
USACE / NAVFAC / AFCEA UFGS-09215 (September 2003)

Preparing Activity: NAVFAC Superseding
UFGS-09215A (November 1995)
UFGS-09215N (September 1999)

UNIFIED FACILITIES GUIDE SPECIFICATIONS

References are in agreement with UMRL dated 22 December 2004

Latest change indicated by CHG tags.

SECTION TABLE OF CONTENTS

DIVISION 09 - FINISHES

SECTION 09215

VENEER PLASTER

09/03

PART 1 GENERAL

- 1.1 REFERENCES
- 1.2 GENERAL REQUIREMENTS
- 1.3 SUBMITTALS
- 1.4 DELIVERY AND STORAGE
- 1.5 SCHEDULING
- 1.6 ENVIRONMENTAL REQUIREMENTS
- 1.7 FIRE RESISTIVE CONSTRUCTION

PART 2 PRODUCTS

- 2.1 MATERIALS
 - 2.1.1 Steel Framing, Furring, and Related Items
 - 2.1.2 Vapor Retarder
 - 2.1.3 Gypsum Backing Board
 - 2.1.4 Gypsum Base
 - 2.1.5 Gypsum Veneer Plaster
 - 2.1.6 Joint Reinforcement
 - 2.1.7 Joint Compound
 - 2.1.8 Screws
 - 2.1.9 Nails
 - 2.1.10 Corner Bead, Casing Bead, and Control Joints

PART 3 EXECUTION

- 3.1 STEEL FRAMING
 - 3.1.1 Partition Framing System
 - 3.1.2 Special Framing
 - 3.1.3 Shaftwall Framing System
 - 3.1.4 Ceiling Openings
 - 3.1.5 Wall Openings
 - 3.1.6 Blocking

- 3.2 APPLICATION OF GYPSUM BASE
 - 3.2.1 Curved Surfaces
 - 3.2.2 Cavity Shaftwall System
 - 3.2.3 Control Joints
 - 3.2.4 Vapor Retarder
- 3.3 JOINT REINFORCEMENT
 - 3.3.1 Mesh Reinforcing
 - 3.3.2 Paper Tape Reinforcing
- 3.4 APPLICATION OF GYPSUM VENEER PLASTER
 - 3.4.1 Mixing
 - 3.4.2 Application
 - 3.4.2.1 Base Coat
 - 3.4.2.2 Finish Coat
- 3.5 CLEANUP AND PATCHING

-- End of Section Table of Contents --

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SECTION 09215

VENEER PLASTER 09/03

NOTE: This guide specification covers the requirements for veneer plaster systems.

Comments and suggestions on this guide specification are welcome and should be directed to the technical proponent of the specification. A listing of technical proponents, including their organization designation and telephone number, is on the Internet.

Recommended changes to a UFGS should be submitted as a Criteria Change Request (CCR).

Use of electronic communication is encouraged.

Brackets are used in the text to indicate designer choices or locations where text must be supplied by the designer.

NOTE: Veneer plaster consists of a 2 to 3 mm 1/16 to 1/8 inch thick plaster coating applied in one or more coats to a special gypsum lath base over metal or wood framing. Veneer plaster provides a hard, dense finish for areas such as corridors and conference rooms of major facilities where walls are subjected to frequent impact and where appearance is important. It should not be used in shower rooms or excessively humid areas.

NOTE: On the drawings, indicate location and extent of each type of veneer plaster and control joints.

PART 1 GENERAL

1.1 REFERENCES

NOTE: Issue (date) of references included in
project specifications need not be more current than
provided by the latest guide specification. Use of
SpecsIntact automated reference checking is
recommended for projects based on older guide
specifications.

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM INTERNATIONAL (ASTM)

ASTM C 1002	(2004) Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs
ASTM C 1047	(1999; R 2004) Accessories for Gypsum Wallboard and Gypsum Veneer Base
ASTM C 36/C 36M	(2003e1) Gypsum Wallboard
ASTM C 442/C 442M	(2004e1) Gypsum Backing Board, Gypsum Coreboard, and Gypsum Shaftliner Board
ASTM C 475/C 475M	(2002) Joint Compound and Joint Tape for Finishing Gypsum Board
ASTM C 514	(2001) Nails for the Application of Gypsum Board
ASTM C 587	(2002) Gypsum Veneer Plaster
ASTM C 588/C 588M	(2003e1) Gypsum Base for Veneer Plasters
ASTM C 630/C 630M	(2003e1) Water-Resistant Gypsum Backing Board
ASTM C 631	(1995a; R 2004) Bonding Compounds for Interior Gypsum Plastering
ASTM C 645	(2004a) Nonstructural Steel Framing Members
ASTM C 754	(2004) Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products
ASTM C 843	(1999e1) Application of Gypsum Veneer Plaster
ASTM C 844	(2004) Application of Gypsum Base to Receive Gypsum Veneer Plaster

ASTM C 954 (2004) Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs from 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness

ASTM D 3678 (1997; R 2001) Rigid Poly (Vinyl Chloride) (PVC) Interior-Profile Extrusions

FM GLOBAL (FM)

FM P8016 (1994) Specification Tested Products Guide

UNDERWRITERS LABORATORIES (UL)

UL Fire Resist Dir (2004) Fire Resistance Directory

1.2 GENERAL REQUIREMENTS

NOTE: Select either the one or two-coat system. The one-coat is slightly lower in cost, requires less installation time, and requires only one plastering material on the job. The two-coat system has greater crack resistance and is more resistant to damage. The one-coat system should be used where appearance is the sole consideration. The two-coat system should be used where physical abuse is a consideration.

Except where otherwise indicated or specified, conform to ASTM C 754, ASTM C 843, and ASTM C 844. Apply the gypsum veneer plaster as a [one coat] [two coat] system over a special gypsum base. The veneer plaster, gypsum base, and joint reinforcement shall be products of the same manufacturer. The extent and location of veneer plaster shall be as shown on the drawings. Metal framing is specified herein. [Wood framing specified in Section 06100N ROUGH CARPENTRY may be used as an option to the steel framing.]

1.3 SUBMITTALS

NOTE: Submittals must be limited to those necessary for adequate quality control. The importance of an item in the project should be one of the primary factors in determining if a submittal for the item should be required.

A "G" following a submittal item indicates that the submittal requires Government approval. Some submittals are already marked with a "G". Only delete an existing "G" if the submittal item is not complex and can be reviewed through the Contractor's Quality Control system. Only add a "G" if the submittal is sufficiently important or complex in context of the project.

For submittals requiring Government approval on Army projects, a code of up to three characters within the submittal tags may be used following the "G" designation to indicate the approving authority. Codes for Army projects using the Resident Management System (RMS) are: "AE" for Architect-Engineer; "DO" for District Office (Engineering Division or other organization in the District Office); "AO" for Area Office; "RO" for Resident Office; and "PO" for Project Office. Codes following the "G" typically are not used for Navy projects.

Submittal items not designated with a "G" are considered as being for information only for Army projects and for Contractor Quality Control approval for Navy projects.

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are [for Contractor Quality Control approval.] [for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government.] The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-03 Product Data

Gypsum base

Gypsum veneer plaster

Descriptive data and installation instructions.

1.4 DELIVERY AND STORAGE

Deliver and store plaster materials in the manufacturer's original unopened containers. Store materials off the ground within a completely enclosed structure or enclosed within a weathertight covering. Store gypsum base and gypsum backing board flat to prevent warping and protect from excessive exposure to sunlight.

1.5 SCHEDULING

Commence application only after the area scheduled for veneer plaster work is completely weathertight. The heating, ventilating, and air-conditioning systems should be complete and in operation prior to application of the plaster. If the mechanical system cannot be activated before veneer plastering is begun, the plastering may proceed in accordance with an approved plan to maintain the environmental conditions specified below. Apply plaster prior to the installation of finish flooring and acoustic ceiling.

1.6 ENVIRONMENTAL REQUIREMENTS

NOTE: Veneer plaster is a very thin coating that will be adversely affected by extreme or non-uniform drying conditions and by rapid changes in

temperature. It should not be used in spaces where adequate environmental control cannot be obtained.

Do not expose the gypsum base to excessive sunlight prior to plaster application, as bond failure of the plaster may result. Maintain a continuous uniform temperature of not less than 10 degrees C 50 degrees F and not more than 27 degrees C 80 degrees F for at least one week prior to the application of veneer plaster, while the plastering is being done, and for at least one week after the plaster is set. Shield air supply and distribution devices to prevent any uneven flow of air across the plastered surfaces. Provide ventilation to exhaust moist air to the outside during plaster application and set, and until plaster is dry. In glazed areas, keep windows open top and bottom or side to side 75 to 100 mm 3 to 4 inches.

Openings can be reduced in cold weather. For enclosed areas lacking natural ventilation, provide temporary mechanical means for ventilation. In unglazed areas subjected to hot, dry winds or temperature differentials from day to night of 10 degrees C 20 degrees F or more, screen openings with cheesecloth or similar materials. Avoid rapid drying. During periods of low indoor humidity, provide minimum air circulation following plastering and until plaster is dry.

[1.7 FIRE RESISTIVE CONSTRUCTION

NOTE: For fire-resistive assemblies, drawing details must follow the tested and approved designs.

The addition of veneer plaster to an approved gypsum wallboard design will improve the fire-resistive properties of the partitions. Tested and approved designs are published by gypsum wallboard manufacturers, Underwriters Laboratory, and Factory Mutual, and are included in the Gypsum Association Fire Resistance Design Manual.

Build partitions and ceilings indicated to be of fire resistive construction in compliance with the drawings. For fire-rated assembly comply with the specifications contained in UL Fire Resist Dir, or FM P8016 for the Design Numbers indicated.

] PART 2 PRODUCTS

2.1 MATERIALS

NOTE: The designer must assure that the drawings show the required thickness for gypsum base and gypsum backing board for all application.

Conform to the requirements specified below. Miscellaneous items not otherwise specified shall be as recommended by the veneer plaster system manufacturer and approved prior to use. Powder driven fasteners may be used only when approved in writing.

2.1.1 Steel Framing, Furring, and Related Items

ASTM C 645.

2.1.2 Vapor Retarder

Foil-backed gypsum base or gypsum backing board, or 4-mil polyethylene.

2.1.3 Gypsum Backing Board

ASTM C 36/C 36M, ASTM C 442/C 442M or ASTM C 630/C 630M, [Regular] [Foil-backed] [Water-Resistant] [Type X]. Provide boards with square edges as the first ply in two-ply application. Provide 1200 mm 48 inches wide boards, thickness as shown except that board used for liner panels and core plies of shaftwall construction shall be the size and thickness recommended by the system manufacturer.

2.1.4 Gypsum Base

ASTM C 588/C 588M, [Regular] [Foil-backed] [Type X], 1200 mm 48 inches wide, thickness as shown. Provide square edges, rounded, or tapered as recommended by the veneer plaster manufacturer.

2.1.5 Gypsum Veneer Plaster

ASTM C 587. Minimum compressive strength of finish coat plaster shall be 17 MPa 2500 psi.

2.1.6 Joint Reinforcement

ASTM C 475/C 475M, Mesh reinforcing strip or paper tape as recommended by the veneer plaster manufacturer.

2.1.7 Joint Compound

ASTM C 475/C 475M.

2.1.8 Screws

ASTM C 1002 or ASTM C 954, type appropriate to use.

2.1.9 Nails

ASTM C 514, with corrosion-resistant treatment.

2.1.10 Corner Bead, Casing Bead, and Control Joints

ASTM C 1047 [or] [ASTM D 3678], Corrosion protective-coated steel[, vinyl or clear anodized aluminum] as recommended by the veneer plaster manufacturer. Provide flanges free of any material that would adversely affect bonding of the plaster.

PART 3 EXECUTION

3.1 STEEL FRAMING

NOTE: Since the veneer plaster is a thin, hard coating, it may be damaged by excessive deflection or racking of the partition. Partitions should be isolated from the structural building frame so that movement of the frame does not distort the

partitions. Where heavy loads such as wall hung cabinets, counters or hospital TV sets are indicated, the partitions must be strengthened to support the applied loads.

ASTM C 754. Space framing at 400mm16 inches on center maximum. Partitions shall support applied loads such as cabinets and counters without exceeding the permitted deflection.

3.1.1 Partition Framing System

Metal non-load bearing framing and furring system shall be capable of carrying a transverse load of 24 ksm 5 psf without exceeding either the allowable stress or a deflection of L/240. Provide studs of 0.45 mm 0.0179 inch minimum thickness for partitions having the same material and the same material thickness on both sides. For partitions using 0.45 mm 0.0179 inch thick studs, the surfacing material shall cover the full height of the partition on both sides, or the stud flange shall be otherwise supported to insure rigidity. Provide studs of 0.84 mm 0.0329 inch minimum thickness for partitions having different materials or different material thickness on the two sides. At partition ends, corners, and intersections, and at jambs of openings, fasten studs to runners with screws.

3.1.2 Special Framing

Build framing for beams, columns, soffits, and other special items to the sizes, shapes, or forms indicated. Secure rigidly at each intersection with wallboard screws.

3.1.3 Shaftwall Framing System

Shaftwalls shall be standard, tested designs. Metal framing shall be in accordance with the shaftwall manufacturer's printed instructions.

3.1.4 Ceiling Openings

Provide support members at ceiling openings such as required for access panels, recessed light fixtures, and for air supply or exhaust. Locate support members of not less than 38 mm 1 1/2 inch main runner channels and suspension wires or straps to provide at least the minimum support specified herein for furring and wallboard attachment. Provide intermediate structural members for attachment or suspension of support members.

3.1.5 Wall Openings

At wall openings the framing system shall provide for the installation and anchorage of the required subframes or finish frames. Attach steel frames securely through built-in anchors to the nearest stud on each side of the opening with wallboard screws. Provide 0.84 mm 0.329 inch minimum thickness double studs at both jambs of all doors openings. For doors over 1200 mm 4 feet wide, double doors, and for extra-heavy doors (such as x-ray doors), provide doubled studs [_____] millimeters inches minimum thickness. Spot grout door frames at the jamb anchor locations with joint compound applied just prior to application of gypsum base.

3.1.6 Blocking

Provide blocking when mounting equipment. Cut [metal] [or] [wood] blocking to fit in between the framing members. Rigidly anchor blocking to the framing members. Under no circumstances will accessories or other wall mounted equipment be anchored directly to the veneer plaster system.

3.2 APPLICATION OF GYPSUM BASE

Apply gypsum base and gypsum backing board to framing and furring members in accordance with ASTM C 844 and the requirements specified herein. Gypsum wallboard may be used for the base ply in two-ply construction. Provide gypsum base and backing board of maximum practical length, using full length boards for vertical application. Install separate boards in moderate contact without forcing in place. Install boards tight against the framing so as to eliminate any offset in the face plane between adjoining boards. Stagger end joints of adjoining boards. Fit abutting end and edge joints. Cut boards as required to make close joints around openings. Gypsum base may be adhered to gypsum backing board with an adhesive, except where prohibited by fire rating. In multi-layer construction, offset joints between layers. Offset joints on opposite faces of the partition.

3.2.1 Curved Surfaces

Use bending radii in accordance with ASTM C 844, TABLE 5. Bend gypsum base into place without damaging the face paper. If the base is dampened to facilitate bending, dry thoroughly, and apply a bonding agent (ASTM C 631) before plastering.

3.2.2 Cavity Shaftwall System

Install gypsum backing boards, core boards, and gypsum base in accordance with the shaftwall system manufacturer's printed recommendations to achieve the fire rating required.

3.2.3 Control Joints

NOTE: Control joint locations should be shown on the drawings. Control joint spacing in walls or wall furring shall not exceed 9000 mm 30 feet. Control joint spacing shall not exceed 9000 mm 30 feet in either direction in restrained ceilings, and 15000 mm 50 feet in either direction in ceilings with perimeter relief. Joints should be provided at the wings of L, U, and T shaped ceiling areas.

Control joints in ceilings and walls shall be one piece manufactured products designed for use with a veneer plaster system.

3.2.4 Vapor Retarder

Install foil-backed gypsum base or gypsum backing board with the reflective surface against the framing members. Install polyethylene vapor retarder with joints over framing members, and with joints lapped the full width of the framing members.

3.3 JOINT REINFORCEMENT

Reinforce all interior angles and flat joints prior to application of the veneer plaster. Do not use self-adhering mesh. Reinforcement shall be a special mesh reinforcing strip embedded in veneer plaster, or gypsum wallboard joint tape embedded in joint compound.

3.3.1 Mesh Reinforcing

Embed the mesh reinforcing strip in veneer plaster, so that embedment material is both under and covering the reinforcement. Allow areas of reinforcement to preset, and leave rough enough for proper bonding of the plaster coat. Reinforcement shall be set but not dry, before the application of veneer plaster.

3.3.2 Paper Tape Reinforcing

Press the paper tape into a bedding coat of setting type joint compound, and immediately cover with a skim coat of the same compound. After the bedding and skim coats are set, apply a fill coat of joint compound. Set the reinforcement and dry thoroughly before application of veneer plaster.

3.4 APPLICATION OF GYPSUM VENEER PLASTER

NOTE: Veneer plaster may be applied to masonry or concrete surfaces as well as to gypsum base. Special conditioning and treatment are required for masonry or concrete surfaces to receive veneer plaster. Review ASTM C 843 and manufacturer's literature to determine requirements applicable to the project, and modify this section accordingly. Note that any cracking of the substrate will result in cracking of the plaster.

Apply gypsum veneer plaster in accordance with ASTM C 843, and with the manufacturer's approved installation instructions where such instructions are additional to or more restrictive than the requirements of ASTM C 843. Apply plaster as a [one-component] [two-component] system. Minimum plaster thickness shall be as recommended by the manufacturer, but shall in no case be less than [1.6 mm 1/16 inch for one-component system.] [1.6 mm 1/16 inch for base coat and 0.8 mm 1/32 inch for finish coat of a two-component system.]

3.4.1 Mixing

Clean mixer between batches to avoid accelerating the setting time. Do not add other plaster materials to modify the properties of the veneer plaster. When extreme conditions so demand, small quantities of commercial retarder or accelerator may be added to the mixing water to adjust setting time. When used, the retarder or accelerator shall conform to the veneer plaster manufacturer's recommendations.

3.4.2 Application

Trowel plaster on by hand. Apply with sufficient material and pressure to develop bond and to provide the specified component thickness.

3.4.2.1 Base Coat

NOTE: Delete base coat requirements when
one-component system is desired.

Scratch in the base coat tightly, then immediately double back using material from the same batch. Fill all voids and imperfections and level the plaster to a true surface without the application of water. For good bond or adhesion, roughen the final surface for bond by brushing or cross-raking with a fine wire rake. For application of finish coat, set the base coat and partially dry. If the base coat is totally dry, dampen before finish coat application.

3.4.2.2 Finish Coat

NOTE: A smooth-troweled finish will normally be specified. If a textured finish is desired, it may be added to the specification. The texture pattern should be specified, i.e., swirl, skip trowel, etc. Some texture finishes may require a greater coating thickness.

Scratch in the finish coat tightly, then immediately double back using material from the same batch. After the plaster has been allowed to set up slightly, lightly trowel the surface without the addition of water, filling all voids and imperfections and eliminating surface irregularities. When the plaster has become firm and prior to set, smooth-trowel the surface using water sparingly. Avoid over troweling.

3.5 CLEANUP AND PATCHING

Remove plaster splashes from adjacent surfaces. Repair defects in the veneer plaster. Plaster surfaces shall be smooth, clean, and in condition to receive the finishing materials that will be applied.

-- End of Section --