

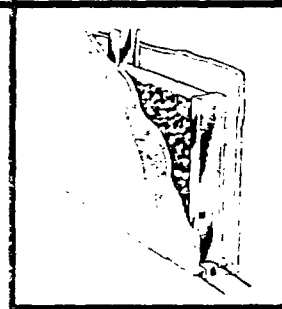
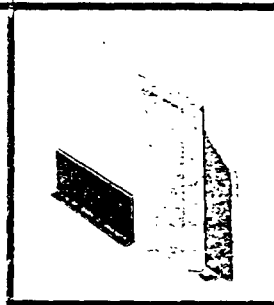
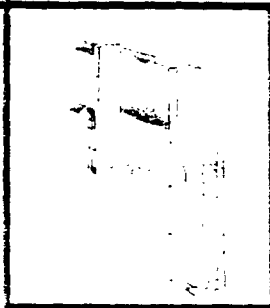
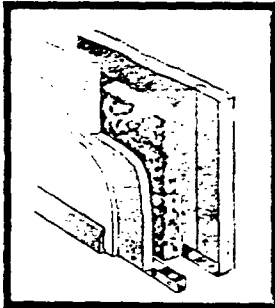
TECHNICAL INFORMATION AND APPLICATION INSTRUCTIONS

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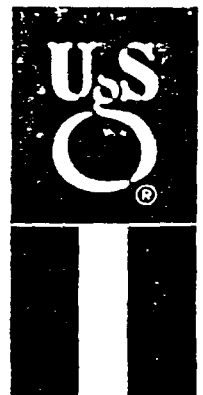
USG-1844

Imperial

PLASTER



UNITED STATES GYPSUM
THE GREATEST NAME IN BUILDING



BB016 1431

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NOTICE: The following trademarks are owned and/or registered in the United States Patent Office by United States Gypsum Company and are used throughout this literature to designate products manufactured by this Company: RED TOP (plasters); IMPERIAL (plaster, plaster base, tape); DIAMOND (plaster); STRUCTO-GAUGE (plaster); IVORY (lime); DURABOND (joint compound); THERMAFIBER (sound attenuation blanket); USG (metal studs); SHEETROCK (resilient channel). PERF-A-TAPE (reinforcing). STYROFOAM, DORVON, and STYROTAC are registered trademarks of the Dow Chemical Company.

I. DESCRIPTION

IMPERIAL Plaster is a modern plaster concept that provides quality walls and ceilings for both residential and commercial constructions. Utilizing a large sized gypsum lath with special face paper, high strength IMPERIAL Plasters are applied from 1/16" to 3/32" thicknesses, resulting in a finished surface or basecoat that has superior resistance to abrasion and damage. Rapid installation allows early completion and occupancy at minimum cost.

The IMPERIAL Plaster Systems outlined are designed for interior walls and ceilings and may be used in areas where standard gypsum lath and plaster or conventional gypsum wallboard systems are specified.

To allow complete flexibility in design and local application preference, two distinct IMPERIAL Plasters are available.

IMPERIAL PLASTER FINISH

Single coat applications use IMPERIAL Plaster Finish that is applied to a thickness of 1/16" to 3/32" over IMPERIAL Plasterbase. It is not intended for use as a basecoat. The high strength properties (approximately 3,000 psi) provide an extremely hard smooth trowel, float or texture finish ready for further decoration. IMPERIAL Plaster Finish is available in formulas for either machine application or conventional hand tool application. The machine application formula requires application by the patented P.D.C. Process.

IMPERIAL PLASTER BASECOAT

Two coat applications use IMPERIAL Plaster Basecoat that is applied from 1/16" to 3/32" to either IMPERIAL Plasterbase, direct to porous concrete block or properly prepared monolithic concrete surfaces. The hard dense basecoat (approximately 3,000 psi) is formulated to receive a high strength lime putty finish such as DIAMOND Finish, STRUCTO-GAUGE gauging - lime, or Keenes - line - sand float finish. IMPERIAL Plaster Basecoat is available in formulas for either machine application or conventional hand tool application. The machine application formula requires application by the patented P.D.C. Process.

II. FIRE RESISTANCE AND SOUND TRANSMISSION LOSS DATA

Caulking:

Caulking under plates, runners, around the perimeter of the face layer of plasterbase and outlet openings is required to achieve sound transmission loss values on the job that approximate those determined by test. All tests reported here used Interchemical Company's PRESSTITE 579.64 or 421.7.

II. FIRE RESISTANCE AND SOUND TRANSMISSION LOSS DATA (cont'd.)

Other comparable caulking are AC Horn Vulcatex Thriftube, Penco 420, Tremco Sealant. Technical representatives of these companies are available to consult with contractors on application methods, or with architects on specifications.

Sound transmission class (STC) listed were obtained in accordance with ASTM Designation E90-61T.

<u>Type Construction</u>	<u>Framing C to C</u>	<u>Type Base</u>	<u>Fire Rating</u>	<u>Reference</u>	<u>Sound Transmission Class</u>	<u>Reference</u>
Partition-Wood Framing, 1/16" IMPERIAL Plaster	16"	1/2" IMPERIAL Plasterbase-Type X	1 Hr.	U of C Berkeley	36	Riverbank
Partition-Wood Framing, 1/16" IMPERIAL Plaster	16"	5/8" IMPERIAL Plasterbase-Type X	1 Hr.	U.L.	34	Refer Note #1
Partition-Wood Framing, 1/16" IMPERIAL Plaster	16"	5/8" IMPERIAL Plasterbase. Type X Double layer both sides	2 Hrs. (Refer Note #1)	U.L.	38	Refer Note #1
Partition-Wood Framing, 3" THERMAFIBER Blanket, RC-1 Channel, 24" o.c. one side-1/16" IMPERIAL Plaster	16"	5/8" IMPERIAL Plasterbase-Type X Single layer, direct One side-resilient opposite side	1 Hr. (Refer Note #1)	U.L.	50	Geiger & Hamme
Partition-Wood Framing, 3" THERMAFIBER Blanket, RC-1 Channel, 24" o.c. one side-1/16" IMPERIAL Plaster	16"	5/8" IMPERIAL Plasterbase double layer side-single layer resilient side	1 Hr. (Est.)		53 49	Cedar Knolls Field test-K.S. Oliphant
Partition- 2-1/2" Metal Studs, 1/16" IMPERIAL Plaster	16" (Refer Note #3)	1/2" IMPERIAL Plasterbase-Type X	1 Hr.	Ohio State Univ.	38	Riverbank
Partition- 3-5/8" Metal Studs, 1/16" IMPERIAL Plaster	16" (Refer Note #3)	5/8" IMPERIAL Plasterbase-Type X	1 Hr. (Refer Note #1)	Ohio State Univ.	36	Riverbank

<u>Type Construction</u>	<u>Framing C to C</u>	<u>Type Base</u>	<u>Fire Rating</u>	<u>Reference</u>	<u>Sound Transmission Class</u>	<u>Reference</u>
Partition- 2-1/2" Metal Studs, 2" THERMAFIBER Sound Attenuation Blanket, 1/16" IMPERIAL Plaster	24"	1/2" IMPERIAL Plasterbase- Type X (Double Layer)	2 Hrs. (Refer Note #2)	U.L.	52	Geiger & Hamme
					48	Field test- K.S. Oliphant
Partition- 3-5/8" Metal Studs, 1/16" IMPERIAL Plaster	24"	5/8" IMPERIAL Plasterbase- Type X (Double Layer)	2 Hrs.	U.L.	50	Riverbank (16" o.c. spacing)
Partitions- 2-1/4" Solid, 1/16" IMPERIAL Plaster	--	1" Coreboard with 1/2" IMPERIAL Plasterbase- Type X Laminated both sides	2 Hrs. (Refer Note #1)	Ohio State Univ.	--	--
Partition- Double Solid, 1-1/2" THERMAFIBER Sound Attenuation Blanket, 1/16" IMPERIAL Plaster	--	1" Coreboards with 1/2" IMPERIAL Plasterbase face layers, 3" space between coreboards.	2 Hrs. (Refer Note #1 and #2)	U.L.	54	Field test- K.S. Oliphant
					53	Geiger & Hamme
Ceilings-Wood Frame, 1/16" IMPERIAL Plaster	16"	1/2" IMPERIAL Plasterbase - Type X	1 Hr.	U.L.	--	--
Ceilings-Wood Frame, 1/16" IMPERIAL Plaster	16"	5/8" IMPERIAL Plasterbase- Type X	1 Hr.	U.L.	--	--
Ceilings-Wood Frame with RC-1 Channel, 1/16" IMPERIAL Plaster	16" (Refer Note #3)	1/2" IMPERIAL Plasterbase- Type X	1 Hr.	U.L.	--	--
Ceilings-Open Web Steel Joists and Furring Channel, 1/16" IMPERIAL Plaster	16" (Refer Note #3)	1/2" and 5/8" IMPERIAL Plasterbase-Type X	2 Hrs.	U.L.	--	--

(Note #1) Estimates based on data obtained from similar constructions without the IMPERIAL Plaster.

(Note #2) Fire resistance rating attained without THERMAFIBER Blanket.

(Note #3) Fire resistance rating attained with 24" o.c. stud spacing.

III. FRAMING RECOMMENDATIONS

A. Frame Spacing

Maximum recommended spacings for single layer construction are indicated on page 6. Spacing of structural components beyond these limits increases the hazard of deflection and/or bowing and may result in uneven or wavy finished surfaces. Double layer assemblies may be spaced 24" o.c. Metal framing includes studs, furring channel and resilient channel.

III. FRAMING RECOMMENDATIONS (cont'd.)

<u>Framing</u>	<u>Base Thickness</u>	<u>Location</u>	<u>Maximum Frame Spacing C to C</u>	
			<u>Single Coat IMPERIAL Plaster Finishes</u>	<u>Two Coat IMPERIAL Plaster Basecoats plus Required Finish</u>
Wood	1/2"	Ceilings	16"	16"
Wood	1/2"	Sidewalls	16"	16"
Wood	5/8"	Ceilings	16"	24"
Wood	5/8"	Sidewalls	16"	24"
Metal	1/2"	Ceilings	16"	16"
Metal	1/2"	Sidewalls	16"	16"
Metal	5/8"	Ceilings	16"	24"
Metal	5/8"	Sidewalls	16"	24"

B. Maximum Partition Height

2-1/4" Solid	10'
Double Solid	8'
Metal Studs -- 1-5/8"	8' 6"
2-1/2"	11' 0"
3-5/8"	14' 6"
Chase Walls	10'

IV. SPECIFICATIONS

A. Scope

Unless otherwise indicated, all interior partitions and ceilings are included.

B. General Conditions

The building must be maintained in the temperature range of 55° to 70° F. (if the outdoor temperature at the building site is less than 55° F.) for 24 hours prior to, during, and after lathing and plastering until the permanent heating system is in operation.

Ventilation should be provided to remove excess moisture prior to, during, and after lathing and plastering to maintain proper drying conditions. Avoid direct hot air currents on unset plaster.

All materials shall be delivered to the job in original unopened containers or bundles, stored in a place protected from exposure to the elements and from damage by tampering, and used in strict accordance with the manufacturer's directions.

IV. SPECIFICATIONS (cont'd.)

These assemblies shall not be used where exposed to abnormal moisture or excessively high humidity.

Special attention is to be taken to protect IMPERIAL Plasterbase from contamination or overspray of materials containing lime or casein additives. (Simulated and acoustical plasters, joint cements, etc.)

C. Materials

All materials are herein specified. Select those for applicable constructions.

1. The base shall be IMPERIAL Plasterbase, 1/2" (or 5/8") thick, square edge, 48" wide and in lengths as long as practical to minimize the number of joints. IMPERIAL Plasterbase - Type X shall be used where a fire rating is required. Insulating IMPERIAL Plasterbase shall be used on exterior walls and ceilings where specified on drawings.
2. Nails and/or screws shall be as listed under Fastener Guide for appropriate construction.
3. Joint reinforcement shall be IMPERIAL Tape (Type P or Type S) (or PERF-A-TAPE where specified).
4. Cornerbead shall be #800-A for use with IMPERIAL Plaster Basecoats (1/8" grounds), or #800-B for use with IMPERIAL Plaster Finishes (1/16" grounds), or #900 for use with either Basecoats or Finishes (3/32" grounds).
5. Staples for attachment of IMPERIAL Tape (where required) shall be flattened galvanized wire, rosin coated, with 3/8" legs.
6. Plaster shall be (select appropriate system)
 - a. IMPERIAL Plaster Finish (single coat system)
 - b. IMPERIAL Plaster Basecoat (two coat system) requiring Finish Plaster selected from #7 through #11 below.
7. Finish Plaster shall be DIAMOND Finish Plaster.
8. Lime shall be IVORY Double Hydrate Finish Lime.
9. Gauging plaster shall be STRUCTO-GAUGE Gauging Plaster.
10. Keenes Cement shall be RED TOP Keenes Cement.
11. Sand for float finishes shall be a graded white silica sand passing a (30 mesh) (20 mesh) screen.
12. Metal trim shall be (#700-A) (#700-B) as required.

IV. SPECIFICATIONS (cont'd.)

13. Catalyst shall be IMPERIAL Catalyst (required for machine applied plaster only).
14. Coreboard - 1" thick, 24" wide, USG "V" edge, T & G Gypsum Coreboard, lengths as required.
15. Laminating Adhesive - USG Laminating Adhesive mixed in accordance with manufacturer's directions.
16. USG Metal Studs (1-5/8"), (2-1/2"), (3-5/8") and USG Metal Runners.
17. USG Metal Furring Channel.
18. RC-1 Resilient Channel.
19. Control Joint shall be USG Control Joint #093.
20. Rigid Foam Insulation shall be (STYROFOAM FR) (DORVON FR 100) (DORVON FR 125) (1"), (1-1/2"), (2") thick, (16" x 9') (24" x 8'), as manufactured by Dow Chemical Company.
21. Adhesives shall be Dow Chemical Company (Dow Insulation Mastic No. 7) (STYROTAC - Bonding Adhesive Premix) (portland cement-sand and STYROTAC Bond Adhesive Concentrate).
22. DURABOND Joint Compound (required for use where PERF-A-TAPE is specified).
23. Coloring material to be Colortrend Concentrated Liquid Colorants as manufactured by the California Ink Company, Inc., San Francisco, California, or Tamms Limeproof Plaster Colors as manufactured by Tamms Industries, Lyons, Illinois.
24. Adhesive for adhesive nail-on assemblies shall be SHEETROCK Brand (DWA 14).

V. FASTENER GUIDE

Framing	Attachment	Fastener Spacing C to C
	1/2" IMPERIAL Plasterbase	
Wood Frame	Nails - 1-1/4" 13 Gauge, Minimum 15/64" Head, Annular Ring, or Barbed Shank, Blued, Polished or Cement Coated	7" Ceiling 8" Walls
	Screws - 1-1/4" USG Brand Type W	12"
	For Type X, Nails shall be 1-5/8"	6" Ceilings
	5d Cooler Type, Cement Coated	7" Walls

V. FASTENER GUIDE (cont'd.)

<u>Framing</u>		<u>Attachment</u>	<u>Fastener Spacing C to C</u>
		1/2" IMPERIAL Plasterbase	
Metal Studs			
	Single Layer	<u>Screws</u> - 7/8" USG Brand HI-LO Type S	12"
	Double Layer	- 1-5/16" USG Brand HI-LO Type S (second layer)	16" (both layers)
RC-1 Resilient Channel		<u>Screws</u> - 1-1/4" USG Brand Type W for Channel to Framing; 7/8" USG Brand HI-LO Type S for base	12"
Metal Furring Channel		<u>Screws</u> - 7/8" USG Brand HI-LO Type S	12"
Laminated (walls only)		<u>Screws</u> - 1-1/2" USG Brand Type G	36" Edges 48" Center
		5/8" IMPERIAL Plasterbase	
Wood Frame		<u>Nails</u> - 1-3/8" 13 Gauge, Minimum 15/64" Head, Annular Ring or Barbed Shank, Blued, Polished or Cement Coated	7" Ceilings 8" Walls
		<u>Screws</u> - 1-1/4" USG Brand Type W	12"
		For Type X, Nails shall be 1-7/8" 6d Cooler Type Cement Coated	6" Ceilings 7" Walls
Metal Studs	Single Layer	<u>Screws</u> - 1" USG Brand HI-LO Type S	12"
	Double Layer	1-5/8" USG Brand HI-LO Type S (second layer)	16" (both layers)
RC-1 Resilient Channel		<u>Screws</u> - 1-1/4" USG Brand Type W for Channel to Framing; 1" USG Brand HI-LO Type S for base	12"

VI. SYSTEMS

A. Metal Stud Partition (Non-load bearing)

1. Runner Track shall be aligned accurately at floor and ceiling according to partition layouts and secured with suitable fasteners at a spacing not to exceed 24" o.c.

Studs shall be positioned vertically engaging both floor and ceiling runners and spaced (16" o.c.) (24" o.c.) - Refer Sect. III Framing. All studs located adjacent to door and borrowed light frames, partition intersections, and corners shall be anchored to the ceiling and floor runner flanges by positive screw engagement or by locking the studs with the USG Metal Lock Fastener. When necessary, studs shall be spliced with a minimum 8" nested lap with one positive attachment per stud flange.

Studs shall be placed in direct contact with all door frame jambs, abutting partitions, partition corners and existing construction elements. Where a stud is installed directly to exterior walls and there is a possibility of water penetration through the walls, install an asphalt felt protection strip between the stud and the wall surface. Studs shall be securely anchored to the jamb and head anchor clips of each door or borrowed light frame by bolt or screw attachment (not required for frames with structural bar struts). Over metal door and borrowed light frames a cut-to-length section of runner track with a web-flange bend at each end shall be placed horizontally and securely fastened with one positive attachment per flange. A cut-to-length stud (extending to the ceiling runner) shall be positioned at the location of vertical joints over the door frame header.

2. Attachment of IMPERIAL Plasterbase - Single Layer

IMPERIAL Plasterbase shall be applied face out with a long dimension (parallel) (at right angles) to framing members. All abutting ends and edges shall occur over stud flanges. IMPERIAL Plasterbase of maximum practical length shall be so arranged as to occur on different studs.

For vertical application of base, screw fasteners shall be spaced a maximum of 12" o.c. in the field of the base and 8" o.c. staggered along the vertical abutting edges. For horizontal base application, screw fasteners shall be spaced a maximum of 12" o.c. in the field of the base and 12" o.c. along the abutting end joints. Screws shall be power driven with an electric screwdriver and set so that the screw head provides a slight depression below the surface of the IMPERIAL Plasterbase without tearing through the face paper.

VI. SYSTEMS (cont'd.)

3. Attachment of IMPERIAL Plasterbase - Double Layer

For screw attachment space screws 16" o.c. for both layers. In both cases the plasterbase shall be applied vertically with the joints in the face layer offset from the inner plasterbase layer.

In double layer laminated construction, screw attach inner plasterbase layer with screws spaced 8" o.c. at joint edges and 12" o.c. in the field. Apply second plasterbase layer vertically with USG Laminating Adhesive spread on the back side, stagger joints approximately 12" and fasten to first layer with 1-1/2" Screw Type G. Screws shall be driven approximately 2 ft. from ends and 4 ft. o.c. in field of panel; 1 ft. from ends and 3 ft. o.c. along vertical edges aligned approximately 3" from the edges.

Normally, adhesive drying time is about 48 hours. Under high humidity conditions, provide ventilation to remove excessive moisture. At low temperatures, heat must be provided at all times so temperature of work area does not fall below 55 degrees. Do not apply IMPERIAL Plaster until certain that adhesive is dry.

B. Wall Furring

1. Direct Attachment of Channels

Attach Metal Furring Channels vertically to masonry or concrete surfaces spaced (16" o.c.) (24" o.c.) - Refer Sect. III Framing. Fasten each channel with hammer-set or power-activated stud fasteners or concrete stub nails spaced 24" o.c. on alternate wing flanges (staggered). Whenever the furring channel is installed directly to an exterior wall and there is a possibility of water penetration through the walls, install an asphalt felt protection strip between the furring channel and the wall surface.

2. Furred Attachment of Channels

Attach USG Adjustable Wall Furring Brackets with serrated edges faced upward to masonry wall in the following spacing pattern:

48" o.c. vertically, 4" maximum from floor and ceiling; 36" o.c. horizontally, 4" maximum from columns or other abutting construction; and as required above and below windows. Fasten each bracket through hole closest to serrated edges. Use a 2" cut nail in mortar joints of brick, clay tile, cement block or in field of lightweight aggregate blocks; use 5/8" concrete stub nails or power-activated fasteners in monolithic concrete. Lay 3/4" cold rolled channels horizontally on furring brackets so that channel flanges engage ser-

B. Wall Furring (cont'd.)

rated edges of bracket. Be certain each channel is plumbed to a line with ceiling and base channels. Wire the cold rolled channels to each bracket with a double strand 16 or 18 gauge wire. Bend each excess bracket length down and inward toward wall. Position furring channels vertically 16" o.c., with wing flanges against cold rolled channels. Wire-tie each furring channel - cold rolled channel intersection with double strand 16 or 18 gauge wire.

At outside corners of masonry walls, the IMPERIAL Plasterbase shall be supported by attaching it to either short horizontal pieces of furring channel mitered to extend around the corners or a vertical Metal Stud whenever furring brackets are used.

C. Furred and Suspended Ceiling Assemblies

1. Furring Attached to Open Web Steel Joist

Metal Furring Channel shall be erected at right angles to the steel joists which are spaced a maximum of 4'-0" o.c. The Metal Furring Channel shall be spaced (16" o.c.) (24" o.c.) - Refer Sect. III Framing - and securely saddle tied with two strands of 16 gauge tie wire to each steel joist, and shall not be let into or come in contact with abutting masonry walls. End splices shall be provided by nesting channels no less than 8" and securely wire-tied at the lap.

For furred ceiling assemblies, furring channel (7/8" minimum depth) shall be supported 48" o.c. maximum. Use 1-5/8" metal studs, spaced a maximum of 24" o.c. and secured with flanges up (open side up) against framing where support spacing is greater than 4' o.c., but not exceeding 6' o.c.

At light troffers or any opening that interrupts the furring channels, install additional furring channels at each side of the troffer or interruption and securely wire-tie to steel joist.

2. Suspended Ceiling

Hangers shall be spaced not over 4'-0" in the direction of the main runners and not over 4'-0" in the direction at right angles to the main runners, and within 6" of the ends of main runner runs and of boundary walls, girders or similar interruptions of ceiling continuity. All hangers shall be of such length to (wrap around or securely attach to steel beams, joists) (provide suitable anchorage in concrete by attachment to reinforcing steel, or by being looped or embedded 2" in concrete) and to provide for full saddle tie to main runners at indicated height.

1-1/2" channel main runners shall be placed not over 4'-0" o.c. properly positioned relative to the indicated ceiling height, leveled,

2. Suspended Ceiling (cont'd.)

and hangers shall be saddle-tied along runner. Main runner shall not be let into abutting masonry walls or partitions and axial clearance of not less than 1" shall be provided at each end of the runners. Runner channels shall be located within 6" of the walls to properly support the cross furring. At main runner splices, the ends shall be overlapped not less than 12", with flanges of channels interlocked, and securely tied near each end of the splice with double loops of 16 gauge tie wire.

Cross furring of Metal Furring Channels shall be spaced (16" o.c.) (24" o.c.) - Refer Sect. III Framing - and securely saddle-tied with two strands of 16 gauge tie wire or attached with the Metal Channel Clip. Metal Furring Channel shall not be let into abutting masonry walls or partitions, and axial clearance of not less than 1" shall be provided at each end of the channel. At furring channel splices, the ends shall be overlapped not less than 8" with flanges of channel interlocked, and securely tied near each end of the splice with double loops of 16 gauge tie wire.

3. Attachment and Erection of IMPERIAL Plasterbase

IMPERIAL Plasterbase shall be applied face out with the long dimensions at right angles to the furring members. All abutting ends and edges shall occur over framing members. IMPERIAL Plasterbase of maximum practical lengths shall be used to minimize end joints which shall be staggered in adjacent rows. Plasterbase shall be fastened to channels with Type S screws spaced 12" o.c. in the field of the base and along abutting ends. Screws shall be driven at least 3/8" from ends or edges of base. All screws shall be power-driven with an electric screwdriver and screw heads shall provide a slight depression below the surface of the board.

D. Chase Walls

1. Chase walls may be constructed using Metal Studs provided they are properly cross braced. Chase walls are to be non-load bearing.
2. Erection - For chase wall construction, a double row of 1-5/8" Metal Runners shall be placed parallel and lined accurately at floor and ceiling.

The runners shall be spaced no farther apart than 15 inches, as measured from the outside flanges of the runners, and securely anchored with suitable fasteners, spaced not more than 24" o.c.

A double row of 1-5/8" Metal Studs shall be positioned vertically in the runners, spaced (16" o.c.) (24" o.c.) - Refer Sect. III Framing - with the spacing started from the same point in each row of studs, so that any pair of studs are opposite each other with the

D. Chase Walls (cont'd.)

flanges pointing in the same direction. Anchor all studs to runner flange with the flange with the Type S screw.

Cross bracing between the rows of studs shall be cut from (1/2") (5/8") IMPERIAL Plasterbase and screw attached to the stud webs at third points with Type S screws, spaced 8" o.c., in each stud web or a minimum of three screws per stud web. A cross brace shall be located at the center of the partition height for each pair of studs. Single face layer or base layer (1/2") (5/8") IMPERIAL Plasterbase shall be applied vertically. Type S screws shall be spaced 12" o.c. in the field of the board and 8" o.c. staggered at the vertical points.

E. 2-1/4" Solid IMPERIAL Plaster Partition

The basic 2-1/4" Solid IMPERIAL Plaster Partition consists of 1/2" IMPERIAL Plasterbase job laminated on both sides to 1" USG Coreboard, secured in metal floor and ceiling runners and plastered with high strength IMPERIAL Plaster.

Designed primarily for space separation within units the partition is incombustible and non-load bearing. The Coreboard can be pre-cut or routed to receive electrical service lines.

1. Floor and ceiling runners shall be accurately aligned and securely fastened with suitable fasteners not less than 24" o.c. Runners must be securely attached and accurately aligned to plumb partition.
2. Setting Door Frames - All metal door frames shall be located and installed prior to erection of 1" Coreboard (see Section G, Related Inclusions). Borrowed lights shall be installed in accordance with drawing layout as Coreboard erection proceeds.
3. Coreboard Erection - Measure and cut 1" Coreboard to height, fitting into floor and ceiling runners. Begin installation by engaging vertical edge of Coreboard in jamb anchor clips. Metal frame manufacturers usually attach core centering clips to metal door (or window) frames in accordance with building specifications to accept coreboard panels. Clips are shop welded in jambs and head of frame. Recommended location of core centering clips on frame is indicated in installation details (see Section G, Related Inclusions, Door and Window Frames).

Place a cut to size section of Coreboard over frame header by engaging bottom edge in anchor clips. As succeeding coreboards are installed, the round edge tongue shall be firmly engaged in "V" edge groove of next coreboard. Fasten coreboard to floor and ceiling runners with 1-1/4" USG Brand Screw Type W (1-5/16" Type S for metal runners) 12" o.c. Before erection, cut openings in core-

E. 2-1/4" Solid IMPERIAL Plaster Partition - (cont'd.)

board to receive electrical services (rigid conduit, flexible cable, outlet boxes, etc.)

Coreboard panels must be nailed together where partitions intersect. Mark center line of intersecting joint on face of coreboard which conceals joint. Drive 10d common nails 24" o.c. into coreboard along center line, 1/2" from corner edge. Nail partitions in same manner.

4. Laminating Face Layer - After coreboard is installed, spot grout door frame where each core centering clip is located.

IMPERIAL Plasterbase shall be cut to the proper size for the full floor to ceiling dimension. Using a spreader of convenient size, spread USG Laminating Adhesive mixed in strict accordance with directions of manufacturer, over back of face layers. Adhesive must be applied in "V" shaped ribbons, 5/16" wide at base and 1/2" high, spaced approximately 4-1/2" apart. Apply face layer vertically to coreboard, arranging so that vertical abutting joints are at least 3" away from coreboard joints.

To insure proper adhesion and attachment, plasterbase shall be fastened to coreboard with Type G Screws. Screws shall be driven approximately 2 ft. o.c. along vertical edges aligned approximately 2" from vertical edges. Screws shall be power-driven with an electric screwdriver, and screw heads shall provide a slight depression below the surface of the plasterbase.

Normally, adhesive drying time is about 48 hours. Under high humidity conditions, provide ventilation to remove excessive moisture. At low temperatures, heat must be provided at all times so temperature of work does not fall below 55°. Do not apply IMPERIAL Plaster until certain that adhesive is dry.

F. Double Solid Partitions

The basic Double Solid Partition is built of two parallel rows of 1" x 24" USG Coreboard spaced a minimum of 1-1/8" apart and each faced with an offset layer of 1/2" x 4" wide IMPERIAL Plasterbase.

Increasing the space between the Coreboard rows, the partition serves as a chase to contain mechanical and plumbing services. Partition is non-load bearing.

1. Floor and Ceiling Runners - Runners for Double Solid Partition must be spaced not less than 1-1/8" to provide 46 STC sound reduction, and a 3" spacing for a 54 STC with THERMAFIBER Sound Attenuation Blanket as determined by the intended use of the partition; i.e., party or corridor walls or pipe chase enclosures.

F. Double Solid Partitions - (cont'd.)

Other specifications per 2-1/4" Solid Partition.

2. Setting Door Frames - (Specifications per 2-1/4" Solid Partition).
3. Coreboard Erection - (Specifications per 2-1/4" Solid Partition).
4. Laminating Face Layer - Shall be the same as for the 2-1/4" Solid Partition (for laminating, fastening with Type G Screws, and drying time) except that the laminating adhesive shall be applied in three strips, at the edges and center, of 4 ribbons each about 2" apart.

G. Related Inclusions

1. Door and Borrowed Light Frames

Under appropriate section of specifications, indicate that metal door and borrowed light frames shall be formed of not less than 16 gauge steel, shop primed; anchorage to floor shall be by two power-activated anchors, or equivalent. Attachment, through a clip, minimum 14 gauge steel, at each jamb.

Clips shall be shop welded to trim flanges. For best results, anchor inserts (core centering clips) of minimum 18 gauge steel, shall be shop welded in each jamb and header in accordance with details in sketch.

Door frame struts shall be 1" x 1/4" hot rolled steel bar stock. In construction where struts are not used, temporary bracing shall be used to level and plumb frame until partition is erected.

Where wood door or borrowed light frames are required, nominal 1" x 1" wood runner detailed for floor and ceiling runners shall be used for rough buck. In the case of door frames, jamb section of rough buck may serve as a strut and should extend from floor to ceiling and be securely toe-nailed to runners.

Hollow Metal Frames shall be grouted with a stiff mortar of 100 lbs. of RED TOP Gypsum Plaster and 3 cu. ft. of sand.

2. Electrical Installation

The depths of electrical outlet boxes are limited as follows and should be noted under appropriate section of specifications:

2-1/4" Solid Partition	1-1/2"
Double Solid Partition	2-1/2"

H. Laminated Insulating Assemblies over Masonry, Precast or Monolithic Concrete

Where rigid foam insulation (STYROFOAM FR, DORVON FR 100 or 125) is applied to the interior of masonry, precast or monolithic concrete exterior walls, IMPERIAL Plasterbase can be attached to the rigid foam insulation, plastered with IMPERIAL Plaster Base-coat and finished with STRUCTO-GAUGE gauging - Lime, DIAMOND Finish Finish Plaster or Keenes-lime-sand.

This efficient insulating system may be used in all areas where standard gypsum lath and plaster or gypsum drywall furring systems over masonry are specified.

1. Limitations

- a. Normally attached to load bearing walls, but not in itself load bearing; requires perimeter relief and control joints.
- b. Maximum allowable run between control joints is 20 feet.
- c. IMPERIAL Plaster System is not recommended for use in cold storage areas.

2. Exterior Wall Preparation

Before bonding rigid foam insulation to unit masonry, monolithic concrete or precast concrete panels, all walls shall be plumb, true to dimensions and clean. Walls shall be dry and absorbent and the surface of poured concrete free from form releasing agents which prevent proper bonding of adhesives.

Before installation of rigid foam insulation, attach wood nailer strips to wall surface where required for subsequent attachment of mouldings, trim, cabinets, drapes or other heavy wall fixtures. Install wood nailers at the base and the wall-ceiling juncture for mechanical attachment of the plasterbase. Nailers are also required around all openings and at the edge termination of the plasterbase above suspended ceilings. To attach the wood nailers, use Dow Insulation Mastic No. 7 applied in a 5/16" diameter ribbon or in small spots 1" diameter, 3" on center. Position on wall and supplement with mechanical fasteners (concrete nails) as necessary to hold in place until mastic bonds.

3. Electrical Installation

When necessary, the rigid foam insulation can easily be grooved or routed to recess conduit or pipe. Shallow electrical boxes are recommended.

4. Application of Adhesives to Rigid Foam Insulation

- a. Modified portland cement-base adhesive

H. Laminated Insulating Assemblies over Masonry, Precast or Monolithic Concrete (cont'd.)

- 1) Push-box: Per Technical Data Sheet 5-1 of Dow Chemical Company.
- 2) Spot-application: To one side of foam board, apply spots of adhesive 2" to 3" in diameter, 1/2" to 1" peak height, alternately spaced 8" o.c. beginning at corner of board.
- 3) Notched trowel: Apply adhesive to the vertical wall or if desired, adhesive may be applied to the rigid foam insulation.

b. Mastic Adhesive

- 1) Spot-application: Beginning at corner of the rigid foam insulation, apply spots of mastic approximately 1-1/2" in diameter, 1" peak height, alternately spaced 8" o.c.
- 2) Mechanical application: Using a hand-operated caulking gun or suitable pneumatic equipment, extrude a nominal 5/16" diameter continuous bead of mastic along both edges of the rigid foam insulation, approximately 3" from the edge; or extrude 3" long beads, alternately spaced 8" apart, along both edges within 3" of the edge and along the center of the insulation, end to end.

5. Application of Rigid Foam Insulation

After application of adhesive, adhere rigid foam insulation directly to wall. Erect horizontally, butting all edges tightly and staggering all joints. Apply firm hand pressure over the surface to effect bond and to level surface.

The elastic properties are such that it is not necessary to provide a break in the rigid foam insulation at the control joints installed to accommodate minor structural movement in both the exterior and interior finishes.

When using portland cement-base adhesives, install the rigid foam insulation on the wall within 20 minutes after adhesive application, within 10 minutes with Dow Insulation Mastic No. 7.

Note: Store Dow Mastic No. 7 at room temperature (minimum 55° F.) at least 24 hours prior to using. Keep container tightly closed when not in use. Tools may be cleaned with water when mastic is wet; mineral spirits or naphtha when dry.

Precaution: Where severe structural movement is anticipated, the Dow Insulation Mastic No. 7 is recommended, rather than the portland cement-base adhesives.

Application during Cold Weather: See General Conditions

H. Laminated Insulating Assemblies over Masonry, Precast or Monolithic Concrete (cont'd.)

DO NOT use portland cement-base adhesives for bonding rigid foam insulation to exterior walls when outdoor temperatures are below 32° F. When outdoor temperatures are below freezing, Dow Mastic No. 7 may be used if supplemented with mechanical fasteners. Three fasteners per sheet of rigid foam insulation are adequate. The mastic adhesive will gradually stiffen and develop normal bond as the temperature rises above 32° F.

6. Erection of IMPERIAL Plasterbase

After the rigid foam insulation has been installed and after a minimum of 24 hours, apply STYROTAC modified portland cement adhesive or Dow Insulation Mastic No. 7 to the back of the IMPERIAL Plasterbase by any of the adhesive application methods previously described (push-box method excluded).

Note: If the rigid foam insulation is adhesively adhered to the exterior walls with Dow Insulation Mastic No. 7, either a portland cement-base adhesive or the Mastic No. 7 may be used to adhere the plasterbase to the rigid foam insulation. If a portland cement-base adhesive is used to adhere the rigid foam insulation to the exterior walls, Dow Insulation Mastic No. 7 is recommended for adhering the plasterbase to the rigid foam insulation. In all adhesive applications it is necessary to apply a ribbon of adhesive along each long edge of the plasterbase in addition to the application of the adhesive to the base by the previously described methods. Within 20 minutes after the adhesive has been applied to the plasterbase (10 minutes with No. 7 mastic) erect the base vertically. Apply firm hand pressure over the board surface to insure bond and to level base. Control joints shall be installed where they occur in the exterior walls and not more than 20' o.c. Completely isolate the plasterbase and plaster from all structural elements such as columns, beams and partitions that join the exterior wall by installing casing beads (700-B) at these locations to provide a break in continuity. To isolate the plasterbase from floor irregularities and structural movement, place a strip of rigid foam insulation on the floor and then place the plasterbase on the rigid foam insulation. After the adhesive has set, cut the rigid foam insulation flush with the surface of the plasterbase.

Precaution:

All vertical edges of the plasterbase shall be true and plumb. (A straightedge is recommended for this procedure.) To assist the adhesive in maintaining a true and plumb vertical edge, nails may be driven at a 60° angle along the vertical edge of the plasterbase. NAILS MUST BE REMOVED after the adhesive has set and prior to joint preparation.

H. Laminated Insulating Assemblies over Masonry, Precast or Monolithic Concrete (cont'd.)

7. Reinforcing Plasterbase Joints

See Section VIII.

Note: All vertical edge joints must be taped the full length of the plasterbase. At the top and bottom of the vertical edge joint of the plasterbase, embed a 12 inch piece of tape horizontally across the edge joint. After the PERF-A-TAPE reinforcing has been embedded, apply a skim coat of fresh joint compound over the PERF-A-TAPE.

Precaution:

If there is insufficient compound between the plasterbase joints and the PERF-A-TAPE, blisters will appear. ALL BLISTERS MUST BE REMOVED. To repair, cut above and below the blistered area, remove the tape and apply fresh joint compound. Allowing approximate 1" overlap over the existing tape, embed another section of tape, and finish to flush joint.

8. Application of IMPERIAL Plaster Basecoat

See Section XI - G.

9. Application of Finish Coat

See Section XI - I.

I. Wood Frame Constructions

1. General Data

Wood framing meeting the following minimum requirements is necessary for proper performance. Framework shall meet the minimum requirements of FHA and local building codes. Framing members shall be straight, true, of uniform dimension, and framing shall be properly aligned. All framing lumber shall be of a good grade for the intended use, and 2" x 4" nominal size or larger shall bear the grade mark of a recognized inspection agency using grading rules for lumber recommended by the American Lumber Standards Committee. All framing lumber shall have a moisture content not in excess of 15% at the time of gypsum base application. Use of kiln dried lumber for joists is recommended. Do not attach base to extremely hard (dense) or soft framing members.

NAIL POPPING

A nail pop is a protrusion, from an otherwise smooth surface, located directly over the head of a nail. The protrusion or bump is

I. Wood Frame Constructions (cont'd.)

caused by an outward movement of the concealed head of the nail in relation to the finished surface, or it can be caused by an inward movement of the finished surface in relation to the nail head. Nail popping may occur whenever materials of any kind are joined with nails of any kind, size or shape.

NAIL POPS ARE USUALLY CAUSED BY:

Nail heads puncturing face paper, lack of pressure on base during nailing, base improperly fitted, nailing base from ends and edges toward center, framing members out of alignment, bowed or twisted, base applied over protrusions, nails insecurely driven, nails loosened by pounding, or by use of improper nails and lumber shrinkage.

Failure to observe these minimum framing requirements will materially increase the possibility of ineffective fastener concealment, due to poor application practices, shrinkage of lumber or a combination of the two. Check the studs, plates, joists, headers, heating ducts, electrical attachment and plumbing pipes to see that none will cause the base to be held away from the fastening surfaces of the framing members. Straighten any bowed, twisted studs or joists. Shim as required.

2. Direct Attachment of IMPERIAL Plasterbase

The IMPERIAL Plasterbase may be applied in either a vertical or horizontal direction - (Refer Sect. III Framing.) All ends and edges of the base shall occur over framing members, except when joints are at right angles to framing members as in horizontal application.

The plasterbase shall be applied first to the ceilings and then to the walls. To minimize end joints, use maximum practical lengths. The base shall be brought into contact, but shall not be forced into place. Where ends or edges abut they shall be fitted nearly. End joints shall be staggered. Joints on opposite sides of partitions shall be so arranged as to occur on different studs.

Nailing should proceed from the central portion of the base toward the end and edges. While the nails are being driven, the base shall be held in firm contact with the underlying support. Nails shall be spaced 7" to 8" o.c. and not less than 3/8" from edges and ends of the base. The head of the nails shall be set flush with the surface of the paper but not breaking the paper. Where base appears too loose from the stud or joist, double nailing shall be used.

Interior vertical and horizontal angles shall be floated by not nailing to the framing members in the angles. In the case of framing members at right angles to the interior angle, nail approximately 8" away from the angle.

I. Wood Frame Constructions (cont'd.)

Base shall be neatly cut and fitted for pipes, electrical outlets, medicine cabinets, etc. Holes for electrical outlet boxes shall be cut from the base by a special outlet box cutting tool. For circular holes the adjustable circular cutting tool shall be used. Remove any loose face paper at cut and use quick-setting plaster to fill any holes or openings.

3. Adhesive Application of IMPERIAL Plasterbase

IMPERIAL Plasterbase may be applied to wood framing by adhesive attachment. Application procedure per A.I.A. file (a-1387) shall be followed. In addition to the specified perimeter nailing required per this procedure, the following supplemental nailing is required:

Ceilings:

- a. One nail per framing member at mid-width of the plasterbase.

Sidewalls:

- a. 8 ft. base - one nail at mid-width of base spaced at third points to length; i.e., every 4 ft. of length.

Adhesive applied IMPERIAL Plasterbase shall be allowed to dry for a minimum of 48 hours prior to application of IMPERIAL Plasters.

4. Resilient Attachment of IMPERIAL Plasterbase

a. Resilient Sidewall Application

RC-1 Resilient Channels shall be positioned at right angles to the wood framing, spaced (16" o.c.) (24" o.c.) - Refer Sect. III Framing - and attached to the supports with 1-1/4" Type W Screws driven through the punch holes provided in the attachment flange. The resilient channels shall be positioned with the base attachment flange up and shall be spaced (16") (24") - Refer Sect. III Framing. Channel shall be located at the floor line, a maximum of 6" down from the ceiling line, and extended into all corners and connected to the corner framing. Channels shall not be cantilevered more than 6". When required, the resilient channel shall be spliced directly over the support by nesting the channel and attaching both flanges to the support.

b. Resilient Ceiling Application

RC-1 Resilient Channels shall be attached at right angles to wood joist and fastened to doffit of joist with 1-1/4" Type W Screws driven through the pre-punched holes in the channel flange. Do not use nails. Channels shall be located within 6" of the wall-ceiling intersection, spaced (16" o.c.) (24" o.c.) - Refer Sect. III Framing - extended to all corners and fastened to corner framing. Do not

I. Wood Frame Constructions (cont'd.)

cantilever channels more than 6". When required, the resilient channel shall be spliced directly over the support by nesting the channel and attaching both flanges to the support.

VII. APPLICATION OF IMPERIAL JOINT REINFORCING TAPE

A. Type P (pressure sensitive)

1. For walls, tape shall be applied to all horizontal and vertical joints (edges and ends) by aligning tape over the joint and lightly pressing along the entire length. To insure firm, wrinkle-free attachment, tape shall then be firmly pressed by hand or by use of a steel finishing knife or trowel.
2. For ceilings, tape shall be applied in the same manner as on walls, taking care during initial alignment and attachment to keep the tape taut and not allowing it to sag.
3. For wall and ceiling angles, tape shall be centered and pressed into the angle by hand. For wrinkle-free attachment, press firmly in place with veneer plaster corner tool.

NOTE: tape shall not be overlapped at intersections. Specific fire rated assemblies require IMPERIAL Tape be attached with 3/8" staples 8" o.c. IMPERIAL Tape--Type P or Type S (for staple attachment) may be used for these assemblies.

B. Type S (for staple attachment)

1. For walls, tape shall be applied to all joints (edges and ends) with a spring-driven stapler using 3/8" staples. Tape shall be applied over the full length of all joints but shall not overlap at intersection.

For vertical joints two staples shall be placed at the top of the tape, one on each side of the joint. Keeping the tape taut, staples shall then be placed 24" c. to c. along the length of the tape, alternating from side to side. Staple the bottom end of the tape the same as the top.

For horizontal joints use the same method as for the vertical joints; i.e., two staples at the ends on each side of the joint, then 24" along the length of the tape alternating from side to side, keeping the tape tight against the base.

2. For ceilings, staple the tape in the same manner as on walls. Tape shall be pulled tight and stapled so that it is held tight to the face of the base.
3. For angles, apply tape to the ceiling angles first by stapling every 24" along the ceiling edge only. For wall angles, start at the top and staple the tape on one edge only. In all angles be certain that the tape is positioned to bridge the angle joint.

4. For fire-rated assemblies, tape shall be stapled 8" o.c.

VIII. ALTERNATE JOINT REINFORCEMENT

Under certain adverse climatic or job conditions, thincoat plasters can develop a small crack and/or ridge over the plasterbase joints. Such joint deformation is more likely to occur when low humidity or rapid drying conditions exist during the lathing and plastering stages, such as in dry, arid climates, or during cold winter weather when dry temporary or permanent heat is used. This condition is not the result of a product defect. Standard joint reinforcement procedures will minimize or effectively eliminate the hazard of joint deformation. In those instances where extremely dry job conditions are known to exist and the standard recommendations prove insufficient, the following alternate joint reinforcement procedure may be substituted:

- A. Mix DURABOND according to directions on the bag. Using a 5" broad steel finishing knife or trowel, butter DURABOND Joint Compound over the joint areas formed by the edges and ends of the IMPERIAL Plasterbase; care should be taken to avoid heavy fills. Cement PERF-A-TAPE reinforcement and press it down with fresh joint compound. Hold knife or trowel at an approximate 45 degree angle to the board. Draw knife or trowel along joint with sufficient pressure to remove excess compound. Leave sufficient compound under the tape for proper bond, but not over 1/64" under the feathered edge. When the tape is embedded, apply a skim coat of joint compound over the tape. After the embedding and skim coat are completed, apply a finish coat feathered 3" to 4" beyond the edges of the first coat. This same procedure should be used for interior angles.
- B. DURABOND may be used to fill trim and cornerbeads. Apply liberally filling to the nose of the beads, feathering the material 6" to 8" from the nose. Smooth DURABOND to remove excess material from the nose of the bead, leaving approximately 1/32" ground for the finish plaster.

Allow applications over both joints and beads to set and dry thoroughly, before application of finish plaster.

IX. APPLICATION OF CORNERBEAD AND METAL TRIM

Cornerbead #800-A or #800-B shall be applied to all external angles, held tightly over the base, and nailed or stapled not more than 12" o.c. from top to bottom on both sides of the cornerbead. When bead is in place, inside nose shall be flush with the base corner. Metal trim #700-A or #700-B shall be fastened not over 12" o.c.

X. APPLICATION OF USG CONTROL JOINT #093

Control joints should be utilized in long partition runs at intervals no greater than 30' o.c., and placed either from door header to ceiling or floor to ceiling. In ceilings, spacing between Control Joints shall not exceed 30' in either direction and the area within separated sections shall not exceed 900 square feet.

X. APPLICATION OF USG CONTROL JOINT #093 (cont'd.)

IMPERIAL Plasterbase should be installed so as to provide a one-half inch space between boards and attached to separate framing members.

Control joint should be installed fitting the grooved section of the control joint into the provided space between the base and stapling the flanges in place by means of a hand-driven stapler using 3/8" staples.

The protective plastic tape applied over the open groove shall not be removed until plastering is completed.

XI. PLASTERING INSTRUCTIONS

A. IMPERIAL Plaster Finish - Smooth Trowel

1. Mixing

Hand mixing is not recommended. Best results are obtained by using a heavy duty drill capable of producing a minimum of 650RPM under-load, such as Black and Decker #362-1 Gypsum Mixer. This type mixer in combination with a cage type mixing paddle will assure complete mixing in less time. Slower operating drills will adversely affect the setting properties of the plaster.

This formulation will set in approximately one hour; mixing and application must be coordinated so that no more material than can be applied in 30 minutes is mixed. Do not retemper.

Mixing equipment and tools must be kept clean to prevent acceleration from set plaster or other contaminants.

Place approximately 11 to 13 quarts of water in a 12 to 15 gallon smooth-sided container and with mixer operating slowly, add one bag of plaster. Mix for a minimum of two minutes to disperse all lumps completely.

2. Application

IMPERIAL Plaster Finish is to be applied to a minimum finished thickness of 1/16" to a maximum 3/32" over IMPERIAL Plasterbase. First, embed tape and fill beads with a tight, thin coat of IMPERIAL Plaster Finish and allow to set. (Pre-embedding procedure is omitted when alternate Joint Reinforcement method is used.) When tapes and beads have set, scratch in a tight, thin coat over the entire area, immediately doubling back to the full thickness. Fill all voids and imperfections. It is advisable to scratch and double back with the same mix of IMPERIAL Plaster Finish. Avoid intermixing of batches. When the surface has become firm, holding the trowel flat, final trowel using water sparingly. Do not over-trowel. Best results are obtained by planning the plastering of an area to permit continuous application from angle to angle.

Where joining is unavoidable use trowel to terminate unset plaster in sharp clean edge. (Do not feather out). Bring adjacent plaster up to

A. IMPERIAL Plaster Finish - Smooth Trowel (cont'd.)

terminated edge and leave level. Do not overlap. During finish troweling, use excess material to fill and bridge joining.

B. IMPERIAL Plaster Finish - Sand Float

1. Mixing

Mixing shall be the same as outlined in XI-A above, with the exception that up to 20 pounds of clean silica sand per 80 pound bag of IMPERIAL Plaster Finish shall be added, depending on the texture desired. The quantity of sand added per bag shall be consistent.

2. Application

Application shall be the same as outlined in XI-A above, with the exception that when the surface has become firm it shall be floated to the desired texture, using sponge, carpet or other float. Use water sparingly.

C. IMPERIAL Plaster Finish - Colored Sand Float

1. Mixing

Mixing equipment and procedure to be the same as outlined in XI-A above, with the following exceptions:

Place approximately 11 to 13 quarts of water in a clean 12 to 15 gallon container, then add a measured amount of color to the mixing water. The colorants can be easily dispersed in the mixing water by turning the mixer on and off several times. Then with the mixer operating, slowly add both one bag of plaster and up to 20 pounds of clean silica sand, depending on the texture desired. Mix for a minimum of three minutes to disperse all lumps completely.

Approximately 2 fluid ounces of Colortrend Concentrated Colorant or 2-1/2 pounds of Tamms Plaster Color per 80 pounds of IMPERIAL Plaster or as needed to achieve desired shades of color.

Note: To obtain uniform dispersion of color do not attempt to add colorants directly into the plaster mortar. Caution should be exercised to add the same amount of pigment to each batch to maintain color uniformity throughout the area being finished.

2. Application

Application shall be the same as outlined in XI-A and XI-B above, with the exception that water shall be used only to initially wet the float, and the texturing operation shall be completed prior to the set of the IMPERIAL Plaster Finish. Texturing of the surface during or after set has taken place will result in a definite color fading.

C. IMPERIAL Plaster Finish - Colored Sand Float (cont'd.)

Note: To meet the individual preferences of different markets, it is possible to achieve a wide variety of surface textures and colors using this system. These effects may be produced by varying amounts of colorants, sand and floating techniques.

3. Limitations

- a. The addition of color is intended for use only with IMPERIAL Plaster Finish.
- b. The addition of color is recommended only where a float finish surface is desired.

D. IMPERIAL Plaster Machine Finish - Smooth trowel

1. Limitations and Precautions

- a. IMPERIAL Plaster Machine Finish and Basecoat shall be machine-applied using the E-Z Coater Machine, sold by The Essick Manufacturing Company. The E-Z Coater machine shall be operated in strict accordance with the manufacturer's directions, using the PDC acceleration process.
- b. The successful spraying of Machine Finish and Basecoat requires advance job planning and training. In addition to the procedures outlined, the following points must be given special attention to achieve a smooth trowel finish.
 - 1) E-Z Coater machine functioning properly to provide the desired set under the existing job conditions.
 - 2) Mixing and application equipment are kept thoroughly clean.
 - 3) Heating, ventilating, and job protection requirements are strictly observed.
 - 4) Adequate manpower, equipment and scaffolding are provided on the job.
 - 5) Personnel have complete understanding of application procedures outlined.
 - 6) The base must be properly applied, beads securely set, and tape correctly applied, since the plaster application will not correct improper lathing practices.
 - 7) IMPERIAL Plasterbase must be protected from overspray, or contamination of materials containing lime or casein additives (simulated and acoustical plasters, joint cements). Such materials adversely affect the bonding characteristics of IMPERIAL Plaster.
 - 8) A protective face mask must be worn during plaster application.
- c. It is desirable to cover the floor with an inexpensive paper, dry sand or oiled galvanized sheets (reusable) at the wall perimeter and protect window sash, electrical outlets and switch boxes with plastic sheeting or paper covers. Fixtures may be covered with paper adhesively applied with masking tape.

D. IMPERIAL Plaster Machine Finish - Smooth Trowel (cont'd.)

Metal door and window frames may be protected with a parting compound using care not to spray or brush the parting compound on the IMPERIAL Plasterbase.

2. Mixing

Place approximately 13 to 15 quarts of clean water in a 12 to 15 gallon smooth-sided container and with the mixer operating, slowly add one bag of plaster. Mix for a minimum of two minutes to disperse all lumps completely. Dump IMPERIAL Plaster Finish mix directly through the 8 x 8 mesh screen hopper of the E-Z Coater.

If necessary, adjust the amount of water so that approximately 75 to 90% of the plaster in the container will flow through the screen on top of the E-Z Coater hopper without shaking the screen.

Mixing equipment, hopper screen and hopper shall be kept clean to prevent acceleration from set plaster or other contaminants.

Mix 3 pounds of IMPERIAL Catalyst (one bag) in 3 gallons of clean water in a plastic pail. Stir until material dissolves, let residue settle and pour into accelerator tank of the machine. Accelerator tank holds 3-1/2 gallons.

3. Application

The E-Z Coater material control and catalyst flow control should be adjusted to give the IMPERIAL Plaster Finish a 60 to 90 minute set on the base. This may be checked by spraying a small amount of IMPERIAL Plaster on a scrap piece of base and timing the set. With the set time adjusted, spray all taped joints and flanges of the cornerbead in a pattern wide enough to cover the tape and the areas adjacent to the cornerbead. Immediately trowel these areas level, so that the tapes are completely embedded and the flanges of the bead are covered and the plaster left level, without voids. (Spraying of joints and beads is omitted when the alternate joint reinforcement method is used.)

Spray IMPERIAL Plaster Finish to a 1/16" thickness in a double spray procedure. Apply the first coat approximately 1/32", followed immediately by a cross spray to a uniform 1/16" thickness. Do not apply more than 3/32" thick.

Immediately, trowel the entire surface level, filling all voids and depressions. The application should be left in such a condition that it requires only a finish troweling to close and smooth the surface.

When the surface has become firm, holding the trowel flat, final trowel using water sparingly. Do not over-trowel. Best results are obtained by planning the plastering of an area to permit continuous application from angle to angle.

E. IMPERIAL Plaster Machine Finish - Texture

When a texture finish is desired, apply material as above, except it is not necessary to finish trowel the surface. It is recommended that the surface be leveled to remove all defects, such as trowel marks, voids, catfaces, etc. With the application completed in a sufficiently large area, the texture coat may be applied. Pump speed, atomizing air pressure and the consistency of the material shall be adjusted to give the desired texture finish.

When applying texture finish, the texture coat shall be applied as soon as possible after the base application has set. The accelerator control shall be adjusted to produce a 15 to 20 minute set. Do not allow base application of plaster to dry before texture finish is applied.

F. IMPERIAL Plaster Machine Finish - Float Finish

1. Mixing

Mixing shall be the same as outlined in XI-C, with the exception that up to 20 pounds of clean silica sand per 80 pound bag of IMPERIAL Plaster Finish shall be added, depending on the finish desired. The quantity of sand added per bag shall be consistent.

2. Application

Application shall be the same as outlined in XI-C, with the exception that final troweling is omitted. When the surface has become firm, it shall be floated to the desired texture, using sponge, carpet or other float. Use water sparingly.

G. IMPERIAL Plaster Basecoat

1. Mixing

Same as outlined in Section XI-A.

Place approximately 8 to 10 quarts of water in a 12 to 15 gallon smooth-sided container and with mixer operating, slowly add one bag of IMPERIAL Plaster Basecoat. Mix for a minimum of two minutes to disperse all lumps completely.

2. Application over IMPERIAL Plasterbase

IMPERIAL Plaster Basecoat is to be applied from a minimum thickness of 1/16" to 3/32" over IMPERIAL Plasterbase. First, embed tape and fill beads with a tight thin coat and allow to set. (Pre-embedding procedure is omitted when alternate joint reinforcement method is used.) When tapes and beads have been completed, scratch in a thin coat over the entire area, immediately doubling back to the full thickness. Fill all voids and imperfections. It is

G. IMPERIAL Plaster Basecoat (cont'd.)

advisable to scratch and double back with the same mix. Avoid inter-mixing of batches. Do not smooth trowel but leave rough, or cross raked with a fine wire rake. Allow basecoat to set and dry sufficiently to provide proper suction for the finish coat.

3. Application over Monolithic Concrete

a. Surface Preparation

Concrete must be structurally sound and clean, free of dirt, dust, grease, wax, oil or other unsound surface conditions. The surface must be reasonably uniform and level. Form ridges shall be removed. Apply an approved liquid plaster bonding agent (polyvinyl acetate type) with a brush, roller or commercial spray equipment in a thin continuous film, following manufacturer's directions.

b. Application

Fill all voids and depressions with IMPERIAL Plaster Basecoat to present a true, even surface. Allow to set and partially dry. Conventional RED TOP accelerators may be used to quicken the set when used for filling and leveling purposes. Apply to scratch coat of IMPERIAL Plaster Basecoat over the entire area, immediately doubling back with a second coat, filling imperfections, to a 1/16" to 3/32" thickness. Allow Basecoat to set and dry sufficiently to provide proper suction for the finish coat. Follow standard directions for finishing.

4. Application over Cement Block

a. Surface Preparation

IMPERIAL Plaster Basecoat may be applied directly to interior cement block surfaces, provided the surface is sufficiently porous to develop proper suction or scored to develop adequate mechanical bond with plaster, and free of dirt, dust, grease, wax, oil or other unsound conditions. Broken or chipped units should be replaced or repaired before plastering. The surface must be reasonably uniform and level.

Immediately prior to plastering, lightly spray all walls with water to provide uniform suction.

b. Application

Fill all voids and depressions with IMPERIAL Plaster Basecoat including joints. Conventional RED TOP accelerators may be used to quicken the set when used for filling and leveling purposes. After sufficient take-up has occurred, apply a scratch coat to the entire

G. IMPERIAL Plaster Basecoat (cont'd.)

area, immediately doubling back to the total thickness with a second coat. Do not smooth trowel, but leave rough, by leveling with a serrated darby or cross rake with a fine wire rake. Allow Basecoat to set and dry sufficiently to provide proper suction for the finish coat. Follow standard directions for finishing.

H. IMPERIAL Plaster Machine Basecoat

1. Limitations and Precautions

Same as outlined in Section XI-D (Machine Finish).

2. Mixing

Same as outlined in Section XI-A.

Place approximately 8 to 10 quarts of clean water in a 12 to 15 gallon smooth-sided container and with the mixer operating, slowly add one bag of plaster. Mix for a minimum of two minutes to disperse all lumps completely. Dump IMPERIAL Plaster - Machine Basecoat mix directly through the 8 x 8 mesh screen into the hopper of the E-Z Coater.

If necessary, adjust the amount of water so that approximately 75 to 90% of the plaster in the container will flow through the screen on top of the E-Z Coater hopper without shaking the screen.

Mixing equipment, hopper screen and hopper shall be kept clean to prevent acceleration from set plaster or other contaminants.

Mix 9 pounds of IMPERIAL Catalyst (3 bags) in 3 gallons of clean water in a plastic pail. Stir until material dissolves, let residue settle and pour into accelerator tank of the machine. Accelerator tank holds 3-1/2 gallons.

3. Application over IMPERIAL Plasterbase

The E-Z Coater material control and catalyst flow meter shall be adjusted to give the plaster approximately a 20 to 30 minute set. This may be checked by spraying a small amount of plaster on a scrap of base and timing the set.

Spray IMPERIAL Plaster Basecoat over all taped joints, angles and trim beads in a pattern wide enough to cover the tape or trim only. Immediately trowel level. (This procedure is omitted when alternate joint reinforcement method is used.)

Spray IMPERIAL Plaster Basecoat from a minimum 1/16" to 3/32" thickness. Apply by a double spray procedure: the first coat approximately 1/32", followed immediately by a cross spray to a total of

H. IMPERIAL Plaster Machine Basecoat (cont'd.)

1/16". Allow the material to set, and dry sufficiently to provide proper suction for the finish coat.

4. Application over Cement Block

a. Surface Preparation

IMPERIAL Plaster Machine Basecoat may be applied directly to interior cement block surfaces, provided the surface is adequately porous to develop proper suction, or scored to develop adequate mechanical bond with the plaster, and free of dirt, dust, grease, wax, oil or other unsound surface conditions. Broken or chipped units should be replaced or repaired before plastering. The surface must be reasonable uniform and level.

b. Application

A two coat application of IMPERIAL Plaster Basecoat is necessary to achieve a suitable surface for the application of the plaster finish. A leveling coat should be sprayed filling all voids and depressions. Allow this coat to stiffen and then level using light trowel pressure to remove ridges. When leveling coat has set, spray entire surface with a coarse sharp texture pattern. Total thickness of both leveling and texture coat need not exceed 3/32". The spray texture must be accelerated to prevent dryout. Allow the material to set and dry sufficiently to provide proper suction for the finish coat.

I. Application of Finish Coat over IMPERIAL Plaster Basecoats

1. Smooth Trowel Finish

To avoid blistering when finishing over a dense, low suction surface such as a veneer basecoat, best results are achieved by allowing basecoat to dry sufficiently and/or using a quick set gauging plaster.

IVORY Lime shall be mixed with approximately 5-1/2 to 6 gallons of water for each 50 pound bag. Machine mix for immediate use.

Medium Hard STRUCTO-GAUGE Gauging Lime Putty Finish shall be mixed in the proportions of 100 pounds of STRUCTO-GAUGE Gauging to 200 pounds of dry lime (approximately 400 pounds of putty). For a very hard finish mix in the proportion of 1 part STRUCTO-GAUGE to one part lime.

Scratch in thoroughly and immediately double back to fill out to a smooth, dense surface for decoration, free of surface blemishes and irregularities. Thickness shall be no more than 1/16" over the IMPERIAL Plaster Basecoat.

I. Application of Finish Coat over IMPERIAL Plaster Basecoats (cont'd.)

2. DIAMOND Finish Plaster

DIAMOND Finish Plaster may be used for either Smooth Trowel or Sand Float Finish over IMPERIAL Plaster Basecoat. Application shall be per specifications for DIAMOND Finish Plaster.

3. Sand Float Finish

Keenes-lime-sand finish shall be machine mixed in the proportion of 100 pounds of Keenes Cement to 50 pounds of dry lime and 400 pounds of sand, with sufficient water to form a smooth plastic consistency.

Limeproof colors may be added, if desired, but caution should be exercised to add the same amount to each batch to maintain color uniformity throughout the area being finished.

Scratch the float finish thoroughly into the IMPERIAL Plaster Basecoat and immediately double back to a true even surface. Hand float to bring aggregate to the surface to produce a finish of uniform texture free of slick spots, catfaces, or other blemishes. Use water sparingly in floating natural color. No water shall be used in floating colored finishes.

4. Machine Texture Finish

Keenes-lime-sand finish shall be machine mixed in the proportion of 100 pounds of Keenes Cement to 50 pounds of dry hydrated lime and 400 pounds of sand, with sufficient water to form a smooth plaster consistency. At the sacrifice of finish hardness, an equal volume of perlite aggregate may be substituted for the 400 pounds of sand.

Over IMPERIAL Plaster Basecoat which has been left free of ridges or other surface imperfections, apply the finish with either a hand-held hopper gun or an E-Z Coater machine without catalyst. Vary aggregate grading, number of passes over the surface, air pressure and nozzle orifice as necessary to achieve the desired texture.

XII. PAINTING AND TEXTURING

A. Texturing with IMPERIAL Q.T. Finish (Simulated Acoustic)

IMPERIAL Basecoat Plasters or IMPERIAL Finishes, either hand or machine-applied, may be textured with IMPERIAL Q.T. Texture or similar materials.

Apply IMPERIAL Plasters according to directions (except that final troweling of IMPERIAL Finishes may be omitted). Leave surface free of ridges or other imperfections which may "photograph" through the spray texture coat, and allow to set.

A. Texturing with IMPERIAL Q.T. Finish (Simulated Acoustic) (cont'd.)

Mix and apply IMPERIAL Q.T. Texture according to directions. Spray surface with a minimum of two passes, at right angles to each other, to achieve uniform texture.

The finish texture may be varied by allowing the IMPERIAL Plaster to dry before texturing, by varying the number of passes over the surface, or by adjusting air pressure and size of nozzle orifice.

Use only non-casein types of texturing materials, such as IMPERIAL Q.T. Texture (LC-NC) to avoid discoloration from fumes of propane gas or oil heaters.

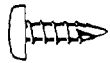
B. Painting Smooth Trowel, Textures and Float Finishes

Refer to USG Paint Technical Data Sheet T-1069 and Product Bulletin f-1917.

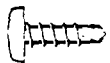
To meet the individual preferences of different markets, it is possible to achieve a wide variety of surface textures and finishes using these materials, ranging from smooth trowel, very light textures to rough cratered surfaces. These effects may be produced by varying amounts of air pressure and water in the mix, by the distance of the nozzle from wall surface during machine application, the type of float used, troweling technique employed and/or the amount of sand added on the job. Because of these variables we cannot, and do not, estimate the amount of paint required to decorate these surfaces.



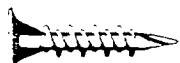
see "plaster bases" product catalog for full description on accessories & sizes



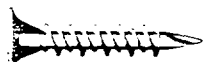
$\frac{3}{8}$ " USG brand screw—type S—pan head



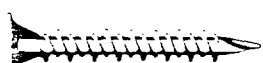
$\frac{3}{8}$ " USG brand screw—type S-12—pan head



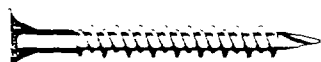
$\frac{7}{8}$ " USG brand HI-LO screw—type S—bugle head



1" USG brand HI-LO screw—type S—bugle head



$1\frac{1}{8}$ " USG brand HI-LO screw—type S—bugle head



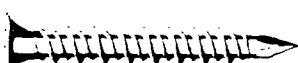
$1\frac{5}{8}$ " USG brand HI-LO screw—type S—bugle head



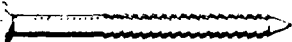
$2\frac{1}{4}$ " USG brand screw—type S—trim head



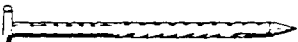
$1\frac{1}{4}$ " USG brand screw—type W—bugle head



$1\frac{1}{2}$ " USG brand screw—type G—bugle head



ring shank nail



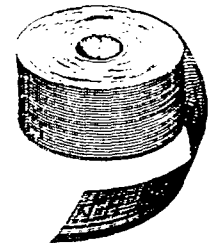
barbed shank nail



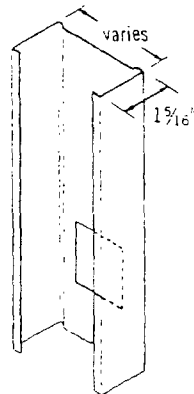
$\frac{1}{2}$ " or $\frac{5}{8}$ "
IMPERIAL plaster base



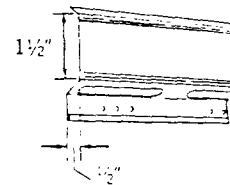
USG coreboard



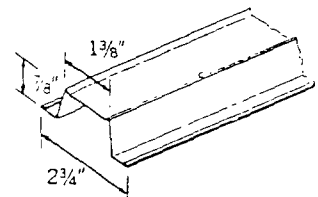
IMPERIAL joint reinforcement tape



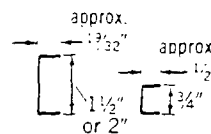
USG Metal Stud



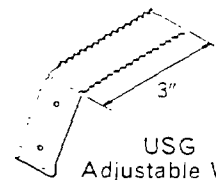
RC-1 Resilient Channel



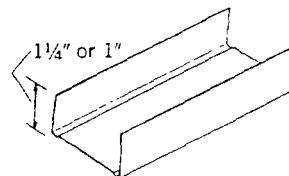
USG Furring Channel



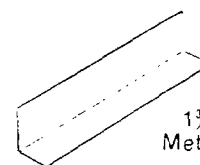
USG cold rolled channels



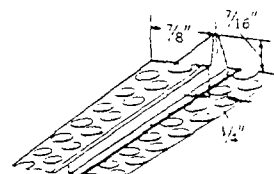
USG Adjustable Wall Furring Bracket



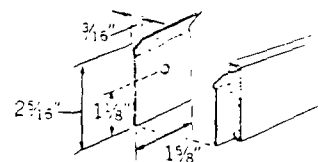
USG Metal Runner



$1\frac{3}{8}$ " x $\frac{7}{8}$ "—22 ga.
Metal Angle Runner



USG Control Joint #093



USG Metal Base and Splice Plate



USG Metal Furring Channel Clip



#900 corner bead



700 series metal trim



800 series corner bead



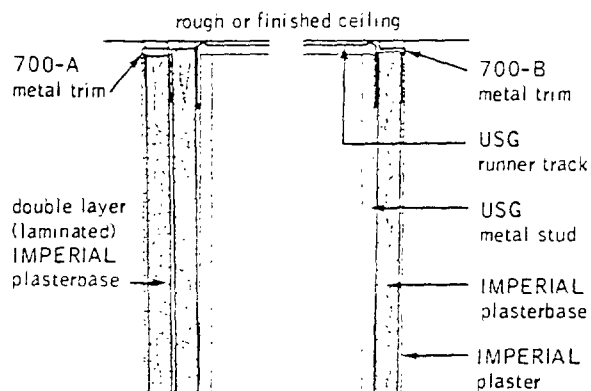
700 series metal trim



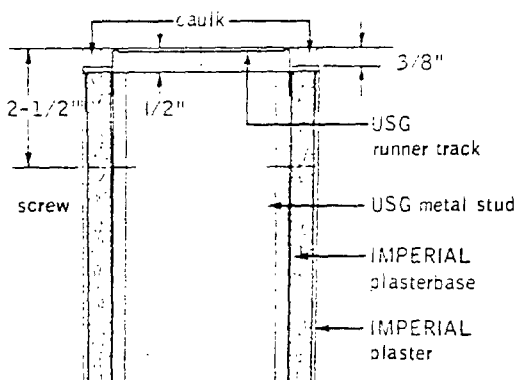
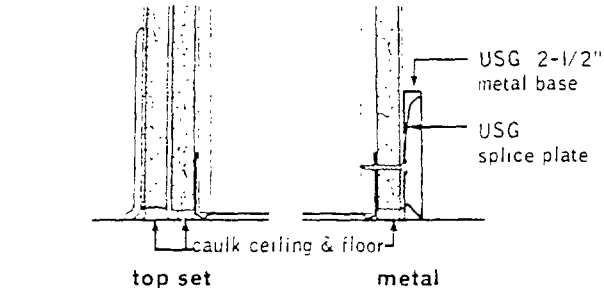
800 series corner bead



ceiling attachment

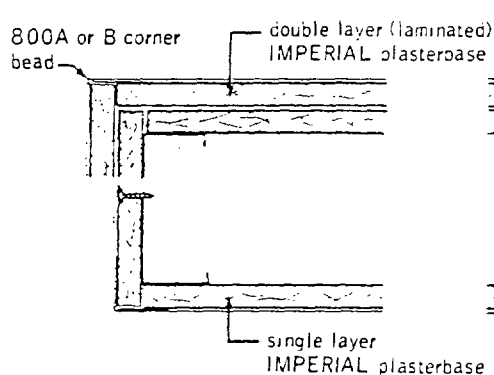


floor attachment

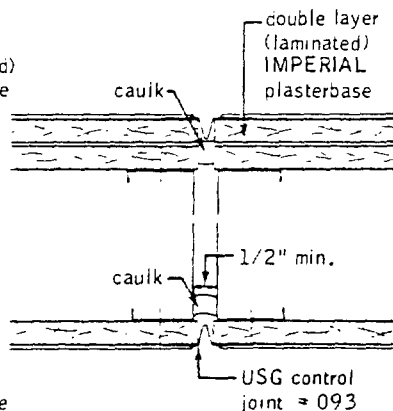


perimeter relief
ceiling intersection

wall plan sections

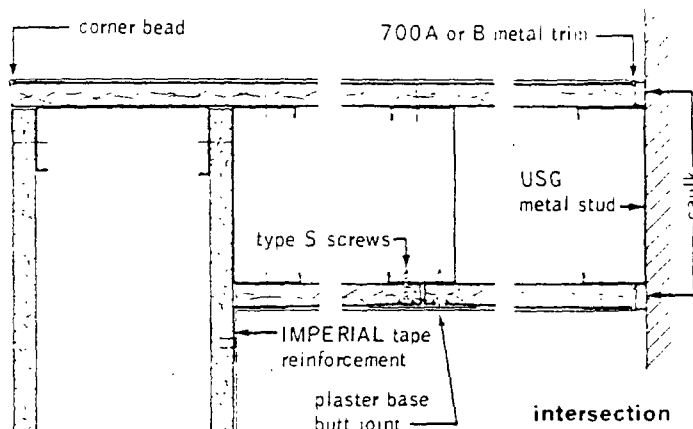


partition terminal

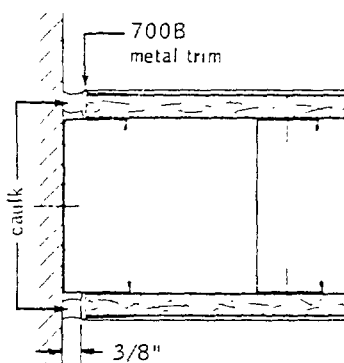


wall control joint

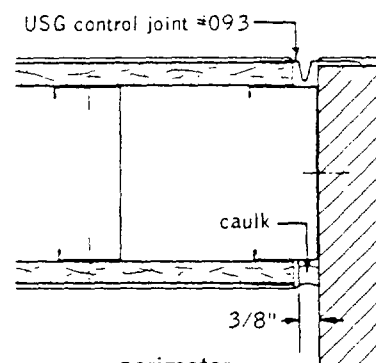
wall plan sections



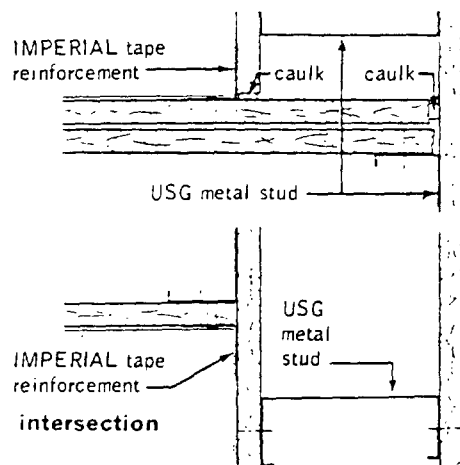
partition corner



perimeter relief
wall intersection



perimeter
control joint
wall intersection

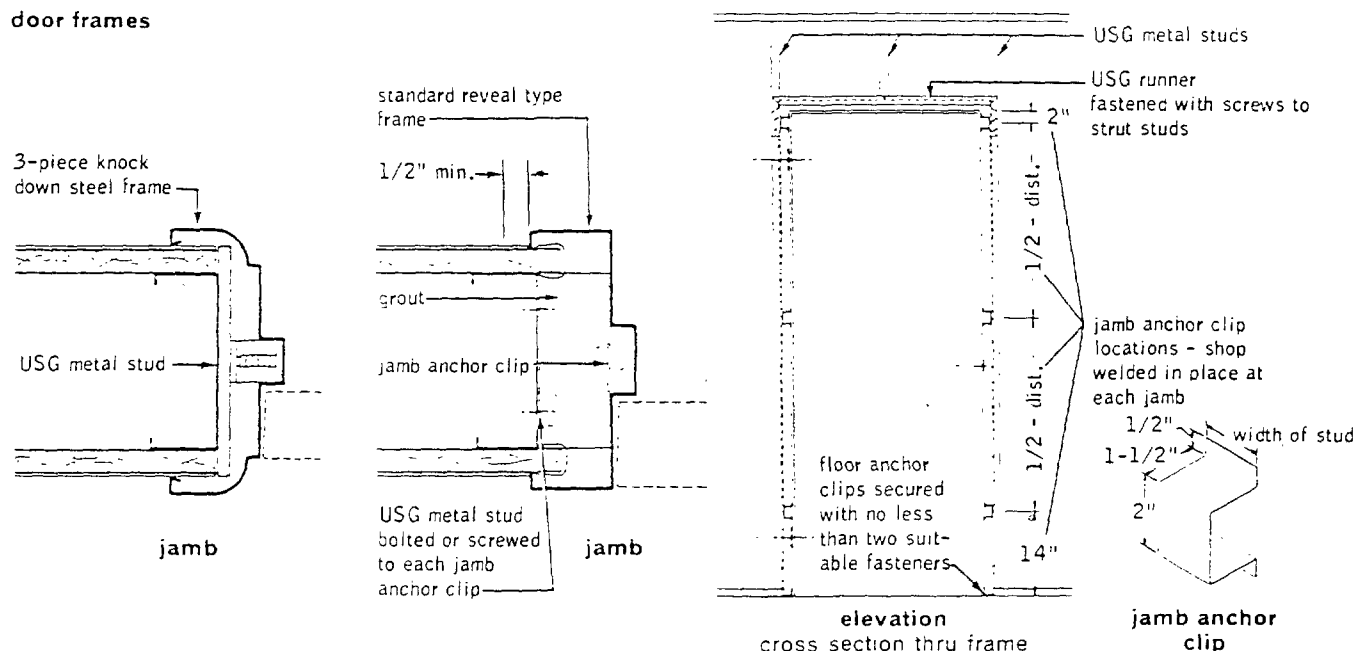


intersection

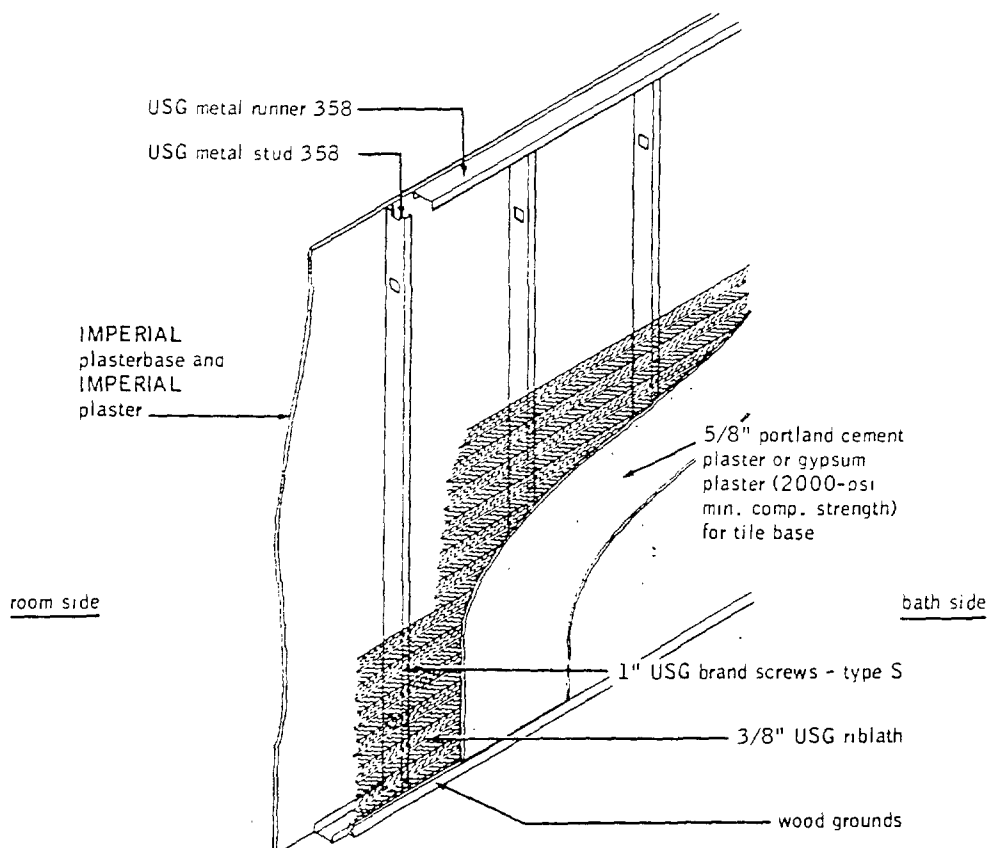


metal stud partitions | IMPERIAL systems

door frames



bathroom partition





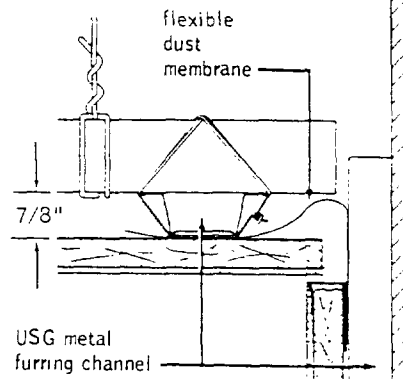
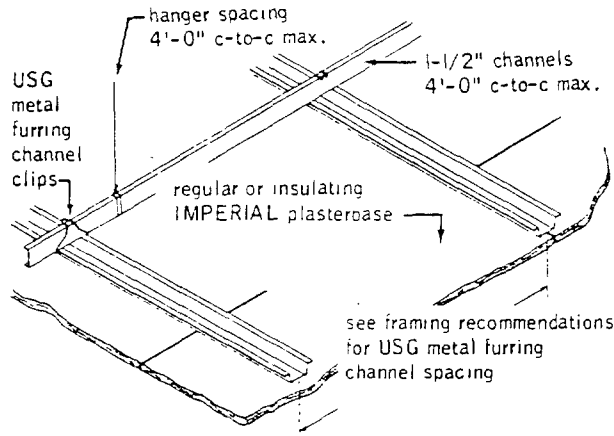
IMPERIAL
systems

ceilings/wall furring/chase walls

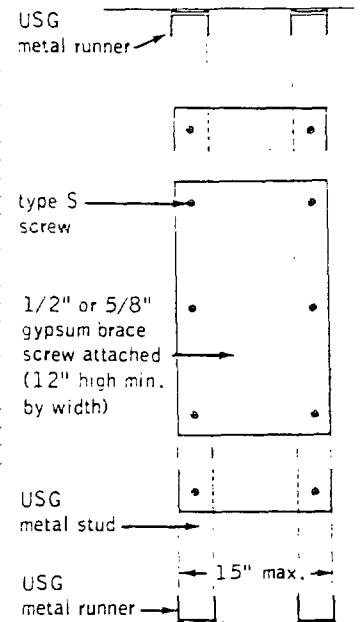
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ceilings

USG metal furring channel

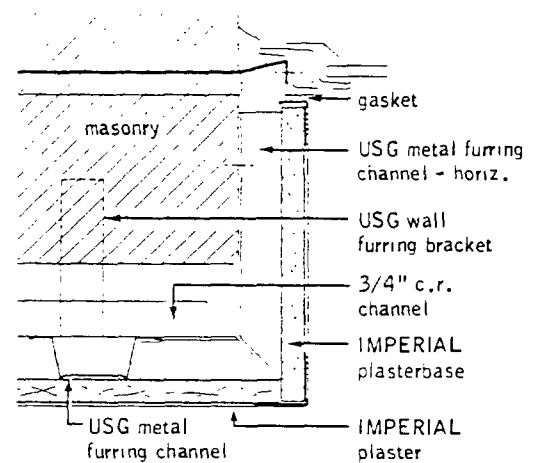
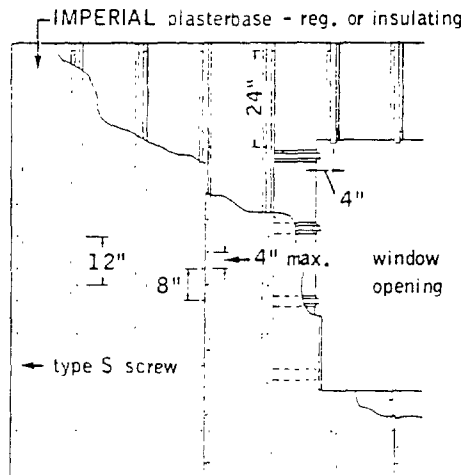
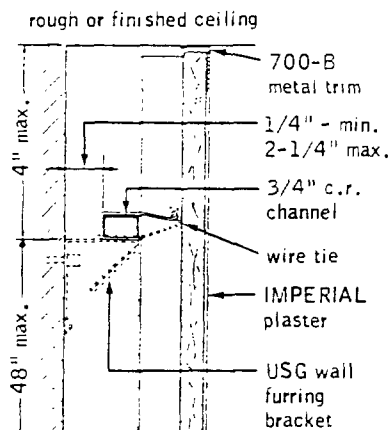


chase wall framing



wall furring

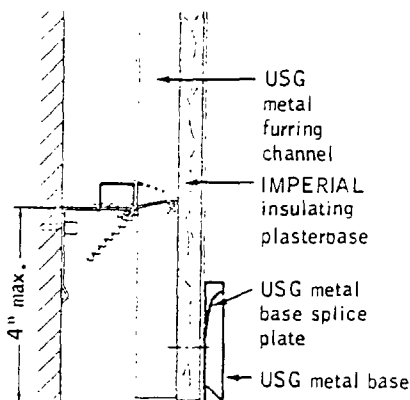
ceiling attachment



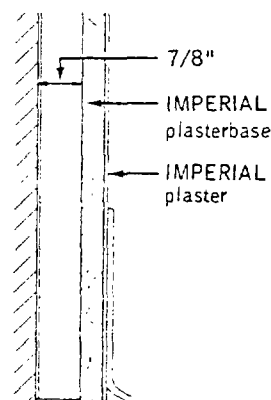
elevation—vertical application

metal window jamb

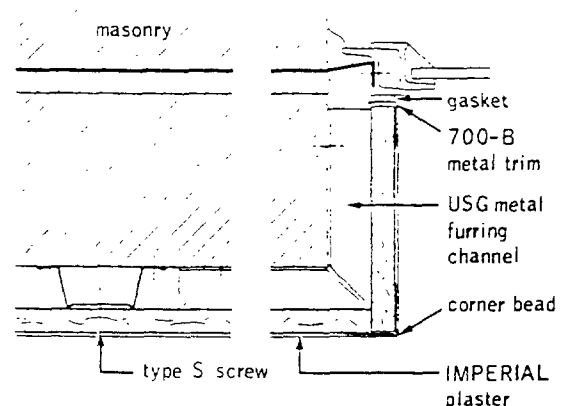
floor attachment



metal



top set



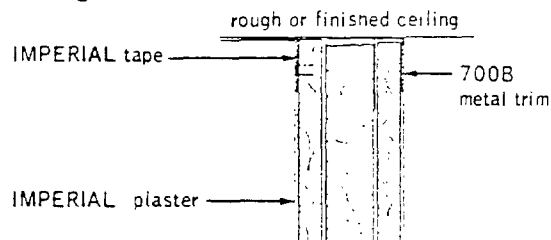
metal window jamb



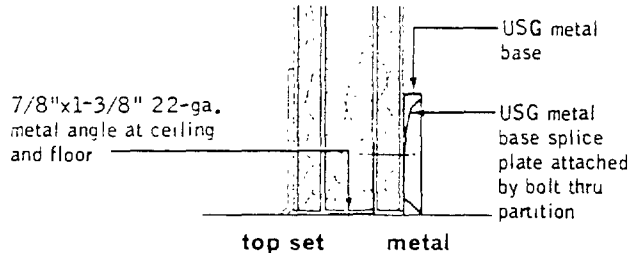
2 1/4" solid / double solid partition systems

2 1/4" solid partitions

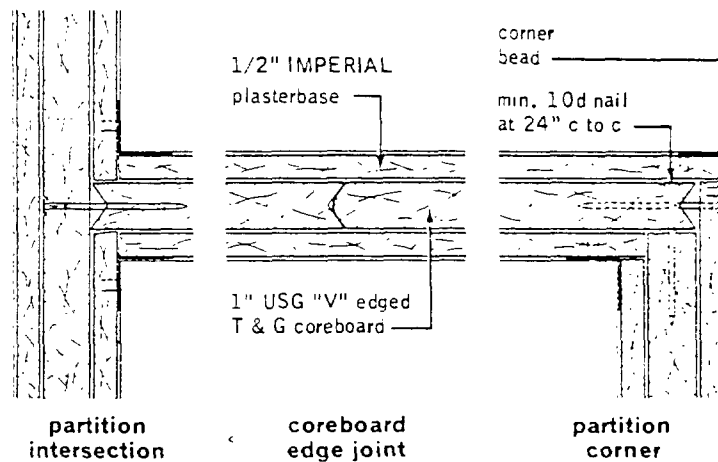
ceiling attachment



floor attachment

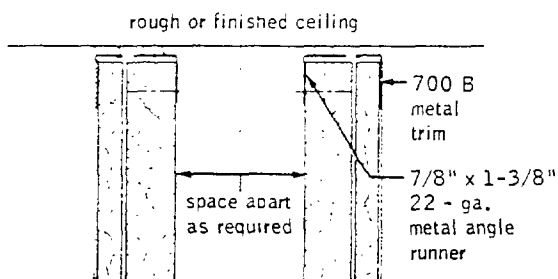


wall plan sections

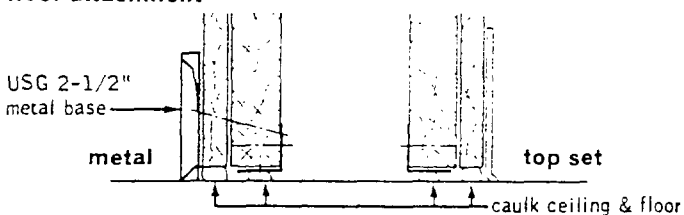


double solid partitions

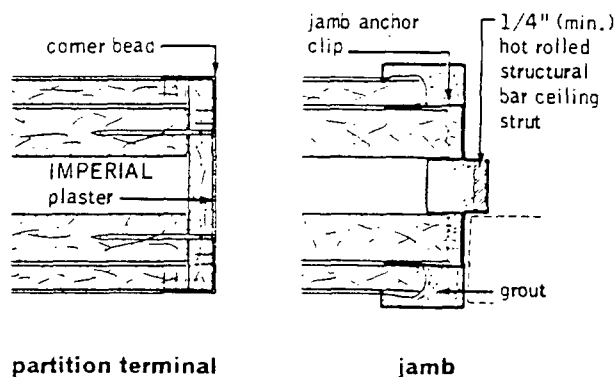
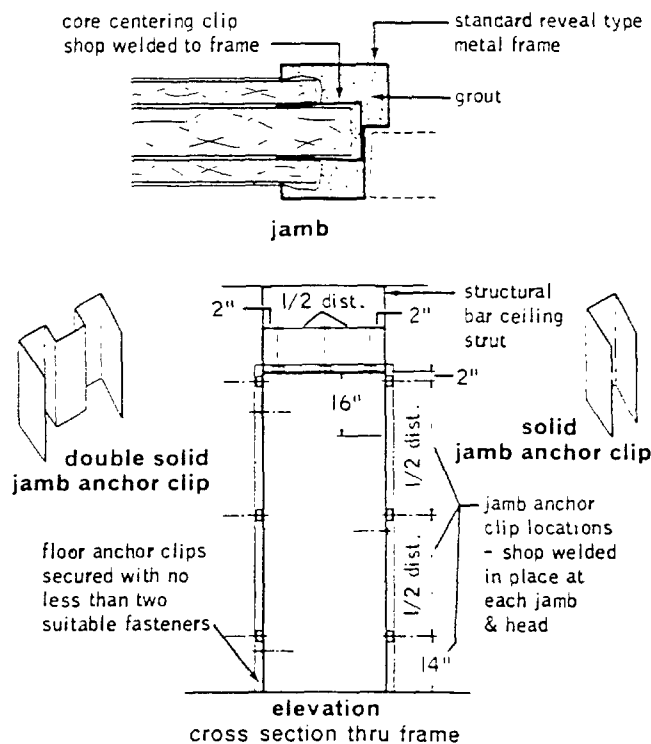
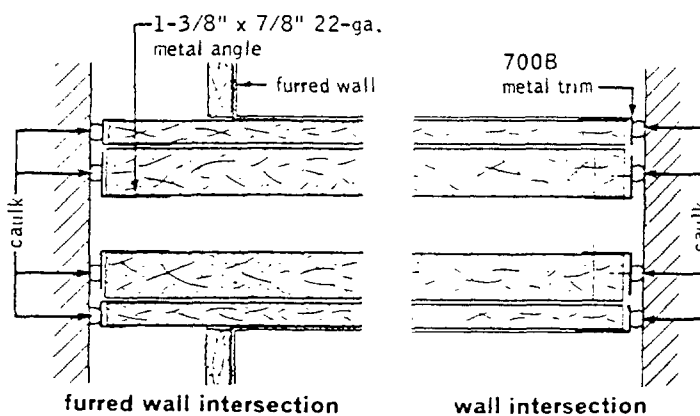
ceiling attachment



floor attachment



wall plan sections





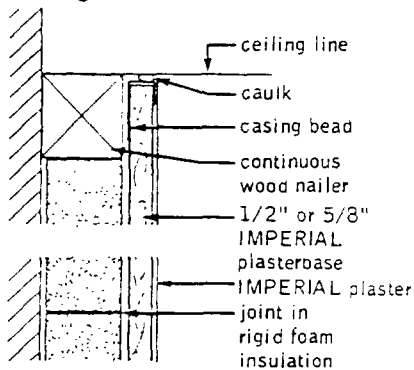
IMPERIAL
systems

laminated furring/wood stud partitions

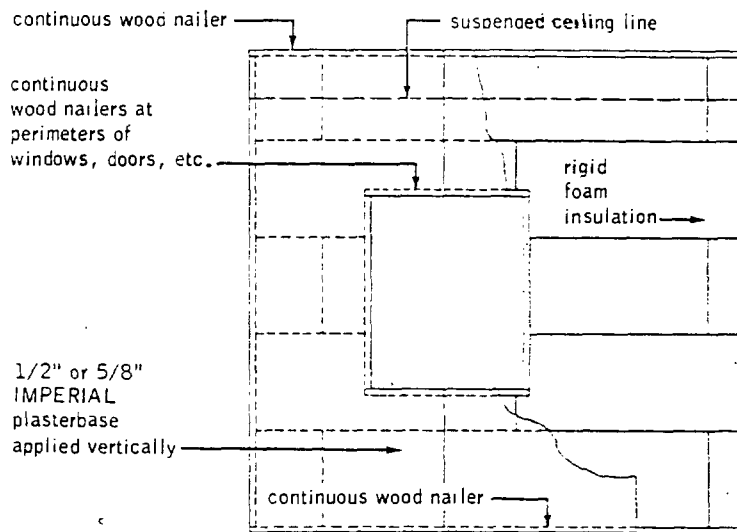
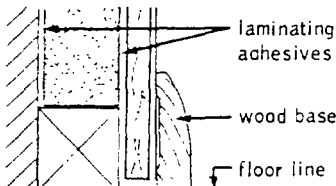
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IMPERIAL-STYROFOAM furring

ceiling attachment



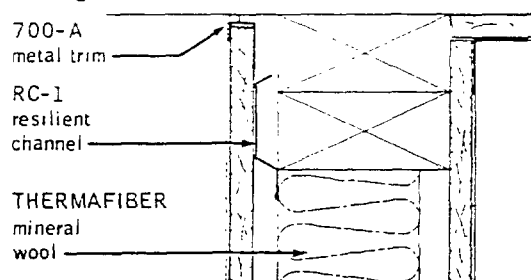
floor attachment & base



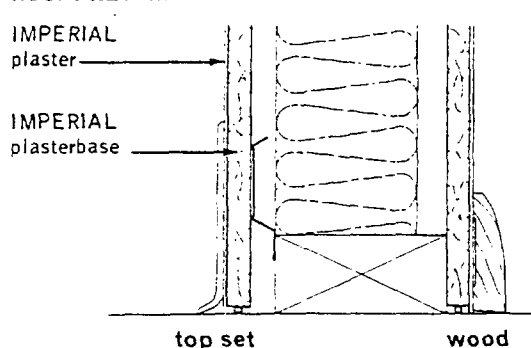
elevation—vertical application

wood stud partitions

ceiling attachment

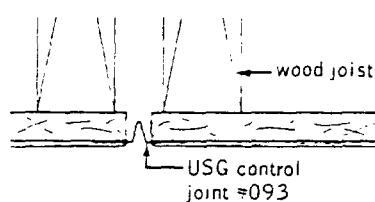


floor attachment & base

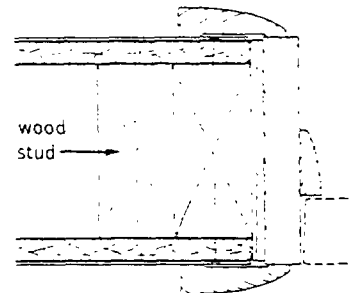


top set

wood

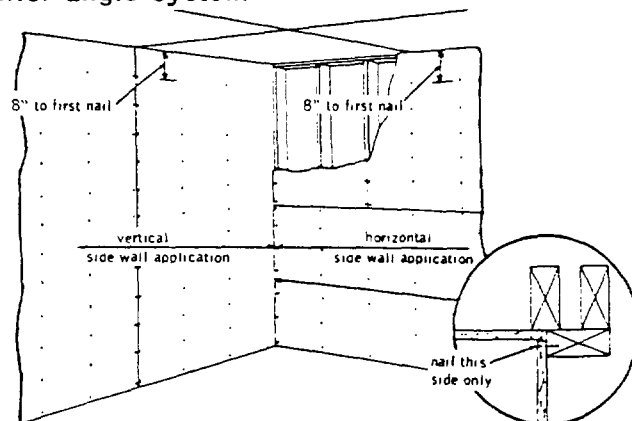


ceiling control joint



door jamb

floating interior angle system



NOTE: Since methods and conditions of application and use are beyond the control of the United States Gypsum Company, its warranties of FITNESS and MERCHANTABILITY as well as any other warranties, express or implied, made in connection with the sale of these products, SHALL NOT BE EFFECTIVE OR ACTIONABLE UNLESS the products are applied according to United States Gypsum Company's directions and specifications.



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