

SECURITY WALL SYSTEMS - (GYPSUM PLASTER)

SECTION 11190

Use this guide specification to specify STRUCTOCORE Security Wall System by U.S. Gypsum Co. Review a copy of USG publication SA-1119 before editing specification.

PART 1 GENERAL

1.01 GENERAL DOCUMENTS

General and Supplementary Conditions of Contract as well as Drawings and general provisions of Contract and Division 1 Specification section, apply to work of this section.

1.02 DESCRIPTION OF WORK:

Extent of Security Wall work is shown on the drawings and in the schedule. Coordinate with all trades required to install work on the STRUCTOCORE Metal Panels. Do not apply plaster until such work has been installed and tested.

Related Work Specified Elsewhere

Painting - Section 09900

Specify alkyd enamel undercoater and semi-gloss enamel finish, or polyamide epoxy high-gloss finish to meet water erosion hose stream test. Specify acrylic latex paint for general painting requirements.

Electrical - Section 16050

Coordinate installation of electrical conduit and junction boxes with work of this section. Electrical conduit and junction boxes must be installed on the forming before plaster application.

Hollow Metal Doors and Frames - Section 08100

Plumbing - Section 15400

Include additional related sections as pertinent.

1.03 QUALITY ASSURANCE:

Standards:

ASTM A526 Steel Sheet, Commercial Quality Hot-Dipped Galvanized (Min. G-60), minimum 33 ksi yield strength.

AWS; Code for Welding in Building Construction, D1.0.

ANSI Z49.1 - 1973 "Safety in Welding and Cutting".

ASTM C28, Standard Specification For Gypsum Plaster.

Fire-Resistance Rating: Where fire-resistance rating is required, provide materials and installation which are identical with those of applicable assemblies tested per ASTM E119 by fire testing laboratories acceptable to authorities having jurisdiction.

Unit Responsibility: Security Wall System and related components shall be from a single manufacturer in order to ensure consistency in quality of performance and appearance.

1.04 SUBMITTALS:

Product Data: Submit Manufacturer's product specifications and installation instructions for Security Wall System.

Material Certificates: Submit manufacturer's certification indicating compliance with the compressive strength requirements specified for plaster. As required, submit test reports for fire and structural data.

Shop drawings may be necessary if required work cannot be adequately determined from Drawings, Specifications and manufacturer's product data.

1.05 DELIVERY, STORAGE AND HANDLING:

Handling: Handle materials to avoid damage.

Delivery: Deliver materials to the jobsite in original packages, containers, or bundles, bearing the brand name and manufacturer's identification.

Storage: Store materials in dry locations with adequate ventilation, free from water, and in such a manner to permit easy access for inspection and handling.

1.06 PROJECT CONDITIONS:

Protect contiguous work from moisture damage and soiling which might result from plastering operations. In cold weather, all glazing shall be complete and the building heated uniformly to, and maintained at, a minimum of 55°F before plaster application. Adequate ventilation shall be provided to remove excess moisture.

PART 2 PRODUCTS

2.01 MANUFACTURER:

Subject to compliance with requirements, provide STRUCTOCORE Security Wall System by United States Gypsum Co.

2.02 MATERIALS:

- A. STRUCTOCORE Forming Sheets, galvanized finish, width by length nominal (4'x8') (4'x4') (3'x8'), steel meeting ASTM A526, commercial quality hot-dipped galvanized (minimum G-60), minimum 33 ksi yield strength, (12 ga.) (14 ga.) (16 ga.) (18 ga.).

18 ga. sheets utilized in fire-rated partition and for submachine gun level ballistics test.

- B. (1/2") (3/4") fasteners, No. 10-16 Hex Washer Head Screws, Climaseal coated.
- C. 18 gauge, G-60 hot-dipped galvanized, perforated steel angles:
 - 1. 4" x 1-1/2" x (8')(10') STRUCTOCORE Vertical Abutment Angle.
 - 2. 1-3/4" x 1-3/4" x (8')(10') STRUCTOCORE Floor/Ceiling Angle.
 - 3. 4" x 4" x (8')(10') STRUCTOCORE 135 Intersection Angle.
- D. 5-1/2" x 8' STRUCTOCORE Flat Accessory Plate with 4 rows of holes.
- E. STRUCTO-BASE Gypsum Basecoat Plaster (Machine Application), ASTM C28, 2800 psi.
- F. IMPERIAL Finish Plaster.
- G. RED TOP Accelerator
- H. Corrosion-resistant anchors; 400 lb. shear, 300 lb. pull-out safe load (minimum).

- I. Sand - No. 1 sand meeting ASTM C35.
- J. Potable water, free of significant organics.
- K. #4 reinforcement bars.
- L. Structural steel jamb channels, base plates, and bunk mounting plates.
- M. 3" x 3" x 3/8" outside corner guard angle.

PART 3 EXECUTION

3.01 GENERAL:

Steel forming sheets shall be free of forming oil, scale, rust and corrosion. Accurately align and plumb the wall construction in the location shown on the drawings.

3.02 STEEL FORMING:

- A. Layout partitions measuring from the centerline. Align and set floor angle about 1/2" from abutting wall or vertical structural member, and 3/4" off one side of the centerline. Securely anchor angles with fasteners not exceeding 16" o.c. Repeat process at header. Where run is greater than length of angles, space angle ends 1/8" apart and continue layout. Cut last angle to about 1/2" from existing or adjacent walls. Attach Vertical Abutment Angles to side walls. Cut vertical angles to a minimum 1/8" short of floor and ceiling angles.
- B. Sheet layout - install STRUCTOCORE Forming Sheets individually or assemble in multiples and raise into position. Start installation with a full sheet on the upper course, with ribs positioned vertically. Insure that first row of sheets is installed level. Allow 1/8" minimum between the web of the angle and the forming edge. Screw attach or weld the STRUCTOCORE Forming Sheets to the angle leg at every other rib. For walls over 12-feet high attach at every rib. Secure the trailing edge of the sheet to the vertical abutment angle with fasteners 7" o.c. Nest or interlock sheets in increments of three rows of corrugations (2-3/4" minimum, horizontal) and single row minimum vertical and connect with wedges, screws or welds. Replace any stripped screws. Provide clamping as necessary during fastening. Provide temporary bracing (strong backs) to plumb the forming until after the plaster scratch coat fully sets. Verify wall straightness before plaster application. Sequence plaster installation properly with the installation and protection of other work.

3.03 DOORS, OPENINGS, MISCL.:

Cut channels and forming sheets as necessary to provide rough openings at indicated locations. Attach door or opening anchors to sheets in an approved manner. Door or other frame-outs shall be properly positioned before plaster is applied. Install support members for wall-hung items where indicated on drawings. Install reinforcing bars around openings as shown on drawings.

3.04 PLASTERING:

- A. Mix STRUCTO-BASE Gypsum Basecoat Plaster (Machine Application) with sand aggregate in the proportions of 2 cubic feet of sand per 100 lbs. of STRUCTO-BASE Plaster for scratch coat, brown coat and screeding operation. Mix in strict accordance with the label directions on gypsum plaster bag, making sure not to exceed 5.5 to 6.0 gallons of clean water per 1:2 gypsum plaster to sand mix.
- B. Spray apply scratch coat to a minimum 3/8" thickness. Before set, trim or remove high spots or surplus material from angles and floor. Allow scratch coat to set and dry thoroughly (24 to 48 hours) before application of subsequent brown coat.
- C. After scratch coat has set, install plaster "dots" and "screeds" allowing 1/16" for finish coat. Build-up plaster screeds to provide necessary plaster thickness of wall surface.
- D. Spray apply brown coat, laying on proper thickness with one pass and overlapping successive strokes. Rod brown coat flush with screeds, leaving walls ready for finish coat.
- E. Plaster flush with metal frames and other built-in metal items or accessories that act as a plaster ground, unless otherwise shown. Where plaster is not terminated at metal by casing beads, cut basecoat free from metal before plaster sets.
- F. Mix IMPERIAL Finish Plaster per U.S. Gypsum Co. data sheet PM-9. Apply finish coat 48 hours after brown coat. Apply a tight scratch coat over entire working area, immediately doubling back with material from the same batch to a nominal 1/16" thickness. Start finish trowelling as soon as material has become sufficiently firm to achieve a smooth surface free from marks, voids and other blemishes. Where plaster is not terminated at metal by casing beads, groove finish coat at the juncture with metal.

3.05 CLEAN-UP:

When plastering work is completed, remove temporary protection and enclosure of other work. Promptly remove plaster from door frames, windows and other surfaces that will not be plastered. Remove unused materials and equipment and clean floors of plaster debris.

End of Section 11190
