texture: Cold Cast metal parts to be supplied in the color and texture as per approved samples.
- C. Embedments: Cold Cast metal parts to have typical embedments and reinforcement of galvanized steel or wood, if required, for the purposes of suspension, attachment and stiffness.
- D. Cold Cast metal “Veneer” panels are available:
- E. Coating: Molded Cold Cast metal parts to have a factory applied protective lacquer coating to reduce oxidation.
- F. Cold Cast metal parts are to be installed with concealed fastening methods. Avoid face fastening wherever possible.
- G. Patching Compound: A color matching compound is available from the manufacturer to fill screw holes, but they will always remain visible. Alternatively, matching MetalCast® screw covers can be supplied. Refer to the manufacturer’s instructions.
- H. Joint Treatment: Follow the manufacturer’s recommendations for joint treatment. Joints are to be 1/16” (1.5mm) wide and caulked. Caulking to be supplied by the installing contractor.
- I. Adhesive: Installer to use a manufacturer recommended adhesive to ensure proper adhesion and to prevent bleed through.

2.3 PHYSICAL PROPERTIES

- A. Matrix: Metal and Alpha Gypsum Cement
Finish: As specified
Veneer thickness: 1/4” (6 mm) nominal
Shell thickness: 1/4” (6 mm) nominal
Edge thickness: 3/4”-1¼” (19-32 mm) typical
Veneer panel weight: 2½-3 lb/ft² (12-15 kg/m²)
Molded parts weight: 2½-4 lb/ft² (12-20 kg/m²)
Density: ~120 lb/ft³ (1920 kg/m³)
Glass Fiber: 5% typical
Embedments: Galvanized steel or wood, if required
Surface: Textured
Surface Burning Characteristics (ASTM E84):
 Flame Spread: 0
 Smoke Development: ≤ 10
Behavior at 750°C (ASTM E136): Pass

PART 3 – EXECUTION

3.1 EXAMINATION

- A. Site Conditions: Verify the conditions for compliance with the requirements including environmental conditions, installation tolerances and other conditions affecting the

installation and performance of Cold Cast metal parts. Any unsatisfactory conditions to be corrected prior to installation.

- B. Field Dimensions: Field dimensions are to be verified including those not shown on the drawings. Any discrepancies are to be brought to the attention of the Architect with resolutions to the discrepancies to be mutually agreed upon by all parties involved. Details of any changes required must be incorporated into the manufacturer's shop drawings prior to commencing the manufacture of the Cold Cast metal parts.

3.2 PREPARATION

- A. Substrate: Substrates to accept Cold Cast metal parts, provided by others, shall be installed straight and true within 1/8 in. in 8 ft. (3mm in 2500mm) and shall be free of obstructions and interference that prohibits correct attachment of Cold Cast metal parts.
- B. Metal framing members, provided by others, shall be of the proper size and design for the intended use and shall be sufficient to properly support the installed Cold Cast metal parts. Metal framing members shall be installed in accordance with ASTM Standards C754 or C1007 as required.

3.3 INSTALLATION

- A. It is the Installer's responsibility to verify scope and to order the correct quantities of parts (including a waste allowance).
- B. Supply and install all shims and brackets required for work in this section and to ensure a solid and secure installation of Cold Cast metal parts.
- C. Position the Cold Cast metal parts carefully into place and align with adjacent parts and materials in accordance to the drawings. Attach Cold Cast metal parts to substrates and framing with fastening devices and adhesives as specified by the manufacturer. Use concealed shims as required.
- D. Cold Cast metal parts will have color shading variations. DO NOT try to match shadings in specific areas. Mix varying parts at random.
- E. Where Cold Cast metal parts are suspended, use the suspension points indicated on the shop drawings as a minimum requirement and use additional support(s) as required.
- F. Complete joint treatment, hole filling, patching and cleaning in accordance to the manufacturer's recommendations. Plan in advance to secure Architect approval of any use of color matching caulk (to be supplied by installer).

END OF SECTION