

SECTION 09 21 19  
DRYWALL SHAPE ASSEMBLIES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A Gypsum drywall shape and accessories.
- B Non-structural metal framing for drywall shape assemblies.

1.2 RELATED SECTIONS

- A Section 05 40 00 – Cold-Formed Metal Framing.
- B Section 06 10 00 – Rough Carpentry.
- C Section 09 22 16 – Non-Structural Metal Framing.

1.3 REFERENCES

- A ASTM International (ASTM):
  1. ASTM A653/A653M – Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-coated (Galvannealed) by the Hot-Dip Process.
  2. ASTM A780 – Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings.
  3. ASTM A1003 – Standard Specification for Steel Sheet, Carbon, Metallic- and Nonmetallic-Coated for Cold-Formed Framing Members
  4. ASTM B633 – Standard Specification for Electrodeposited Coatings of Zinc on Iron and Steel
  5. ASTM C475 – Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board
  6. ASTM C645 – Standard Specification for Nonstructural Steel Framing Members
  7. ASTM C754 – Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products
  8. ASTM C840 – Standard Specification for Application and Finishing of Gypsum Board
  9. ASTM C1002 – Standard Specification for Steel Self-Piercing Tapping Screws for Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs.
  10. ASTM C1278 – Standard Specification for Fiber-Reinforced Gypsum Panel
  11. ASTM C1396 – Standard Specification for Gypsum Board
  12. ASTM C1513 – Standard Specification for Steel Tapping Screws for Cold-Formed Steel Framing Connections
  13. ASTM D3273 – Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber.
- B AISI North American Specification for the Design of Cold-Formed Steel Structural Members.
- C AISI – Standard for Cold-Formed Steel Framing General Provisions.
- D Gypsum Association (GA):
  1. GA-214 – Recommended Levels of Gypsum Board Finish.
  2. GA-216 – Application and Finishing of Gypsum Panel Products.

3. GA-238 – Guidelines for the Prevention of Mold Growth of Gypsum Board; Gypsum Association.

#### 1.4 SUBMITTALS

- A Submit under provisions of Section 01 30 00 – Administrative Requirements.
- B Submit manufacturer's certification of product compliance with codes and standards along with product literature and data sheets for specified products.
- C Manufacturer provided detail drawings with dimensions of shape to be milled must be signed for approval and submitted.

#### 1.5 QUALITY ASSURANCE

- A Installer Qualifications: Installer experienced in performing work of this section who has specialized in installation of work similar to that required for this project.
  1. 5 years of documented experience required.
- B Pre-installation Meetings: Conduct pre-installation meeting to verify project requirements, installation instructions, and framing conditions.
- C Mock-Up: Provide a mock-up for evaluation of framing, surface preparation techniques and application workmanship.
  1. Finish areas designated by architect.
  2. Do not proceed with remaining work until workmanship and surface preparation are approved by Architect.
  3. Refinish mock-up area as required to produce acceptable work.

#### 1.6 DELIVERY, STORAGE, AND HANDLING

- A Deliver and store preformed shape assemblies in accordance with GA-238.

#### 1.7 PROJECT CONDITIONS

- A Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by ASTM C840 and by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

### PART 2 PRODUCTS

#### 2.1 MANUFACTURERS

- A Acceptable Manufacturer, Drywall Shape (Exact Edge™) distributed by: ASI Building Products.
- B Substitutions: Not Permitted.

#### 2.2 METAL FRAMING COMPONENTS

- A Framing Members, General: Comply with ASTM C645 for conditions indicated.
  1. Steel Sheet Components: Comply with ASTM C645 requirements for metal unless otherwise indicated.
  2. Protective Coating: Comply with ASTM C645; ASTM A653/A 653M, G40 (Z120), Coating with equivalent corrosion resistance of ASTM A653/A 653M, G40 (Z120); roll-formed from steel

meeting mechanical and chemical requirements of ASTM A1003 with a zinc-based coating. A40 galvanized products are not acceptable.

- a. Coatings shall demonstrate equivalent corrosion resistance with an evaluation report acceptable to the authority having jurisdiction.
- B Steel Studs and Track: ASTM C645.**
1. Non-Structural Studs: Cold-formed galvanized steel C-studs as per ASTM C645 or G40 hot dip coated as per ASTM C754 for conditions indicated below:
  2. Flange Size: 1-1/4 inch (32mm).
  3. Web Depth: As specified on Drawings.
  4. Web Depth: 1-5/8 inches (41mm).
  5. Web Depth: 2-1/2 inches (64mm).
  6. Web Depth: 3-5/8 inches (92mm).
  7. Web Depth: 4 inches (102mm).
  8. Web Depth: 6 inches (152mm).
- C Non-Structural Track:**
1. Flange Size: 1-1/4 inch (32mm).
  2. Minimum Base-Steel Thickness: Track thickness to match wall stud thickness or as per design.
- D Fasteners: Self-drilling, self-tapping screws; steel, complying with ASTM C1513; galvanized coating, plated or oil-phosphate coated complying with ASTM B633 as needed for required corrosion resistance.**
- E Touch-Up Paint: Complying with ASTM A780 – Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings. Zinc rich, containing 95-percent metallic zinc.**
- F Framing: Framing components may be fastened to preformed shapes prior to installation.**
1. Fasten framing members square to shape to ensure components are installed flush.
  2. Cut all framing components square for attaching to perpendicular members, or as required for an angular fit against abutting members. Hold components in place until properly fastened.
  3. Fasteners: Fasten components using self-tapping screws or welding.

### 2.3 GYPSUM BOARD

- A Gypsum Wallboard: ASTM C1396, of types, edge configuration and thickness indicated below.**
1. Type: Regular, unless otherwise indicated. Type X for fire-resistant rated assemblies and where indicated.
  2. Edges: Tapered.
  3. Thickness: 5/8 inch (16mm), 1/2 inch (13 mm), unless otherwise indicated.
- B Abuse-Resistant Gypsum Wallboard: ASTM C1278 and ASTM C1396, of types, edge configuration and thickness indicated below without paper facing and with fiber mesh reinforcing backing.**
1. Type: Regular, unless otherwise indicated.
  2. Thickness: 5/8 inch (16 mm), 1/2 inch (13 mm), unless otherwise indicated.
- C Mold and Mildew Resistant Gypsum Board: ASTM C1396, of type and thickness indicated below to resist mold and mildew. Board shall score minimum 10 when tested per ASTM D3273.**

1. Type: Regular, unless otherwise indicated. Type X for fire-resistant rated assemblies and where indicated.
  2. Thickness: 5/8 inch (16 mm), 1/2 inch (13 mm), unless otherwise indicated.
- D Glass Mat Sheathing: ASTM C1396 and ASTM C1177, of type, edge configuration and thickness indicated below with glass mat facing. Board shall score minimum 10 when tested per ASTM D3273.
1. Type: Regular, unless otherwise indicated. Meeting ASTM E136 as noncombustible.
  2. Thickness: 5/8 inch (16 mm), 1/2 inch (13 mm), unless otherwise indicated.
- E Mitered cuts: interior angle, depth, board face indicated below.
1. Angle (in degrees): 30, 45, 60, 91, 120, or 135.
  2. Depth: .487-inch, .612-inch, unless otherwise indicated
  3. Face: Either finished paper facing or paper backing depending on formed shape.
  4. Must be performed in an indoor, climate controlled environment.
  5. Cuts must be computer driven for accuracy.
  6. A dust hood and collection system must be used to minimize airborne dust particles.
- F Gypsum Board Screws: ASTM C1002. Fastening gypsum board to steel members less than 0.033 inch thick. Fastening gypsum board to gypsum board.
- G Steel Self-Piercing Tapping Screws: ASTM C1513. Fastening gypsum board to steel members.

## 2.4 ADHESIVE

- A One-part, urethane-based laminating adhesive:
1. Moisture cure
  2. Joint is lightly misted with water
  3. Adhesive bead applied to joint at a rate of 5.5 g/ft
  4. Applied at temperatures between 60-100 degrees Fahrenheit

## 2.5 JOINT TREATMENT AND ACCESSORIES

- A Joint Treatment Materials: ASTM C475; type recommended by manufacturer of sheet products and joint treatment materials for application indicated, unless indicated otherwise.
- B Joint tape:
1. Fleece tape or glass mat tape; Adfors FibaFuse Paperless Drywall Tape ASTM D3273
  2. Paper tape: ASTM C474
  3. Fiberglass mesh tape: ASTM C474
  4. Option: Sealants (as approved by Architect)
    - a. For use to join shapes at butt joints
- C Setting type joint compound: factory prepackaged, job mixed chemical-hardening powder products for bedding and filling, formulated for uses indicated.
1. For taping and filling.
  2. For prefiling gypsum board joints.
  3. For treating fasteners.
  4. For topping compound, use sandable formulation.

- D Adjoining of non-similar materials
  - 1. Sealants (as approved by Architect)
    - a. For use to finish inside finished corners

## 2.6 ACOUSTICAL CONSIDERATIONS

- A Acoustical Insulation: ASTM C665
- B Acoustical Sealant: ASTM C834

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A Prior to installation, inspect previous work of all other trades. Verify that all work is complete and accurate to the point where this installation may properly proceed in accordance with any supplementary shop drawings.
- B Mounting surface is the responsibility of others, Notify Architect of unsatisfactory mounting surface preparation before proceeding.

### 3.2 METAL FRAMING INSTALLATION

- A Install cold-formed framing in accordance with requirements of ASTM C754.
- B Framing Installation
  - 1. Install all framing components plumb, level and square in strict accordance with approved drawings.
  - 2. Handle and lift preformed shapes in a manner to not cause distortion or damage.
  - 3. Anchor framing securely to supporting structure.
  - 4. Install framing members so that shapes will begin and terminate on the centerline of a member.
  - 5. Space framing members to adequately carry the weight of the shape, but space no further than 24".
  - 6. Align and plum studs. Securely attach to the web or flanges of anchorage framing.
  - 7. Provide temporary bracing as needed until installation is complete.
  - 8. Secure framing members using self-tapping screws complying with ASTM C1513.
    - a. In a wet or corrosive environment, screws must be Zinc coated according to ASTM B633.
  - 9. Welding can take the place of using self-tapping screws.
    - a. If in a wet or corrosive environment, welded members must be repaired with a Zinc repair coating according to ASTM A780.

### 3.3 DRYWALL SHAPE INSTALLATION

- A Drywall shape:
  - 1. Comply with ASTM C840 and GA-216
  - 2. Install exposed drywall shape with face side out. Do not install imperfect, damaged, or damp shapes. Butt shapes together for a light contact at edges and ends with not more than 1/16 inch (1.5 mm) open space between shapes.
  - 3. Locate either edge or end joints over supports.

4. Attach shapes to supplementary framing provided for additional support.
5. Attach shapes using fasteners in compliance with ASTM C1002, located at perimeter of all continuous faces and aligned with framing members. Install additional fasteners aligned with framing members as needed to prevent sagging and movement.

**B Tolerances**

1. Maximum Variation of Finished Drywall Shape Surface from True Flatness: 1/8 inch (1.5 mm) in 10 feet (3048 mm) in any direction.

**C Joint Treatment: Comply with ASTM C840, GA 214 and GA 216**

1. Level 1: Plenums, service corridors, above ceilings.
2. Level 2: Exposed areas where appearance is not critical.
3. Level 3: Areas to receive medium to heavy textured coatings or heavy-grade wall coverings.
4. Level 4: Areas to receive flat sheen paint finish; light textured coatings; lightweight wall coverings.
5. Level 5: Areas to receive gloss, semi-gloss sheen paints; critical lighting conditions.

**3.4 PROTECTION**

- A Protect uninstalled product as if it were an installed finished product.
- B Protect installed products until completion of project.
- C Touch-up, repair or replace damaged products before Substantial Completion of project.

END OF SECTION