

PLAINTIFF'S EXHIBIT

GP-1042



GYPSUM LATH & PLASTER



SECTION 1

INTRODUCTION

For over half a century, Bestwall gypsum building materials have been accepted as a standard of quality everywhere. This recognition is earned through continued creative research which provides such unique advantages as glass fiber reinforced gypsum plasters.

The fiberglass content of Bestwall fibered plasters is an important factor to consider in specifying lath and plaster construction. Literally miles of glass fibers (39½ miles per bag of plaster) offer greater resilience and bonding properties that resolve many job difficulties and assure superior results.

Armed with this exclusive development, the architect can select with confidence from a variety of lathing systems to meet exacting requirements.

Years of research and field use have demonstrated that glass fibered plaster is one of the most versatile plasters ever developed. This advanced improvement in fibered plasters controls the evenness of the scratch coat to produce good bond, thus assuring speedier and easier application. Textile glass filaments of uniform strength and length are dispersed in the mix. These individual filaments weigh only 1/150 to 1/200 as much as most manila or sisal fibers, yet they are as strong as high strength steel of the same size.

Speed—Glass filaments of uniform length and tremendous strength provide speedier and easier application. There is no balling up to groove the plaster and necessitate backtracking and smoothing.

Quality Plastering—Provides better keying on metal or perforated gypsum lath. A better surface is made for reception of the finish coat.

Economy—Spreads freely and provides high coverage with less droppings. With the glass fibers there is little build up of fibers and plaster on tools or mixer blades.

Machine Application—Where fibered plaster is specified and machine application is used, glass fibered plaster effects greater construction economies and added design possibilities. No clogging in the nozzle, no plugging in the hose.

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FIBERGLASS DATA

Content in Typical Bestwall Plasters		Sq. yd. ½" thick over Gypsum Lath
NEAT (Fibered) Ton or Bag	790 mi. 39½ mi.	3.9 mi. (based on 200 yd. coverage per ton)
LITE-MIX (Fibered) Ton or Bag	650 mi. 26½ mi.	
		4.7 mi. (based on 140 yd. coverage per ton)

Quality controlled high strength uniform fibers, ½" long, are well dispersed in the mix. Chart indicates fiberglass content measured in miles. (Figs. are approximate).

Further information and free consultation may be obtained by writing directly to the Bestwall Gypsum Company. Or consult nearest district office listed on the back cover of this catalog.

PLAIN GYPSUM LATH

Description

Bestwall Gypsum Lath consists of a core of gypsum rock sandwiched between two layers of special multi-layer paper covering. The exposed layer is soft and water absorbent, permitting water in the plaster to penetrate the surface. As plaster sets, crystals of gypsum form on the lath paper surface and attach themselves to the main body of the plaster to form a mechanical key, thus assuring maximum bond. The lath paper has water resistant inner plies

which prevent the water in the plaster from soaking through it and thus minimizes sagging of the lath and plaster. Available with round edges.

Uses

The standard gypsum plaster base for nail or staple or clip application to wood or steel framing.

Size

16" x 48", $\frac{3}{8}$ " or $\frac{1}{2}$ " thick.
(16 $\frac{1}{4}$ " x 48" on West Coast only)

BESTWALL LONG-LENGTH LATH

Description

Manufactured in special lengths, up to 12', with round or tongue and groove edges. Has same core and paper as Plain Gypsum Lath.

Uses

Designed primarily for use as a plaster

base for thin (2") solid partitions providing fire resistive ratings up to two hours. Can also be used with furring over exterior masonry walls as a plaster base.

Size

24" x 96", $\frac{1}{2}$ " thick.

BESTWALL PERFOLATH

Description

Plain lath with $\frac{3}{4}$ " diameter holes spaced 4" center to center, 48 holes per sheet. Provides a double mechanical bond that increases fire protection. (See Technical Data, p. 9). Has same core and paper as Plain Gypsum Lath.

Use

Bestwall Perfolath's applications are identical to Plain Lath. A wood stud partition faced with Perfolath and full thickness of plaster specified has a fire rating of 1 hour (15 minutes longer than Plain Lath).

Size

16" x 48", $\frac{3}{8}$ " thick.

BESTWALL INSULATING LATH

Description

Plain Lath with aluminum foil laminated on the back. Reflects 90% of radiant heat and acts as efficient vapor barrier.

Use

Designed primarily for application to ex-

terior walls and top floor ceilings. Must face a minimum air space of $\frac{3}{4}$ " to develop reflective insulation value.

Size

16" x 48", $\frac{3}{8}$ " or $\frac{1}{2}$ " thick.

BESTWALL PINHOLATH

Description

Plain lath with the paper surface pinhole perforated into the gypsum core. Permits rapid absorption of water from plaster. Properly applied, full basecoat may be applied at one time, even when using machine application. Pinholes no larger than $\frac{1}{16}$ " in diameter, spaced $\frac{1}{4}$ " on centers.

Uses

Specially designed for machine-applied plasters. Fast and great water absorption speeds plaster application by holding plaster in place during rodding and darbying.

Sizes

16" x 48", 16" x 96", $\frac{3}{8}$ " thick.

SECTION 2 • LATHING SYSTEMS

Bestwall Olsen Gypsum Lath Clips permit fast erection of lath over wood or steel framing. Olsen clips attach lath permanently and securely to any framing, require less nailing and no wire-tying. Their strength and flexibility allow slight movement of framing without cracking plaster, compensating for expansion and contraction stresses. Clips also provide resilience in wall, reducing sound transmission. Simplified, efficient design designates their usage in a variety of wall and ceiling assemblages.

TYPICAL LATH SYSTEMS

THIN SOLID PARTITION SYSTEM HIGH SOUND TRANSMISSION RESISTANCE (Bestwall Gypsum Lath Base)

H Clips reinforce external corner wherever gypsum lath is not supported by studding and provide positive anchors for partition junctures.



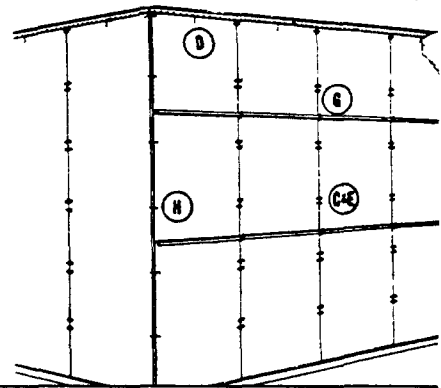
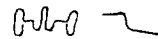
D Clips engage top edge of the long length lath at ceiling runners.



G Clips stabilize temporary bracing bar that supports lath during plastering operation.



C & E Clips attach flush edges of adjacent lath panels.



RESILIENT WALL CONSTRUCTION (Bestwall Gypsum Lath Base)

RX Clips attach gypsum lath to wood framing by means of resilient springs in the wire clips and nailed to the framing.



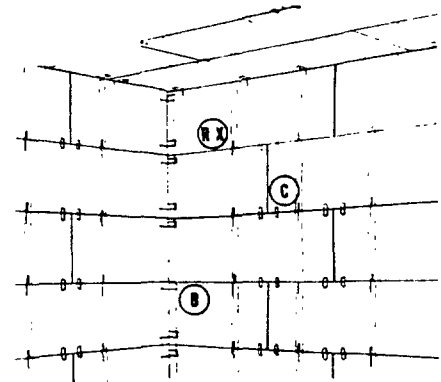
C Clips (Resilient) are nailed to wood framing members. These clips float the lath free from structure to provide less sound transmission.



K Clips (Resilient) are starting clips used at the base of a wall.



B-1 Clips secure lath edges of internal and external angles formed by walls and ceilings. Do not require nailing.



SUSPENDED CEILING CONSTRUCTION (Bestwall Gypsum Lath Base)

Z Clips (Centerboard) are used in place of field clips to prevent ceiling lath from sagging.



Steel-Tie Clips attach cross runners to main runners in suspended ceiling systems.



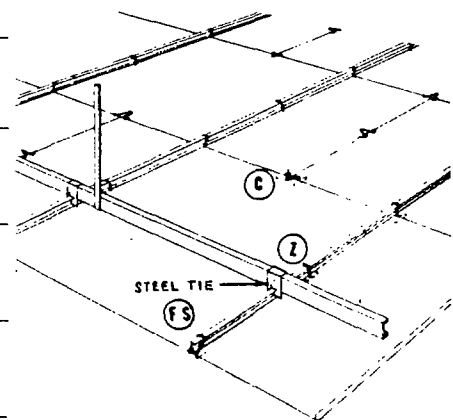
F Clips are field clips that attach gypsum lath to hot or cold rolled channels in ceiling construction.



FS Clips mechanically suspend gypsum lath from hot or cold rolled channels and are used for starting first score of lath.



C Clips (Bridge) when used in suspended ceiling systems, are used as field clips. They attach straight edges of abutting gypsum lath.



BESTWALL GYPSUM PLASTER • SECTION 3

GENERAL

Bestwall Gypsum Company manufactures a complete line of highly efficient gypsum basecoat and high purity finish plasters.

These plasters provide a wide latitude of selection to meet all architectural requirements. Each is designed for a specific function.

Finish coat plasters provide the last plaster operation before decorating. Various finishes are available, depending on the type of texture or decorative effect desired.

Basecoat plasters form that portion of the plaster construction which is applied to masonry or lath bases and which help support and develop the properties of the finish coat. Basecoat plasters which require an aggregate are furnished with or without fibers. Bestwall basecoat plasters, both neat and mill mixed, are available glass fibered.

DESCRIPTION

The base of all gypsum plasters is gypsum in its calcined form. Gypsum can't burn and will not transfer heat substantially in excess of 212° F. until all its water of crystallization has been driven off in the form of steam. (It takes approximately an hour for 1700° heat to pass through a 1" thickness of solid gypsum). When water is added to gypsum plaster on the job, the material re-crystallizes (sets) reverting to its original rock-like chemical form.

FEATURES

Fire Protection—Because of its water of crystallization, gypsum with sand, wood fiber, vermiculite or perlite as aggregate offers superior fire protection in hundreds of constructions over wood or steel frame, in walls and partitions and in floor and ceiling construction and for beams and columns. (See fire ratings on p. 10).

Durability—When applied in accordance with specifications, Bestwall Plasters provide uniformly strong, stable walls and ceilings. Bestwall sets evenly and uniformly to maximum hardness and strength. Under normal conditions of service, the plaster will last for the life of the building.

Economy—Bestwall spreads freely, provides high coverage. The basecoat plasters bond securely to plaster bases, including gypsum lath, metal lath and masonry. The finish plasters, over basecoat plasters, provide hard, dense surfaces with a minimum of working. The finish wall can be maintained easily with normal care.

"Plasticized"—Bestwall basecoat plasters, Neat and Lite-Mix, are manufactured by a special, scientifically controlled process to maintain plasticity and easy workability. This process imparts plasticity and richness to the plaster and produces uniform high quality. Bestwall "Plasticized" Plaster makes possible fast and uniform application.

Sound Insulation—Plaster adds mass to masonry units or specially designed lathing systems, providing increased sound reduction through these assemblies.

Machine Application—Bestwall glass fibered plaster is recommended where fibered plaster is specified and machine application is used. Special "machine application" formulas are available. (See p. 8 and the Plastering Specifications for details).

BRAND	PRODUCT	ASTM STANDARDS	FEDERAL SPEC.	APPLIED UNDER
BESTWALL	NEAT BASE COAT PLASTER Unfibered, Fibered, and Extra Fibered	C-28-57	SS-P-402 (N)	ASA 42.1
BESTWALL	LITE-MIX BASE COAT PLASTER Unfibered, Fibered (Glass Only) and Masonry Mix	C-28-57	—	ASA 42.1
BESTWALL	WOOD FIBERED PLASTER	C-28-57	SS-P-402 (W)	ASA 42.1
BESTWALL	CONCRETE BOND PLASTER	C-28-57	SS-P-402 (W)	ASA 42.1
BESTWALL	GAUGING PLASTER—White (Satin Spar) or Local	C-28-57	SS-P-402 (G)	ASA 42.1
BESTWALL	MOLDING PLASTER—White (Sunflower) or Local	C-59-50	—	—
BESTWALL	BUILDERS LIME (Autoclaved Finish Lime)	C-206-49	SS-L-351 (F)	ASA 42.1
BESTWALL	SMOOTH FINISHING LIME (Normal Hydrated Finish Lime)	C-6-49	SS-L-351 (F)	ASA 42.1
BESTWALL	SPEEDY MASON'S LIME (Autoclaved Mason's Lime)	C-207-49 S	SS-L-351 (M)	ASA 42.1
BESTWALL	MASON'S LIME (Normal Hydrated Mason's Lime)	C-207-49 N	SS-L-351 (M)	ASA 42.1
BESTWALL	KEENE'S CEMENT	C-61-50	SS-C-161	ASA 42.1
BESTWALL	PREPARED SAND FLOAT FINISH PLASTER	—	—	ASA 42.1
BESTWALL	PREPARED TROWEL FINISH PLASTER	—	—	ASA 42.1
BESTWALL	LITE ACOUSTIC PLASTER—White or Ultra-White	—	—	ASA 42.1

SECTION 3 • GYPSUM PLASTERS

BESTWALL BASECOAT PLASTERS

The basecoat is the most important element of a plastered wall. It not only rigidifies but strengthens the lath base, helping to resist minor structural stresses; it provides the foundation for the finish coat.

There are four distinct basecoat plasters, each designed for a specific function. Selection of the proper basecoat must be made with regard to the lath base to which it is applied and the desired finish coat which it must support.

BESTWALL NEAT GYPSUM PLASTERS

(Unfibered, Fibered and Extra-Fibered)

Description:

Basecoat plasters bond securely to any standard plaster base including gypsum lath, metal lath and masonry units. Requires addition of aggregate and water in field.

Uses:

1. **Fibered Plaster** is recommended to provide greater wet adhesion and to minimize droppings with open type lath.
2. **Unfibered Plaster** is used for scratch coat on solid surfaces and for the brown (second) coat on any backing.

Features:

Durability—Applied according to specifications, Bestwall Basecoat Plasters provide uniformly strong, stable walls and ceilings.

Machine Application—Special plasters, both fibered and unfibered, are available for use in machine application.

BESTWALL LITE-MIX PLASTER

Description:

A base coat plaster that is 50% lighter than gypsum and sand plaster. Available either Fibered, Unfibered or Masonry Mix. Fibered Lite-Mix contains glass fibers to provide added strength and uniform thickness with less droppings. Requires addition of water only in field.

Masonry Mix available for application on masonry bases.

Uses:

May be used for machine or trowel application to produce a superior basecoat.

Features:

Fire-Resistant—Perlite aggregate provides higher fire resistance than sanded plasters.

FINISHING PLASTERS

GAUGING PLASTERS

Description:

Specially ground high purity gypsum finishing plasters designed to be blended with lime putty. They provide the base for final wall or ceiling decoration. Usually applied over a gypsum plaster basecoat and to a thickness of $\frac{1}{8}$ " to $\frac{3}{8}$ ". Available in "Slow Set" and "Quick Set".

Features:

White Coat Finish—Gauging sets to provide a hard, smooth white coat finish, over gypsum basecoat.

Plasticity—Lime is used to furnish whiteness, plasticity and bulk.

1. **Satin Spar Gauging Plasters** are very white.
2. **Bestwall Gauging Plasters** made of local rock are recommended for use where pure white finish is not necessary. They furnish the same high quality surface as Satin Spar.

MOLDING PLASTERS

Description:

Very white plasters made from selected gypsum rock of exceptionally high purity. Specially ground and processed to provide hard strong molds and casts. Excellent for run work and ornamental features.

1. **Sunflower Molding Plasters** are very white.
2. **Bestwall Molding Plasters** made of local rock are recommended for use where pure white work is not necessary. They furnish the same high quality surface as Sunflower.

FINISHING LIMES

Bestwall Smooth Finishing Lime (Normal Hydrated)

Description:

Hydrated Finishing Lime soaked to putty consistency (approximately 16 hours) blended in proper proportion with gypsum gauging plaster. Troweled to a smooth, hard finish over properly prepared gypsum basecoat. Must be blended with gypsum gauging plaster of proper proportion which provides initial set and strength, avoiding shrinkage cracks.

Features:

Whiteness, Bulk and Plasticity are provided by the lime. Fast, Easy Application with full flexibility and economy.

Bestwall Builder's Lime (Autoclaved)

Description:

A pressure hydrated (less than 8% unhydrated oxides) special finishing lime. May be mixed by adding lime to water in mechanical mixer.

Features:

Requires no soaking to produce smooth, uniform, white, highly plastic putty.

Normal plasticity achieved immediately.

MASON'S LIME

Bestwall Mason's Lime (Normal Hydrated) and **Bestwall Speedy Lime (Autoclaved)** available.

BESTWALL KEENE'S CEMENT

Description:

A high strength, "dead burnt" white gypsum plaster. Provides stronger, harder surface when substituted for gauging plaster in a lime-gauging mix. The lower the lime content, the harder the finish. Available Regular and Fast set.

Features:

Resistance to Abrasion—provides high resistance to abrasion making it suitable for use in bathrooms, kitchens, hospitals, etc.

Low Water Absorption—because of high density, has low water absorption.

Various Finishes—Keene's Cement when mixed with varying proportions of lime putty provides "standard hard" "medium hard" and "extra hard" finishes.

BESTWALL PREPARED TROWEL FINISH

Description:

A pre-mixed gypsum finish coat plaster requiring addition of water only. Made from high grade gypsum rock of white or local gray.

Features:

Strength—produces very hard surfaces, approximately twice the strength of ordinary lime-gauging finishes.

Easy Decoration—can be decorated as soon as dry.

BESTWALL GYPSUM PLASTERS • SECTION 3

Mixes smoothly—has no tendency to block the nozzle of the plaster gun.

High Insulation Value—Lite-Mix provides greater insulation than sanded gypsum plaster.

BESTWALL WOOD FIBERED GYPSUM PLASTER

Description:

Non-staining shredded wood fiber additive provides good working properties when used without aggregate.

Uses:

Intended for use without aggregate as scratch and brown coat. May be mixed with one part of sand for scratch coat over high suction masonry.

Features:

Economy—Can be applied quickly and easily.

Strength—Bestwall Wood Fibered Gypsum Plaster has approximately 3 times greater compressive and tensile strength than sanded plaster; up to 2½ times greater resistance to lateral impact and 50% greater surface hardness.

Fire-Resistant—Wood Fibered Plaster provides excellent fire rating up to 50% higher than sanded plaster.

BESTWALL CONCRETE BOND GYPSUM PLASTER

Description:

A basecoat plaster designed to bond permanently with monolithic concrete to preserve a hard, durable surface. Requires addition of water only in field.

Uses:

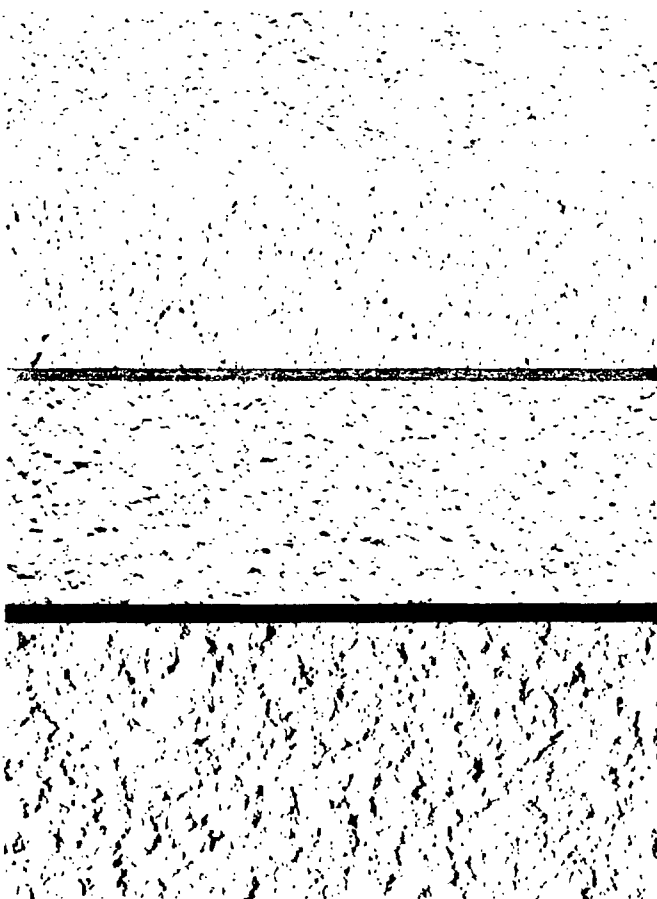
Specially formulated to compensate for 2 problems:

1. where surface is too dense for ordinary plaster to form a mechanical key, and
2. where thermal expansion of concrete is lower than that of ordinary plasters.

Features:

Bonding Strength—Concrete Bond adheres well to properly prepared concrete surfaces, columns and beams and on smooth cement block walls.

Low Cost—An economical basecoat plaster to provide for application direct to concrete surfaces.



BESTWALL PREPARED SAND FLOAT FINISH

Description:

This pre-mixed gypsum finish coat plaster has same qualities and advantages as Prepared Trowel Finish. The only difference: this finish contains proper amount of uniformly graded white silica sand to produce hard textured surface.

BESTWALL LITE ACOUSTIC PLASTER

A mill-mixed product, Bestwall Lite Acoustic Plaster is a versatile, highly light reflective, acoustical finishing material designed for machine application. Made of incombustible mineral materials, it provides exceptional bond to form a porous sound-absorbing surface. May be left with natural finish or spray painted according to directions after it's thoroughly dry.

Use of Lite Acoustic is not limited to new construction. Permanent bond is assured when it is properly applied to almost any surface (see **Specifications**). Existing ceilings can be covered effectively without removal or use of additional lath or backer board, providing the plaster is firm and the surface clean.

Because various textures can be achieved in either White or Ultra-White, Lite Acoustic offers a wide scope of decorative possibilities in residential, commercial or industrial construction. May also be applied by hand trowel. (See **Specifications** for details).

Features:

Fire Protection—Lite Acoustic will not burn or support combustion.

Economy—Provides wide field of low cost acoustical treatment in both new work and remodeling.

Versatility—Applied over standard gypsum basecoat plaster, wall or monolithic concrete, Lite Acoustic Ultra-White can be gun applied to provide coarse, medium coarse or fine textured finishes by adjustment of machine nozzle to meet various decorative requirements.

Sound Absorption Coefficients								
Texture Finish	Thick- ness	FREQUENCIES						Noise Reduction Coefficient
		125	250	500	1000	2000	4000	
		1/2"	.25	.27	.52	.69	.78	.88
								55
								Riverbank

Light Reflection Coefficients		
	Spray	Trowel
White	66%	69%
Ultra-White	70%	74%

SECTION 3 • MACHINE APPLICATION

Bestwall manufactures a full line of basecoat plasters, specially formulated for easy application through plastering machines. They are designed to pump at low hose pressure which insures steady and uniform flow from the nozzle without aggregate separation or plug ups and to have low water demand assuring hard, strong plastering. For scratch coat over metal lath, Bestwall Glass Fibered Plaster forms adequate keys with minimum blow through, thus assuring strong rigid plastering with minimum waste.

These features provide the following advantages:

Economy—Due to trouble-free application, more yards of plaster can be applied per man hour with less waste.

Durability—When mixed and applied according to specifications, resultant plastering develops full strength and hardness resulting in strong, durable walls and ceilings.

Design Flexibility—Machine application lends itself to the flexibility of design for which gypsum plaster is noted, thus placing no limitation on use of this method of application.



Machine application plasters are as follows:

BESTWALL NEAT GYPSUM PLASTERS

Unfibered plaster may be used for the scratch (first) coat on gypsum lath or masonry (solid surfaces) and for the brown (second) coat on any backing. Fibered plaster contains a carefully measured amount of glass fiber to provide greater wet cohesion and minimize droppings behind open type lath. Fibered plaster is recommended for the scratch coat on perforated gypsum or metal lath and may be used for the brown coat on any backing. Extra-fibered plaster contains a greater proportion of glass fiber and is preferred in some areas for the scratch coat on metal lath.

BESTWALL LITE MIX Unfibered or Fibered (Glass only)

Mixes smoothly, spreads easily and has no tendency to block the nozzle of the plaster gun. Lite-Mix produces a superior basecoat. It is also available in a Masonry Mix for application on masonry bases. Water only is added on the job.

BESTWALL LITE ACOUSTIC White or Ultra White

Can be applied over standard gypsum basecoat plaster or other clean, dry, firm bases such as concrete, metal decks, etc. Lite Acoustic (Ultra-White) can be gun applied to provide ceilings of acoustical value as well as textured beauty and high light reflectivity. Can also be applied by hand, if desired.



BESTWALL LATH AND PLASTER CONSTRUCTION • SECTION 4

Bestwall Gypsum Plasters can be applied over gypsum or metal plaster bases on wood or steel framing. By varying the type of lath and the plaster mix and thickness, a full range of fire ratings may be obtained, from 45 minutes to four hours.

TECHNICAL DATA

CONSTRUCTION		TYPE BASE	PLASTER†		FIRE RATING	WEIGHT LBS. PER SQ. FT.	NRC (AVERAGE) DECIBELS
			MIX 1 part of Gypsum Plaster (100 pounds) to cu. ft. aggregate	THICKNESS Face of Lath to Face of Finished Surface			
PARTITIONS			(2 Mixes—Scratch and Brown) (1 Mix—Scratch Double-Up)				
Description	Thickness						
2" x 4" Wood Studs 16" on Center	5 1/8"	3/8" Plain Gypsum Lath	Gypsum Sand 1:2	1/2"	1 Hour	15	35 to 45
	5 1/8"	1/4" Plain Gypsum Lath	Gypsum Sand 1:2, 1:2	1/2"	45 Minutes	14.7	35 to 45
	5 1/8"	1/4" Plain Gypsum Lath	Gypsum Wood Fiber	1/2"	1 Hour	—	—
	5 1/8"	1/4" Perforated Gypsum	Gypsum Sand 1:2, 1:2	1/2"	1 Hour	—	—
	5 1/8"	1/4" Perforated Gypsum	Gypsum-Perlite 1:2 1/2 †	1/2"	1 1/2 Hours	—	—
	5 1/8"	Metal Lath	Gypsum-Sand 1:2, 1:3	3/4"	1 Hour	18.1	39
	5 1/8"	Metal Lath	Gypsum Wood Fiber	3/4"	2 Hours	—	—
	5 1/8"	Metal Lath	Gypsum-Perlite 1:2 1/2 †	1/2"	1 Hour	—	—
	5 1/8"	Metal Lath	Gypsum-Vermiculite 1:2, 1:3 †	1/2"	1 Hour	—	—
Solid Partitions	2"	1/2" Long Length Gypsum Lath	Gypsum-Sand 1:1, 1:2	1 1/2"	1 Hour	16.5	38
	2"	1/2" Long Length Gypsum Lath	Gypsum-Perlite 1:2 1/2 †	1 1/2"	1 1/2 Hours	—	—
	2"	1/2" Long Length Gypsum Lath	Gypsum-Perlite 1:2, 1:3 †	1 1/2"	2 Hours	10.9	37
	2"	1/2" Long Length Gypsum Lath	Gypsum-Vermiculite 1:2, 1:3 †	1 1/2"	2 Hours	—	—
	2"	Metal Lath	Gypsum-Sand 1:2, 1:2	2"	1 Hour	18.1	38
	1 1/2"	Metal Lath	Gypsum-Perlite 1:2 1/2 †	1 1/2"	1 Hour	7.4	33
	2 1/2"	Metal Lath	Gypsum-Perlite 1:2, 1:3 †	2 1/2"	2 Hours	—	—
	2 1/2"	Metal Lath	Gypsum-Vermiculite 1:2, 1:3 †	2 1/2"	2 Hours	—	—
Steel Frame	4 1/4" to 5 1/4"	3/8" Plain Gypsum Lath	Gypsum-Perlite 1:2 1/2 †	1/2"	1 Hour	16	30
	4 1/4" to 5 1/4"	1/4" Perforated Gypsum Lath	Gypsum-Sand 1:2, 1:2	1/2"	1 Hour	—	—
	5 1/8"	Metal Lath	Gypsum-Sand 1:2, 1:3	3/4"	1 Hour	21	41
CEILINGS							
Wood Joists and Floor	Furring Channels 16" oc 16" oc 16" oc	1/4" Bestwall Plain Gypsum Lath plus 1" Hex Wire Mesh	Gypsum Sand 1:2	1/2"	1 Hour	—	—
		1/4" Perforated Gypsum Lath	Gypsum-Sand 1:2	1/2"	45 Minutes	12.5	40
		1/4" Perforated Gypsum Lath Plus Metal Lath Strip	Gypsum Sand 1:2	1/2"	1 Hour	—	—
		1/4" Perforated Gypsum Lath Metal Lath	Gypsum-Perlite 1:2 1/2 †	1/2"	1 Hour	17.5	32 to 34
		1/4" Perforated Gypsum Lath Metal Lath	Gypsum-Sand 1:2, 1:3	1/2"	1 1/2 Hours	—	—
		1/4" Perforated Gypsum Lath (Clips) 1/4" Perforated Gypsum Lath (Clips) 1/4" Perforated Gypsum Lath (Clips)	Gypsum-Perlite 1:2 1/2 † Gypsum-Vermiculite 1:2 1/2 † Gypsum-Perlite 1:2, 1:3 †	3/8" 3/8" 1"	1 Hour 1 Hour 1 1/2 Hours	— — —	— — —
Steel Joists (2" Floor Slab)	12" oc	1/4" Perforated Gypsum Lath (Clips)	Gypsum-Perlite 1:2 1/2 †	1/2"	—	—	—
		1/4" Perforated Gypsum Lath (Clips)	Gypsum-Perlite 1:2, 1:3 †	3/8"	3 Hours	—	—
		1/4" Perforated Gypsum Lath Plus 1" Mesh	Gypsum-Perlite 1:2 1/2 †	1/2"	3 Hours	—	—
		1/4" (Clips) Plus 1" Mesh	Gypsum-Perlite 1:2, 1:3 †	1"	4 Hours	—	—
		Metal Lath	Gypsum-Sand 1:2, 1:3	3/4"	2 Hours	—	—
		Metal Lath	Gypsum-Perlite 1:2, 1:3 †	3/4"	3 Hours	—	—
		Metal Lath	Gypsum-Vermiculite 1:2, 1:3 †	3/4"	4 Hours	—	—
Steel Floors 2 to 2 1/2" Concrete Floor with Suspended Ceilings	12" oc	3/8" Perforated Gypsum Lath Plus Clips and Wire Reinforcing	Gypsum-Perlite 1:2 1/2 †	1/2" on Ceilings (3/8" on Beam)	3 Hours	—	—
		Metal Lath	Gypsum-Perlite 1:2, 1:3 †	1/2"	4 Hours	—	—
		Metal Lath	Gypsum Wood Fiber	3/8"	4 Hours	—	—
COLUMNS							
Columns (Steel)		3/8" Perforated Gypsum Lath	Gypsum-Sand 1:2 1/2	1/2"	1 Hour	—	—
		1/4" Perforated Gypsum Lath	Gypsum-Sand 1:2, 1:3	1 1/4"	2 Hours	—	—
		1/4" Perforated Gypsum Lath	Gypsum-Perlite 1:2 1/2 †	1"	2 Hours	—	—
		1/4" Perforated Gypsum Lath	Gypsum-Perlite 1:2, 1:3 †	1 1/4"	3 Hours	—	—
		2" Layers 1/2" Plain Gypsum Lath	Gypsum-Perlite 1:2, 1:3 †	1 1/2"	4 Hours	—	—
		Metal Lath	Gypsum-Sand 1:2, 1:3	3/4"	1 Hour	—	—
		Metal Lath	Gypsum-Perlite 1:2, 1:3 †	1 1/4"	4 Hours	—	—
		Metal Lath	Gypsum-Perlite 1:2, 1:3 †	1 1/4"	4 Hours	—	—

NOTE: This table is a summary only, based on tests at Underwriters' Laboratories, National Bureau of Standards and/or Ohio State University, sponsored by the Gypsum Association, Metal Lath Association, Perlite Institute, Vermiculite Institute or others. The fire rating, weight and sound characteristics are based on a combination of specific details as published by the Associations and also by the National Bureau of Standards in various BMS reports, by National Board of Fire Underwriters in their "List of Ratings" and others.
More complete listings and details are available from many sources.

† Sand float or other finish except smooth trowel shall be used over perlite or vermiculite basecoat where ratio exceeds 2 cu. ft. of aggregate to 100 lbs. of gypsum. Smooth trowel finish shall not be used.

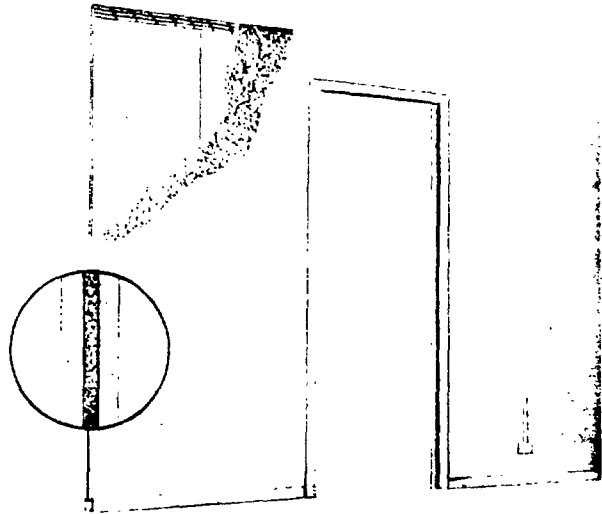
SECTION 4 • LATH AND PLASTER CONSTRUCTION

GYPSUM LATH AND PLASTER FIREPROOFING

THIN SOLID PARTITIONS

A 2" Solid Partition is a non-load bearing (non-supporting) unit composed of Bestwall Long-Length Gypsum lath three-coated out on both sides to a total 2" thickness. No studding is required. The lath is inserted into floor and ceiling runners and is temporarily braced during the plastering operation. 2" Solid Partitions make economical floor area dividers and render more usable space than hollow or tile partitions.

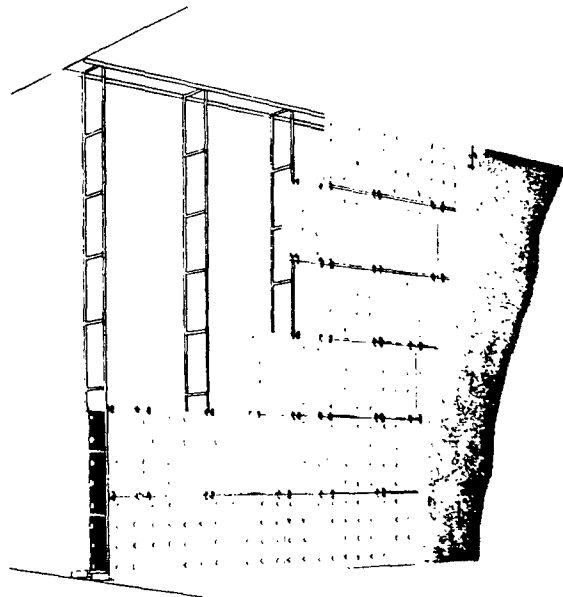
Bestwall Olsen Gypsum Lath Clips provide easier, faster erection and eliminate wire-tying. Tested under A.S.T.M. Standards, 2" Solid Partitions of lath and sanded plaster qualify for 1-hour fire rating. For higher fire ratings, consult Technical Data—Lath and Plaster Construction on the previous page.



HOLLOW STEEL STUD PARTITIONS

Hollow Steel Stud Partitions consist of gypsum lath and plaster over steel studding. These partitions may be load bearing or non-load bearing depending upon studding used. Studs are available in widths from 2½" to 6". Bestwall Gypsum Lath is secured to the studs by use of transverse clips or other special clips and techniques. These partitions are particularly adaptable where pipes and utilities are to be concealed.

Weight of Hollow Steel Stud Partitions is determined in pounds per square foot and will range from 10 lbs. to 15 lbs. depending upon aggregate used and thickness. A 1-hour fire rating is obtained when Bestwall Perfolath and a ½" plaster is used. Mix is 1 part plaster to 2 parts lightweight aggregate or sand.

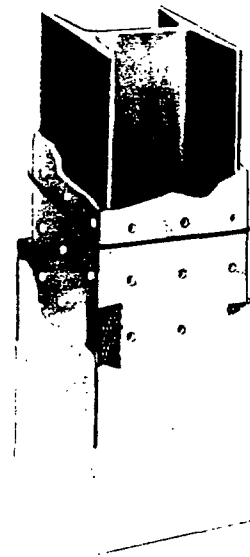


GYPSUM LATH AND PLASTER FIREPROOFING

BEAM AND COLUMN FIREPROOFING

Fireproofing of the beams and columns is accomplished by abutting $\frac{3}{8}$ " Bestwall Perfolath around the perimeter of the beam or column and plastering to thickness required for desired fire resistance rating. The Perfolath is held by tying double strands of the wire around the lath and spaced 16" o.c. Cornerbeads applied by staples or tie wire provide ground for proper thickness as well as straight true corners.

Sanded plaster is used for fire ratings up to three hours. Lightweight aggregates provide fire ratings up to 4 hours. A 4 hour column rating requires two layers of $\frac{1}{2}$ " thick gypsum lath.



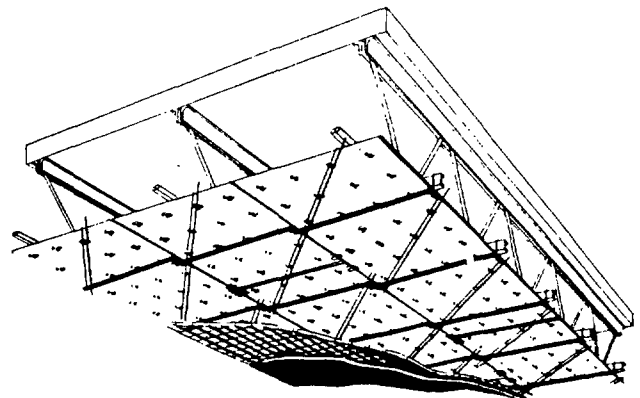
CEILING FIREPROOFING

Lath and plaster ceilings when directly attached to or suspended from structural members provide fire protection that eliminates concrete or tile encasement of steel framings. Dead weight loads are reduced by as much as 50%. This in turn reduces structural steel requirement to a minimum of 15%.

Thicknesses of lath and plaster are based on required fire ratings. Sand aggregate provides up to 2 hour fire rating while up to 4 hour fire ratings may be obtained with the use of vermiculite or perlite aggregates.

$\frac{3}{4}$ " furring channels are directly attached to the bottom of the structural members or tied to main runners in suspended systems. Bestwall $\frac{3}{8}$ " Perfolath is attached to furring with transverse clips and plastered out to required thickness.

For three and four hour fire resistive ratings, 12 gauge wire is laid diagonally across the plastering side of the lath and tied to each clip for additional support. Plaster mix shall be 1 part gypsum to 2 parts aggregate for scratch coat and 1:3 for brown coat. For double up work, the proportion can be changed to 1:2 $\frac{1}{2}$ for entire basecoat.



SECTION 5 • SPECIFICATIONS

SPECIFICATIONS FOR INTERIOR LATHING

1. MATERIALS

A. Gypsum Lath shall conform to the current Standard Specifications for Gypsum Lath, ASTM Designation: C37. Gypsum lath shall be one of the following types: Plain, Perforated or Insulating.

All gypsum lath shall be as manufactured by Bestwall Gypsum Company and shall conform to the following dimensional requirements:

Thickness	Width	Length
$\frac{3}{8}$ " or $\frac{1}{2}$ "	16" (a) or 24"	48" (b)

(a) $16\frac{1}{2}$ " wide lath is available in Pacific Coast Markets.

(b) Long-length lath $\frac{1}{2}$ " thick is available for special systems such as solid gypsum lath and plaster partitions and furred walls.

B. Gypsum Lath Clips shall be Bestwall Olsen Gypsum Lath furnished by Bestwall Gypsum Company.

C. Other Metal Accessories such as corner beads, base screeds, concealed picture molds, etc., shall be not lighter than No. 26 U.S. gage steel, zinc-coated, with perforated or expanded flanges or clips shaped so as to permit complete embedment in the plaster.

D. Channels shall be hot-rolled or cold-rolled steel, free of rust, with required weight per thousand lineal feet.

2. APPLICATION OF GYPSUM LATH

A. Except where noted below Bestwall Gypsum Lath shall be securely nailed to wood supports spaced not to exceed 16" on center (24" on center for $\frac{1}{2}$ " lath) with 13 gage, $1\frac{1}{8}$ " long ($1\frac{1}{4}$ " long for $\frac{1}{2}$ " lath), 19/64" flat-head, blued nails approximately 5" o.c. The nails shall be driven with the underside of the head flush with face of the lath and shall not be closer than $\frac{3}{8}$ " from edges or ends. There shall be not less than four nails per lath per support with 16" wide lath. Where 24" wide lath is applied, there shall be at least 5 nails per lath per support, approximately 5" on center.

B. Where $\frac{3}{8}$ " gypsum lath is used for certain fire-resistive rated construction, five 13 gage, $1\frac{1}{8}$ " long, $\frac{3}{8}$ " flat-head, blued nails per lath per support for 16" wide lath may be required.

C. $\frac{3}{8}$ " Bestwall Gypsum Lath may be applied with staples to wood nailing members by means of a pneumatic tool. Staples shall be not less than 16 gage flattened galvanized wire, $\frac{7}{16}$ " flat crown, divergent point, not less than $\frac{7}{8}$ " long. Staples shall be driven with the crown parallel to the long dimension of the nailing member, using not less than 4 staples per 16" width of lath per nailing member and not more than 5" o.c., in such a manner that the crown bears tightly against the lath but does not cut into the face paper. The legs of the staples shall not be closer than $\frac{3}{8}$ " from the ends and edges of the lath.

D. Bestwall Gypsum Lath shall be applied with its face side out and with the long dimension at right angles to the framing members. End joints shall be made to fall on different supports in alternate courses, or the lath shall be applied so that end joints are made continuously on one support. In the latter case, the continuous joints shall be covered with 3" wide strips of metal lath and the long or edge joints shall be offset or staggered. In all cases, the lath shall be butted together.

E. Corner bead shall be used over lath to protect all external vertical corners and to establish grounds, and shall be attached securely in such a manner as to assure proper alignment during application of plaster.

F. Cornerite shall be provided at all interior angles and shall be nailed lightly or stapled to the lath, not to the framing members.

G. Where Bestwall Olsen Gypsum Lath Clips are used, the erection of lath shall be in accordance with the directions and details shown in the various constructions.

3. METAL LATH AND METAL FURRING

Shall be in accordance with ASA Standard Specifications for Interior Lathing and Furring, No. A42.4 (latest current version).

4. WORKMANSHIP

All metal construction and lathing shall be erect so that finished plaster surfaces may be true to line, and be level, plumb, square, curved or as otherwise required, without excessive thickness of plaster.

SPECIFICATIONS FOR GYPSUM PLASTERING

The following specifications covering machine mixed neat basecoat plasters with a lime putty white coat finish are applicable to a majority of plaster work. As indicated in Section 2A (Materials) Bestwall offers a full line of plaster materials which work well, applied under the ASA 42 Standard Specifications for Interior Plastering. For more information write the Bestwall Gypsum Co.

1. GENERAL PROVISIONS

The work includes all labor, materials, services, equipment, and scaffolding required to complete the plastering of the project in accordance with the drawings and specifications. (See interior lathing specifications.)

2. MATERIALS

A. Plastering Materials

The plaster materials shall be selected from the following categories and brands as manufactured by Bestwall Gypsum Company and conforming to the current ASTM specifications as noted:

BESTWALL Gypsum Plaster	C28
BESTWALL Lite-Mix	C28
BESTWALL Wood Fibered Plaster	C28
BESTWALL Concrete Bond Plaster	C28
BESTWALL Prepared Trowel Finish	—
BESTWALL Prepared Sand Float Finish	—
BESTWALL Satin Spar White Gauging Plaster	C28
BESTWALL Common Gauging Plaster	C28
BESTWALL Sunflower Molding and Casting Plaster	C59
BESTWALL Keene's Cement	C61
→ BESTWALL Lite Acoustic Plaster	—
BESTWALL Builder's Lime (Autoclaved Finish)	C206 Type S
BESTWALL Smooth Finishing Lime (Normal Hydrated)	C6 Type N

B. Aggregates (for use with gypsum plaster) Sand, Perlite, or Vermiculite shall conform to ASTM Specification C35-57T for use in basecoat plaster. For plastering, the aggregate weight per cu. ft. shall be for sand, 100 lbs; for Perlite and Vermiculite, 7 to 11 lbs.

Fine Sand having rounded particles uniform in size (frequently called "quicksand"), fine Perlite or fine Vermiculite shall not be used.

C. Water shall be clean, fresh, potable and free from such amounts of mineral and organic substances as would affect the set of the plaster.

D. Materials, Delivery of, and Protection All manufactured materials shall be delivered in the original packages, containers, or bundles bearing the name of the manufacturer of the brand.

Plaster and all cementitious materials shall be kept dry until ready to be used; they shall be kept off the ground, under cover, and away from sweating walls and other damp surfaces.

Metal goods shall be protected against rusting.

3. BASE COAT PROPORTION

Bestwall Gypsum Plaster shall be mixed with sand, perlite

or vermiculite in the proportion of 100 lbs. of plaster to not more than:

TWO COAT WORK (Double up Method)		THREE COAT WORK	
	Sand Perlite or Vermiculite cubic feet		Sand Perlite or Vermiculite cubic feet
Over Gypsum Lath	2½ ①	First (Scratch) coat over lath First (Scratch) coat over masonry	2* 3 ②
Over Masonry (except over monolithic concrete)	3	Second coat over lath base Second coat over masonry base	3 ② 3 ①

*In lieu of the proportions specified above the proportions may be 100 lbs. of Bestwall Gypsum Plaster to not more than 2½ cu. ft. of sand, perlite or vermiculite provided this proportioning is used for both scratch and brown coats.

① Under smooth trowel finish, perlite or vermiculite limit 2 cu. ft.

② Over high suction base, sand may be 4 cu. ft.

4. MECHANICAL MIXING

Material that has partially set shall not be retempered or used. Frozen, caked or lumpy material shall not be used. The mixer shall be cleaned of all set or hardened material before materials for a new batch are loaded. Each batch shall be mixed separately. Materials shall be added while mixer is in continuous operation.

Put in the approximate amount of water; if sand is used add approximately half the amount of aggregate (if perlite or vermiculite is used add all the aggregate); add all the plaster; add the remainder of the sand aggregate; mix to the proper consistency, adding water if necessary; and dump the entire batch and use.

Note: The mixer should be flushed with water when used intermittently.

5. LIME PUTTY

A. **Bestwall Smooth Finish Lime** shall be box soaked or machine mixed with 6 to 6½ gal. of water for each 50 lb. bag and allowed to soak overnight.

B. **Bestwall Builders Lime** shall be mixed with approximately 6¼ gal. of water per 50 lb. bag. It may be machine mixed and used immediately or soaked and used the next day.

6. FINISH COAT PROPORTIONS

A. Smooth Trowel Finish

NOTE: For smooth trowel finish ½ to 1 cu. ft. of fine sand or perlite shall be added for each 100 lbs. of gypsum (Gauging or Keene's Cement).

1. **Gypsum Lime Putty Trowel Finish** shall be mixed in the proportions of 1 part of gauging plaster (calcined gypsum) to not more than 3 parts of lime putty by volume.

2. **Keene's Cement Lime Putty Finish** may be standard hard, medium hard, or extra hard finish. When mixed mechanically the water shall be put in the mixer first; then the lime (dry or putty); the sand, if used; and finally the Keene's Cement.

Standard Hard Finish shall be mixed in the proportions of 100 lbs. of Keene's Cement to not more than 100 lbs. of dry hydrated lime.

B. Sand Float Finish

1. **Gypsum Sand Float Finish** shall be mixed in the ratio of 100 lbs. of gypsum plaster (unfibred) to not more than 200 lbs. of sand.

2. **Keene's Cement Lime Putty Sand Float Finish** shall be mixed in the range of 2¼ to 3 parts of sand to 1 part of a mixture of Lime and Keene's Cement by weight with ¼ to 1½ parts of Lime to 1 part of Keene's Cement by weight. The specified range is equivalent to the following: from 75 lbs. Lime to 100 lbs. Keene's Cement to 400 to

525 lbs. sand to 150 lbs. lime to 100 lbs. Keene's to 560 to 700 lbs. sand.

C. **Bestwall Lite Acoustic Plaster** shall be mixed with water to the proper consistency.

7. THICKNESS OF BASECOAT PLASTER

Plaster shall be of the following thicknesses measured from the face of plaster base to finished plaster surfaces. Wood or metal grounds or plaster screeds shall be installed to assure such thicknesses:

	Thickness of Plaster Including Finish Coat, in.
Lath } Gypsum	1½ min.
Metal Lath, Wire Lath and Wire Fabric	5⁄8 min.
Masonry and Concrete Walls	5⁄8 min.
Monolithic Concrete Ceilings	1⁄8 min. 3⁄8 max.

A. **Plaster thickness** when measured from the back plane of metal lath, exclusive of ribs, shall be ¾" minimum.

B. If **monolithic concrete** ceiling surfaces require more than 3⁄8" of plaster to produce required lines or surfaces, metal lath or wire lath bonding for the plaster shall be attached to the concrete before application of plaster. Where the concrete ceiling surfaces are such as to require the application of an excessive thickness of plaster to produce required lines or surfaces, lath shall be applied over furring secured to the concrete.

Wood Grounds shall be furnished and installed by others. Metal Grounds shall be furnished and installed by the (plastering) (lathing) contractor.

Plaster Screeds shall be installed by the plastering contractor.

8. PREPARATIONS FOR PLASTERING

A. **Temperature and Ventilation:** When the prevailing outdoor temperature at the building site is less than 55 F. a uniform temperature of not less than 55 F. shall be continuously maintained in the building for a period of not less than one week prior to the application of plaster, while the plastering is being done, and after the plaster is dry. The heat shall be well distributed in all areas, and deflection or protective screens shall be used to prevent concentrated or uneven heat on plaster areas near the heat source. Products of combustion shall be vented to the outside.

Ventilation shall be provided to properly dry the plaster during and subsequent to its application. In glazed buildings this shall be accomplished by keeping windows open approximately 2" top and bottom (or side-pivoted windows approximately 4") to provide air circulation; and by use of temporary circulators or the air conditioning system in enclosed areas or buildings lacking openings for natural ventilation.

If glazed sash are not in place and the building is subjected to hot, dry winds or temperature differentials from day to night of 20 F. or more, openings shall be screened with cheesecloth or similar materials.

B. **Masonry Surfaces** on which suction must be reduced shall be properly wet down immediately before the plaster is applied. Because bituminous compounds do not provide ideal bases for plaster, the application of plaster to masonry or concrete which has been coated with such compounds is forbidden.

C. **Monolithic Concrete Surfaces** shall be cleaned of all dust, loose particles, and other foreign matter. Laitance and efflorescence shall be removed by washing first with 10% solution of commercial hydrochloric acid (muriatic acid) and water and then with clean water to remove all traces of acid. Grease and oil shall be completely removed (Note 9b).

Concrete surfaces shall have sufficient roughness to provide proper bond. If necessary, the surface shall be evenly wet-

SECTION 5 • SPECIFICATIONS

ted, but not saturated, to provide proper suction. If surfaces are not rough, they shall be hacked or bush-hammered or a dashcoat of Portland-Cement grout, composed of 1 part of cement to 1½ parts of fine sand mixed to a mush consistency, shall be applied. The Portland-Cement grout shall be forcibly dashed on the concrete surface, using a stiff fiber brush, with a whipping motion. This coat shall be kept damp for at least two days immediately following its application and then allowed to dry. Before application of plaster, the surface shall be evenly dampened if necessary to provide proper suction.

D. Metal Grounds and other accessories, such as corner beads, screeds, picture molds, etc., shall be carefully examined to see that they are straight, curved, plumb, level, square, or true to the acquired angles, as the case may require, before the plaster is applied.

E. Surfaces shall be carefully examined before the plaster is applied thereto, and the proper authorities notified of any and all unsatisfactory conditions. Application of the plaster then shall not proceed until such unsatisfactory conditions have been satisfactorily remedied or adjusted.

9. APPLICATIONS OF BASE COAT

A. Two-Coat Work—Base (first) coat shall be applied with sufficient material and pressure to form good bond on gypsum lath or masonry as the case may be, and to cover well. Then, before this scratch coat has set, and without raking its surface, material of the same proportions shall be doubled back to bring the plaster out to grounds struck to a true surface with rod and darby, without application of water and cross raked or scratched to provide a mechanical key for reception of the finish (second) coat. Slow-setting plaster shall be accelerated to provide a set (mixed material) of less than 4 hrs.

B. Three-Coat Work—Scratch (first) coat shall be applied with sufficient material and pressure to form good full keys on metal lath, wire lath, or wire fabric, or good bond on gypsum lath or masonry, as the case may be, and to cover well and then be scratched to a rough surface. Slow-setting plaster shall be accelerated to provide a set (mixed material) of less than 4 hrs.

Brown (2nd) coat shall be applied after the scratch (1st) coat has set firm and hard, brought out to grounds, straightened to a true surface with rod and darby, without application of water and cross raked or scratched to provide a mechanical key for reception of the finish (3rd) coat. To insure full plaster thickness, plaster screeds should be applied to the scratch coat prior to the application of the brown coat.

C. Plastering on Monolithic Concrete-Surfaces of walls and columns shall have a scratch coat of bond plaster, followed by a brown coat of gypsum plaster (in the proportions of 100 lb. of Bestwall Gypsum Plaster to not more than 3 cu. ft. of sand or perlite) troweled into the scratch coat before it has set. The brown coat shall be brought out to grounds, using a double-back application if required, straightened to a true surface with rod and darby, with application of water and cross raked or scratched to provide a mechanical key for reception of the finish coat.

Surfaces of ceilings shall have a coat of bond plaster, scratched in thoroughly, doubled back, and filled to a true, even surface and left rough (maximum thickness ¾"), to receive the finish coat.

D. 2" Solid Gypsum Lath and Plaster Partitions shall be scratched in on both sides with ¾" fast setting plaster (maximum 3 hrs.) practically simultaneously. The side away from the temporary bracing shall be browned after both scratch coats have set and partially dried. After this brown coat has set firmly, remove the braces and brown the other side leaving ¼" for finish coat to bring wall to full 2" thickness.

10. APPLICATION OF FINISHES

The finish coat shall be applied to a partially dry base coat or to a thoroughly dry base coat which has been evenly wetted by brushing or spraying. The use of excessive water shall be avoided in the application of all types of finish coat plastering.

NOTE: Fine sand or perlite shall be used in smooth trowel finishes. Over gypsum or metal lath bases where light weight aggregate is used and the aggregate content in the base-coat exceeds 2 cu. ft. per 100 lbs. of gypsum, a sand float, acoustical or other finish shall be used. Smooth Trowel Finishes shall not be used in this place.

A. Trowel Finishes—Trowel Finishes (smooth) shall be applied over the base coat scratched in thoroughly, laid on well, doubled back and filled out to a true, even surface. The general thickness shall be ¼" to ⅛". The finish shall be allowed to draw a few minutes and then it shall be well-trowelled with water to a smooth finish, free from cat faces and other blemishes or irregularities.

B. Float Finishes—Float finishes shall be applied over the base coat, scratched in thoroughly, laid on with a trowel to an even surface, and then floated (with wood, carpet, cork, rubber or other type floats, depending on the texture desired) to a true, even surface free from slick spots or other blemishes.

→ **C. Acoustical Plaster and Other Special Plasters:**

1. Bestwall Lite Acoustic (White) Plaster shall be mixed with clean water only for machine or trowel application over gypsum basecoat plaster, monolithic concrete and other surfaces which are firm, clean and free of efflorescence or water soluble substances. Gypsum basecoats should be half dry to dry. Concrete should be dry.

Spray—For first coat use 55 to 60 qts. of water per 40 lb. bag. Apply ¾" thick. Level with darby and allow to dry before applying finish coat. For finish coat use 5 to 10 additional qts. of water per bag depending upon texture desired. When applied over low suction bases such as dense concrete, metal, etc., the material should be applied in three applications, the first application furnishing the suction for subsequent coats. Any large fissures in the first coat should be filled and leveled before applying the finish coat.

Hand—Use 50 to 60 qts. of water per 40 lb. bag for both basecoat and finish coat. Apply basecoat ¾" thick, allow to dry, then apply finish coat ⅛" thick. Trowel finish may be smooth troweled, floated, stippled, or darbied after it has taken-up sufficiently.

Ultra-White Finish—Where a light reflection of 70% or more is desired with machine application use Bestwall Lite Acoustic Ultra White Plaster for the finish coat only.

2. Special Plasters shall be applied in accordance with the directions of the Manufacturer.

PLASTER†	BRANDS	USE	COVERAGE (square yards per ton)	Plaster THICKNESS
Basecoat Plasters NEAT Unfibred	BESTWALL	Scratch coat on all backings except metal lath and monolithic concrete. Brown coat on all backings	(sanded 2:1) Gypsum Lath: 190-220 Metal Lath: 100-130 Gypsum Tile: 210-240 Clay Tile: 165-200	1/2" 5/8" 1/2" 5/8"
Fibred (glass fiber or sisal fiber)	BESTWALL	Scratch and brown coat on all backings except monolithic concrete.	same as above	same as above
Extra-Fibred (glass fiber or sisal fiber)	BESTWALL	Scratch coat on metal lath but may be used over all bases except monolithic concrete.	same as above	same as above
MILL-MIXED Fibred, Unfibred Masonry Mix	BESTWALL Lite-Mix (Available in 80 lb. bags only)	Where lightness is desired, for faster, easier application.	Gypsum Lath: 135-150 Metal Lath: 75-90 Gypsum Tile: 135-150 Clay Tile: 110-125	1/2" 5/8" 1/2" 5/8"
Wood Fibred	BESTWALL (Available in 100, 50 and 10 lb. bags)	Without sand-scratch coat and brown coat on all backings except masonry. With sand-scratch coat on masonry and brown coat on all backings.	(without sand) Gypsum Lath: 100-120 Metal Lath: 50-65 Gypsum Tile: 85-100 Clay Tile: 65-85	1/2" 5/8" 1/2" 5/8"
Concrete Bond	BESTWALL	Double back coat on monolithic concrete, or as scratch coat only.	Monolithic Concrete: 90-120	1/8" - 3/8"
Finishing Plasters PREPARED TROWEL FINISH	BESTWALL	Where uniformity and extra hardness are desired. Can be decorated when dry—no waiting period. For use over gypsum basecoat only. White or gray color.	350-400	1/8" Maximum
PREPARED SAND FLOAT FINISH	BESTWALL	Same as prepared trowel finish except surface will be textured. White or gray color.	250-275	1/8" Maximum
WHITE GAUGING	BESTWALL Satin Spar	Mixed with lime for use over gypsum basecoat. Great workability: hard, smooth, white surface. Highest-grade rock. Available in quick set and slow set.	1600	1/8" Maximum
COMMON GAUGING	BESTWALL	Mixed with lime for use over gypsum basecoat. Selected quality rock, light gray color. Gives hard, smooth surface. Available in quick set and slow set.	1600	1/8" Maximum
KEENE'S CEMENT	BESTWALL	Mixed with lime. Gives strong, dense surface with high resistance to abrasion and water. Two sets: regular and fast finish.	(4:1 Mix) 550	1/8" Maximum
MOLDING AND CASTING	BESTWALL Sunflower	Made from rock over 98% pure. Gives hard, strong molds and casts with low expansion. Mixed with water only for casts. Mixed with lime and water for molds.		
ACOUSTICAL PLASTER (White, Ultra White)	BESTWALL Lite Acoustic Plaster (Available in 40 lb. bags)	Applied by plaster machine or hand troweling over gypsum base coat, monolithic concrete or other surfaces which are firm, clean and free of efflorescence or water soluble substances. Sound coefficient .55 to .60. Natural white color	350 to 400	1/2"
LIME	BESTWALL Smooth Finishing Lime (Normal Hydrated) Builder's Lime (Autoclaved)	Mixed with gauging and molding plasters and Keene's cement to give plasticity, whiteness and bulk. Ohio Dolomite Lime furnished normal hydrated and autoclaved. (Available in 50 lb bags only.)	Up to 750	1/8" Maximum

† All plasters available in 100 lb. bags except where noted.

LATH	EDGE	THICKNESS	WIDTH	LENGTH	WEIGHT LBS./1000 FT. ²	FRAMING SPACING	NAILS LBS./1000 FT. ²	NAIL SIZE	NAIL SPACING	PANELS PER BUNDLE
BESTWALL LATH (Plain, Perforated, Insulating, Pinholath)	Round	3/8"	16"	48"	1500	16" o.c.	6 8	13 gauge	5" o.c.	6*
		1/2"			2000	24" o.c.	5 2			4
BESTWALL Long length Lath	Round or tongue and groove V edge	1/2"	24"	up to 12'	2000	Not Applicable				Shipped loose

* 3/4" only 16 1/5" width on Pacific coast, packed 5 panels per bundle.



GYPSUM LATH & PLASTER

BESTWALL GYPSUM PLASTERS • SECTION 3

Mixes smoothly—has no tendency to block the nozzle of the plaster gun.

High Insulation Value—Lite-Mix provides greater insulation than sanded gypsum plaster.

BESTWALL WOOD FIBERED GYPSUM PLASTER

Description:

Non-staining shredded wood fiber additive provides good working properties when used without aggregate.

Uses:

Intended for use without aggregate as scratch and brown coat. May be mixed with one part of sand for scratch coat over high suction masonry.

Features:

Economy—Can be applied quickly and easily.

Strength—Bestwall Wood Fibered Gypsum Plaster has approximately 3 times greater compressive and tensile strength than sanded plaster; up to 2½ times greater resistance to lateral impact and 50% greater surface hardness.

Fire-Resistant—Wood Fibered Plaster provides excellent fire rating up to 50% higher than sanded plaster.

BESTWALL CONCRETE BOND GYPSUM PLASTER

Description:

A basecoat plaster designed to bond permanently with monolithic concrete to preserve a hard, durable surface. Requires addition of water only in field.

Uses:

Specially formulated to compensate for 2 problems:

1. where surface is too dense for ordinary plaster to form a mechanical key, and
2. where thermal expansion of concrete is lower than that of ordinary plasters.

Features:

Bonding Strength—Concrete Bond adheres well to properly prepared concrete surfaces, columns and beams and on smooth cement block walls.

Low Cost—An economical basecoat plaster to provide for application direct to concrete surfaces.

BESTWALL PREPARED SAND FLOAT FINISH

Description:

This pre-mixed gypsum finish coat plaster has same qualities and advantages as Prepared Trowel Finish. The only difference: this finish contains proper amount of uniformly graded white silica sand to produce hard textured surface.

BESTWALL LITE ACOUSTIC PLASTER

A mill-mixed product, Bestwall Lite Acoustic Plaster is a versatile, highly light reflective, acoustical finishing material designed for machine application. Made of incombustible mineral materials, it provides exceptional bond to form a porous sound-absorbing surface. May be left with natural finish or spray painted according to directions after it's thoroughly dry.

Use of Lite Acoustic is not limited to new construction. Permanent bond is assured when it is properly applied to almost any surface (see **Specifications**). Existing ceilings can be covered effectively without removal or use of additional lath or backer board, providing the plaster is firm and the surface clean.

Because various textures can be achieved in either White or Ultra-White, Lite Acoustic offers a wide scope of decorative possibilities in residential, commercial or industrial construction. May also be applied by hand trowel. (See **Specifications** for details).

Features:

Fire Protection—Lite Acoustic will not burn or support combustion.

Economy—Provides wide field of low cost acoustical treatment in both new work and remodeling.

Versatility—Applied over standard gypsum basecoat plaster, wall or monolithic concrete, Lite Acoustic Ultra-White can be gun applied to provide coarse, medium coarse or fine textured finishes by adjustment of machine nozzle to meet various decorative requirements.

Sound Absorption Coefficients								
Texture Finish	Thick-ness	FREQUENCIES						Noise Reduction Coefficient
		125	250	500	1000	2000	4000	
		1/2"	.25	.27	.52	.69	.78	.88
								55
								Riverbank

Light Reflection Coefficients		
	Spray	Trowel
White	66%	69%
Ultra-White	70%	74%

SECTION 3 • MACHINE APPLICATION

Bestwall manufactures a full line of basecoat plasters, specially formulated for easy application through plastering machines. They are designed to pump at low hose pressure which insures steady and uniform flow from the nozzle without aggregate separation or plug ups and to have low water demand assuring hard, strong plastering. For scratch coat over metal lath, Bestwall Glass Fibered Plaster forms adequate keys with minimum blow through, thus assuring strong rigid plastering with minimum waste.

These features provide the following advantages:

Economy—Due to trouble-free application, more yards of plaster can be applied per man hour with less waste.

Durability—When mixed and applied according to specifications, resultant plastering develops full strength and hardness resulting in strong, durable walls and ceilings.

Design Flexibility—Machine application lends itself to the flexibility of design for which gypsum plaster is noted, thus placing no limitation on use of this method of application.



Machine application plasters are as follows:

BESTWALL NEAT GYPSUM PLASTERS

Unfibered plaster may be used for the scratch (first) coat on gypsum lath or masonry (solid surfaces) and for the brown (second) coat on any backing. Fibered plaster contains a carefully measured amount of glass fiber to provide greater wet cohesion and minimize droppings behind open type lath. Fibered plaster is recommended for the scratch coat on perforated gypsum or metal lath and may be used for the brown coat on any backing. Extra-fibered plaster contains a greater proportion of glass fiber and is preferred in some areas for the scratch coat on metal lath.

BESTWALL LITE MIX Unfibered or Fibered (Glass only)

Mixes smoothly, spreads easily and has no tendency to block the nozzle of the plaster gun. Lite-Mix produces a superior basecoat. It is also available in a Masonry Mix for application on masonry bases. Water only is added on the job.

BESTWALL LITE ACOUSTIC White or Ultra White

Can be applied over standard gypsum basecoat plaster or other clean, dry, firm bases such as concrete, metal decks, etc. Lite Acoustic (Ultra-White) can be gun applied to provide ceilings of acoustical value as well as textured beauty and high light reflectivity. Can also be applied by hand, if desired.



SECTION 5 • SPECIFICATIONS

SPECIFICATIONS FOR INTERIOR LATHING

1. MATERIALS

A. Gypsum Lath shall conform to the current Standard Specifications for Gypsum Lath, ASTM Designation: C37. Gypsum lath shall be one of the following types: Plain, Perforated or Insulating.

All gypsum lath shall be as manufactured by Bestwall Gypsum Company and shall conform to the following dimensional requirements:

Thickness	Width	Length
$\frac{3}{8}$ " or $\frac{1}{2}$ "	16" (a) or 24"	48" (b)

(a) 16" wide lath is available in Pacific Coast Markets.

(b) Long-length lath $\frac{1}{2}$ " thick is available for special systems such as solid gypsum lath and plaster partitions and furred walls.

B. Gypsum Lath Clips shall be Bestwall Olsen Gypsum Lath furnished by Bestwall Gypsum Company.

C. Other Metal Accessories such as corner beads, base screeds, concealed picture molds, etc., shall be not lighter than No. 26 U.S. gage steel, zinc-coated, with perforated or expanded flanges or clips shaped so as to permit complete embedment in the plaster.

D. Channels shall be hot-rolled or cold-rolled steel, free of rust, with required weight per thousand lineal feet.

2. APPLICATION OF GYPSUM LATH

A. Except where noted below Bestwall Gypsum Lath shall be securely nailed to wood supports spaced not to exceed 16" on center (24" on center for $\frac{1}{2}$ " lath) with 13 gage, $1\frac{1}{8}$ " long ($1\frac{1}{4}$ " long for $\frac{1}{2}$ " lath), 19/64" flat-head, blued nails approximately 5" o.c. The nails shall be driven with the underside of the head flush with face of the lath and shall not be closer than $\frac{3}{8}$ " from edges or ends. There shall be not less than four nails per lath per support with 16" wide lath. Where 24" wide lath is applied, there shall be at least 5 nails per lath per support, approximately 5" on center.

B. Where $\frac{3}{8}$ " gypsum lath is used for certain fire-resistive rated construction, five 13 gage, $1\frac{1}{8}$ " long, $\frac{3}{8}$ " flat-head, blued nails per lath per support for 16" wide lath may be required.

C. $\frac{3}{8}$ " Bestwall Gypsum Lath may be applied with staples to wood nailing members by means of a pneumatic tool. Staples shall be not less than 16 gage flattened galvanized wire, $\frac{1}{4}$ " flat crown, divergent point, not less than $\frac{1}{8}$ " long. Staples shall be driven with the crown parallel to the long dimension of the nailing member, using not less than 4 staples per 16" width of lath per nailing member and not more than 5" o.c., in such a manner that the crown bears tightly against the lath but does not cut into the face paper. The legs of the staples shall not be closer than $\frac{3}{8}$ " from the ends and edges of the lath.

D. Bestwall Gypsum Lath shall be applied with its face side out and with the long dimension at right angles to the framing members. End joints shall be made to fall on different supports in alternate courses, or the lath shall be applied so that end joints are made continuously on one support. In the latter case, the continuous joints shall be covered with 3" wide strips of metal lath and the long or edge joints shall be offset or staggered. In all cases, the lath shall be butted together.

E. Corner bead shall be used over lath to protect all external vertical corners and to establish grounds, and shall be attached securely in such a manner as to assure proper alignment during application of plaster.

F. Cornerite shall be provided at all interior angles and shall be nailed lightly or stapled to the lath, not to the framing members.

G. Where Bestwall Olsen Gypsum Lath Clips are used, the erection of lath shall be in accordance with the directions and details shown in the various constructions.

3. METAL LATH AND METAL FURRING

Shall be in accordance with ASA Standard Specifications for Interior Lathing and Furring, No. A42.4 (latest current version).

4. WORKMANSHIP

All metal construction and lathing shall be erect so that finished plaster surfaces may be true to line, and be level, plumb, square, curved or as otherwise required, without excessive thickness of plaster.

SPECIFICATIONS FOR GYPSUM PLASTERING

The following specifications covering machine mixed neat basecoat plasters with a lime putty white coat finish are applicable to a majority of plaster work. As indicated in Section 2A (Materials) Bestwall offers a full line of plaster materials which work well, applied under the ASA 42 Standard Specifications for Interior Plastering. For more information write the Bestwall Gypsum Co.

1. GENERAL PROVISIONS

The work includes all labor, materials, services, equipment, and scaffolding required to complete the plastering of the project in accordance with the drawings and specifications. (See interior lathing specifications.)

2. MATERIALS

A. Plastering Materials

The plaster materials shall be selected from the following categories and brands as manufactured by Bestwall Gypsum Company and conforming to the current ASTM specifications as noted:

BESTWALL Gypsum Plaster	C28
BESTWALL Lite-Mix	C28
BESTWALL Wood Fibered Plaster	C28
BESTWALL Concrete Bond Plaster	C28
BESTWALL Prepared Trowel Finish	—
BESTWALL Prepared Sand Float Finish	—
BESTWALL Satin Spar White Gauging Plaster	C28
BESTWALL Common Gauging Plaster	C28
BESTWALL Sunflower Molding and Casting Plaster	C59
BESTWALL Keene's Cement	C61
BESTWALL Lite Acoustic Plaster	—
BESTWALL Builder's Lime (Autoclaved Finish)	C206 Type S
BESTWALL Smooth Finishing Lime (Normal Hydrated)	C6 Type N

B. Aggregates (for use with gypsum plaster) Sand, Perlite, or Vermiculite shall conform to ASTM Specification C35-57T for use in basecoat plaster. For plastering, the aggregate weight per cu. ft. shall be for sand, 100 lbs; for Perlite and Vermiculite, 7 to 11 lbs.

Fine Sand having rounded particles uniform in size (frequently called "quicksand"), fine Perlite or fine Vermiculite shall not be used.

C. Water shall be clean, fresh, potable and free from such amounts of mineral and organic substances as would affect the set of the plaster.

D. Materials, Delivery of, and Protection All manufactured materials shall be delivered in the original packages, containers, or bundles bearing the name of the manufacturer of the brand.

Plaster and all cementitious materials shall be kept dry until ready to be used; they shall be kept off the ground, under cover, and away from sweating walls and other damp surfaces.

Metal goods shall be protected against rusting.

3. BASE COAT PROPORTION

Bestwall Gypsum Plaster shall be mixed with sand, perlite

or vermiculite in the proportion of 100 lbs. of plaster to not more than:

TWO COAT WORK (Double up Method)		THREE COAT WORK	
	Sand Perlite or Vermiculite cubic feet		Sand Perlite or Vermiculite cubic feet
Over Gypsum Lath	2½ ^①	First (Scratch) coat over lath	2*
		First (Scratch) coat over masonry	3 ^②
Over Masonry (except over monolithic concrete)	3	Second coat over lath base	3 ^②
		Second coat over masonry base	3 ^①

*In lieu of the proportions specified above the proportions may be 100 lbs. of Bestwall Gypsum Plaster to not more than 2½ cu. ft. of sand, perlite or vermiculite provided this proportioning is used for both scratch and brown coats.

① Under smooth trowel finish, perlite or vermiculite limit 2 cu. ft.

② Over high suction base, sand may be 4 cu. ft.

4. MECHANICAL MIXING

Material that has partially set shall not be retempered or used. Frozen, caked or lumpy material shall not be used. The mixer shall be cleaned of all set or hardened material before materials for a new batch are loaded. Each batch shall be mixed separately. Materials shall be added while mixer is in continuous operation.

Put in the approximate amount of water; if sand is used add approximately half the amount of aggregate (if perlite or vermiculite is used add all the aggregate); add all the plaster; add the remainder of the sand aggregate; mix to the proper consistency, adding water if necessary; and dump the entire batch and use.

Note: The mixer should be flushed with water when used intermittently.

5. LIME PUTTY

A. **Bestwall Smooth Finish Lime** shall be box soaked or machine mixed with 6 to 6¼ gal. of water for each 50 lb. bag and allowed to soak overnight.

B. **Bestwall Builders Lime** shall be mixed with approximately 6¼ gal. of water per 50 lb. bag. It may be machine mixed and used immediately or soaked and used the next day.

6. FINISH COAT PROPORTIONS

A. Smooth Trowel Finish

NOTE: For smooth trowel finish ½ to 1 cu. ft. of fine sand or perlite shall be added for each 100 lbs. of gypsum (Gauging or Keene's Cement).

1. **Gypsum Lime Putty Trowel Finish** shall be mixed in the proportions of 1 part of gauging plaster (calcined gypsum) to not more than 3 parts of lime putty by volume.

2. **Keene's Cement Lime Putty Finish** may be standard hard, medium hard, or extra hard finish. When mixed mechanically the water shall be put in the mixer first; then the lime (dry or putty); the sand, if used; and finally the Keene's Cement.

Standard Hard Finish shall be mixed in the proportions of 100 lbs. of Keene's Cement to not more than 100 lbs. of dry hydrated lime.

B. Sand Float Finish

1. **Gypsum Sand Float Finish** shall be mixed in the ratio of 100 lbs. of gypsum plaster (unfibred) to not more than 200 lbs. of sand.

2. **Keene's Cement Lime Putty Sand Float Finish** shall be mixed in the range of 2½ to 3 parts of sand to 1 part of a mixture of Lime and Keene's Cement by weight with ½ to 1½ parts of Lime to 1 part of Keene's Cement by weight. The specified range is equivalent to the following: from 75 lbs. Lime to 100 lbs. Keene's Cement to 400 to

525 lbs. sand to 150 lbs. lime to 100 lbs. Keene's to 560 to 700 lbs. sand.

C. **Bestwall Lite Acoustic Plaster** shall be mixed with water to the proper consistency.

7. THICKNESS OF BASECOAT PLASTER

Plaster shall be of the following thicknesses measured from the face of plaster base to finished plaster surfaces. Wood or metal grounds or plaster screeds shall be installed to assure such thicknesses:

	Thickness of Plaster Including Finish Coat, in.
Gypsum	½ min.
Lath } Metal Lath, Wire Lath and Wire Fabric	5/8 min.
Masonry and Concrete Walls	5/8 min.
Monolithic Concrete Ceilings	1/8 min. 3/8 max.

A. **Plaster thickness** when measured from the back plane of metal lath, exclusive of ribs, shall be ¼" minimum.

B. If **monolithic concrete** ceiling surfaces require more than ¾" of plaster to produce required lines or surfaces, metal lath or wire lath bonding for the plaster shall be attached to the concrete before application of plaster. Where the concrete ceiling surfaces are such as to require the application of an excessive thickness of plaster to produce required lines or surfaces, lath shall be applied over furring secured to the concrete.

Wood Grounds shall be furnished and installed by others. Metal Grounds shall be furnished and installed by the (plastering) (lathing) contractor.

Plaster Screeds shall be installed by the plastering contractor.

8. PREPARATIONS FOR PLASTERING

A. **Temperature and Ventilation:** When the prevailing outdoor temperature at the building site is less than 55 F. a uniform temperature of not less than 55 F. shall be continuously maintained in the building for a period of not less than one week prior to the application of plaster, while the plastering is being done, and after the plaster is dry. The heat shall be well distributed in all areas, and deflection or protective screens shall be used to prevent concentrated or uneven heat on plaster areas near the heat source. Products of combustion shall be vented to the outside.

Ventilation shall be provided to properly dry the plaster during and subsequent to its application. In glazed buildings this shall be accomplished by keeping windows open approximately 2" top and bottom (or side-pivoted windows approximately 4") to provide air circulation; and by use of temporary circulators or the air conditioning system in enclosed areas or buildings lacking openings for natural ventilation.

If glazed sash are not in place and the building is subjected to hot, dry winds or temperature differentials from day to night of 20 F. or more, openings shall be screened with cheesecloth or similar materials.

B. **Masonry Surfaces** on which suction must be reduced shall be properly wet down immediately before the plaster is applied. Because bituminous compounds do not provide ideal bases for plaster, the application of plaster to masonry or concrete which has been coated with such compounds is forbidden.

C. **Monolithic Concrete Surfaces** shall be cleaned of all dust, loose particles, and other foreign matter. Laitance and efflorescence shall be removed by washing first with 10% solution of commercial hydrochloric acid (muriatic acid) and water and then with clean water to remove all traces of acid. Grease and oil shall be completely removed (Note 9b).

Concrete surfaces shall have sufficient roughness to provide proper bond. If necessary, the surface shall be evenly wet

SECTION 5 • SPECIFICATIONS

ted, but not saturated, to provide proper suction. If surfaces are not rough, they shall be hacked or bush-hammered or a dashcoat of Portland-Cement grout, composed of 1 part of cement to 1½ parts of fine sand mixed to a mush consistency, shall be applied. The Portland-Cement grout shall be forcibly dashed on the concrete surface, using a stiff fiber brush, with a whipping motion. This coat shall be kept damp for at least two days immediately following its application and then allowed to dry. Before application of plaster, the surface shall be evenly dampened if necessary to provide proper suction.

D. Metal Grounds and other accessories, such as corner beads, screeds, picture molds, etc., shall be carefully examined to see that they are straight, curved, plumb, level, square, or true to the acquired angles, as the case may require, before the plaster is applied.

E. Surfaces shall be carefully examined before the plaster is applied thereto, and the proper authorities notified of any and all unsatisfactory conditions. Application of the plaster then shall not proceed until such unsatisfactory conditions have been satisfactorily remedied or adjusted.

9. APPLICATIONS OF BASE COAT

A. Two-Coat Work—Base (first) coat shall be applied with sufficient material and pressure to form good bond on gypsum lath or masonry as the case may be, and to cover well. Then, before this scratch coat has set, and without raking its surface, material of the same proportions shall be doubled back to bring the plaster out to grounds struck to a true surface with rod and darby, without application of water and cross raked or scratched to provide a mechanical key for reception of the finish (second) coat. Slow-setting plaster shall be accelerated to provide a set (mixed material) of less than 4 hrs.

B. Three-Coat Work—Scratch (first) coat shall be applied with sufficient material and pressure to form good full keys on metal lath, wire lath, or wire fabric, or good bond on gypsum lath or masonry, as the case may be, and to cover well and then be scratched to a rough surface. Slow-setting plaster shall be accelerated to provide a set (mixed material) of less than 4 hrs.

Brown (2nd) coat shall be applied after the scratch (1st) coat has set firm and hard, brought out to grounds, straightened to a true surface with rod and darby, without application of water and cross raked or scratched to provide a mechanical key for reception of the finish (3rd) coat. To insure full plaster thickness, plaster screeds should be applied to the scratch coat prior to the application of the brown coat.

C. Plastering on Monolithic Concrete-Surfaces of walls and columns shall have a scratch coat of bond plaster, followed by a brown coat of gypsum plaster (in the proportions of 100 lb. of Bestwall Gypsum Plaster to not more than 3 cu. ft. of sand or perlite) troweled into the scratch coat before it has set. The brown coat shall be brought out to grounds, using a double-back application if required, straightened to a true surface with rod and darby, with application of water and cross raked or scratched to provide a mechanical key for reception of the finish coat.

Surfaces of ceilings shall have a coat of bond plaster, scratched in thoroughly, doubled back, and filled to a true, even surface and left rough (maximum thickness ¾"), to receive the finish coat.

D. 2" Solid Gypsum Lath and Plaster Partitions shall be scratched in on both sides with ¾" fast setting plaster (maximum 3 hrs.) practically simultaneously. The side away from the temporary bracing shall be browned after both scratch coats have set and partially dried. After this brown coat has set firmly, remove the braces and brown the other side leaving ¼" for finish coat to bring wall to full 2" thickness.

10. APPLICATION OF FINISHES

The finish coat shall be applied to a partially dry base coat or to a thoroughly dry base coat which has been evenly wetted by brushing or spraying. The use of excessive water shall be avoided in the application of all types of finish coat plastering.

NOTE: Fine sand or perlite shall be used in smooth trowel finishes. Over gypsum or metal lath bases where light weight aggregate is used and the aggregate content in the base-coat exceeds 2 cu. ft. per 100 lbs. of gypsum, a sand float, acoustical or other finish shall be used. Smooth Trowel Finishes shall not be used in this place.

A. Trowel Finishes—Trowel Finishes (smooth) shall be applied over the base coat scratched in thoroughly, laid on well, doubled back and filled out to a true, even surface. The general thickness shall be ¼" to ⅝". The finish shall be allowed to draw a few minutes and then it shall be well-trowelled with water to a smooth finish, free from cat faces and other blemishes or irregularities.

B. Float Finishes—Float finishes shall be applied over the base coat, scratched in thoroughly, laid on with a trowel to an even surface, and then floated (with wood, carpet, cork, rubber or other type floats, depending on the texture desired) to a true, even surface free from slick spots or other blemishes.

C. Acoustical Plaster and Other Special Plasters:

1. Bestwall Lite Acoustic (White) Plaster shall be mixed with clean water only for machine or trowel application over gypsum basecoat plaster, monolithic concrete and other surfaces which are firm, clean and free of efflorescence or water soluble substances. Gypsum basecoats should be half dry to dry. Concrete should be dry.

Spray—For first coat use 55 to 60 qts. of water per 40 lb. bag. Apply ¾" thick. Level with darby and allow to dry before applying finish coat. For finish coat use 5 to 10 additional qts. of water per bag depending upon texture desired. When applied over low suction bases such as dense concrete, metal, etc., the material should be applied in three applications, the first application furnishing the suction for subsequent coats. Any large fissures in the first coat should be filled and leveled before applying the finish coat.

Hand—Use 50 to 60 qts. of water per 40 lb. bag for both basecoat and finish coat. Apply basecoat ¾" thick, allow to dry, then apply finish coat ⅝" thick. Trowel finish may be smooth troweled, floated, stippled, or darbied after it has taken-up sufficiently.

Ultra-White Finish—Where a light reflection of 70% or more is desired with machine application use Bestwall Lite Acoustic Ultra White Plaster for the finish coat only.

2. Special Plasters shall be applied in accordance with the directions of the Manufacturer.



PLASTER†	BRANDS	USE	COVERAGE (square yards per ton)	Plaster THICKNESS
Basecoat Plasters NEAT Unfibred	BESTWALL	Scratch coat on all backings except metal lath and monolithic concrete. Brown coat on all backings	(sanded 2:1) Gypsum Lath: 190-220 Metal Lath: 100-130 Gypsum Tile: 210-240 Clay Tile: 165-200	1/2" 3/8" 1/2" 3/8"
Fibred (glass fiber or sisal fiber)	BESTWALL	Scratch and brown coat on all backings except monolithic concrete.	same as above	same as above
Extra Fibred (glass fiber or sisal fiber)	BESTWALL	Scratch coat on metal lath but may be used over all bases except monolithic concrete	same as above	same as above
MILL-MIXED Fibred, Unfibred Masonry Mix	BESTWALL Lite-Mix (Available in 80 lb. bags only)	Where lightness is desired, for faster, easier application.	Gypsum Lath: 135-150 Metal Lath: 75-90 Gypsum Tile: 135-150 Clay Tile: 110-125	1/2" 3/8" 1/2" 3/8"
Wood Fibred	BESTWALL (Available in 100, 50 and 10 lb. bags)	Without sand-scratch coat and brown coat on all backings except masonry. With sand-scratch coat on masonry and brown coat on all backings.	(without sand) Gypsum Lath: 100-120 Metal Lath: 50-65 Gypsum Tile: 85-100 Clay Tile: 65-85	1/2" 3/8" 1/2" 3/8"
Concrete Bond	BESTWALL	Double back coat on monolithic concrete, or as scratch coat only.	Monolithic Concrete: 90-120	1/8" - 3/8"
Finishing Plasters PREPARED TROWEL FINISH	BESTWALL	Where uniformity and extra hardness are desired. Can be decorated when dry—no waiting period. For use over gypsum basecoat only. White or gray color.	350-400	1/8" Maximum
PREPARED SAND FLOAT FINISH	BESTWALL	Same as prepared trowel finish except surface will be textured. White or gray color.	250-275	1/8" Maximum
WHITE GAUGING	BESTWALL Satin Spar	Mixed with lime for use over gypsum basecoat. Great workability; hard, smooth, white surface. Highest-grade rock. Available in quick set and slow set.	1600	1/8" Maximum
COMMON GAUGING	BESTWALL	Mixed with lime for use over gypsum basecoat. Selected quality rock, light gray color. Gives hard, smooth surface. Available in quick set and slow set.	1600	1/8" Maximum
KEENE'S CEMENT	BESTWALL	Mixed with lime. Gives strong, dense surface with high resistance to abrasion and water. Two sets: regular and fast finish.	(4:1 Mix) 550	1/8" Maximum
MOLDING AND CASTING	BESTWALL Sunflower	Made from rock over 98% pure. Gives hard, strong molds and casts with low expansion. Mixed with water only for casts. Mixed with lime and water for molds.		
ACOUSTICAL PLASTER (White, Ultra White)	BESTWALL Lite Acoustic Plaster (Available in 40 lb. bags)	Applied by plaster machine or hand troweling over gypsum base coat, monolithic concrete or other surfaces which are firm, clean and free of efflorescence or water soluble substances. Sound coefficient .55 to .60. Natural white color.	350 to 400	1/2"
LIME	BESTWALL Smooth Finishing Lime (Normal Hydrated) Builder's Lime (Autoclaved)	Mixed with gauging and molding plasters and Keene's cement to give plasticity, whiteness and bulk. Ohio Dolomite Lime furnished normal hydrated and autoclaved. (Available in 50 lb bags only)	Up to 750	1/8" Maximum

† All plasters available in 100 lb. bags except where noted.

LATH	EDGE	THICKNESS	WIDTH	LENGTH	WEIGHT LBS./1000 FT.	FRAMING SPACING	NAILS LBS./1000 FT.	NAIL SIZE	NAIL SPACING	PANELS PER BUNDLE
BESTWALL LATH (Plain, Perforated, Insulating, Pinholath)	Round	3/8"	16"	48"	1500	16" o c	6 8	13 gauge	5" o c.	6'
		1/2"			2000	24" o c	5 2			4
BESTWALL Long length Lath	Round or tongue and groove V edge	1/2"	24"	up to 12'	2000	Not Applicable				Shipped loose

* 3/4" only 16 1/5" width on Pacific coast, packed 5 panels per bundle



GYPSUM LATH & PLASTER



SECTION 1

INTRODUCTION

For over half a century, Bestwall gypsum building materials have been accepted as a standard of quality everywhere. This recognition is earned through continued creative research which provides such unique advantages as *glass fiber reinforced gypsum plasters*.

The fiberglass content of Bestwall fibered plasters is an important factor to consider in specifying lath and plaster construction. Literally miles of glass fibers (39½ miles per bag of plaster) offer greater resilience and bonding properties that resolve many job difficulties and assure superior results.

Armed with this exclusive development, the architect can select with confidence from a variety of lathing systems to meet exacting requirements.

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Years of research and field use have demonstrated that glass fibered plaster is one of the most versatile plasters ever developed. This advanced improvement in fibered plasters controls the evenness of the scratch coat to produce good bond, thus assuring speedier and easier application. Textile glass filaments of uniform strength and length are dispersed in the mix. These individual filaments weigh only 1/150 to 1/200 as much as most manila or sisal fibers, yet they are as strong as high strength steel of the same size.

Speed—Glass filaments of uniform length and tremendous strength provide speedier and easier application. There is no balling up to groove the plaster and necessitate backtracking and smoothing.

Quality Plastering—Provides better keying on metal or perforated gypsum lath. A better surface is made for reception of the finish coat.

Economy—Spreads freely and provides high coverage with less droppings. With the glass fibers there is little build up of fibers and plaster on tools or mixer blades.

Machine Application—Where fibered plaster is specified and machine application is used, glass fibered plaster effects greater construction economies and added design possibilities. No clogging in the nozzle, no plugging in the hose.

FIBERGLASS DATA

Content in Typical Bestwall Plasters		Sq. yd. ½" thick over Gypsum Lath
NEAT (Fibered) Ton or Bag	790 mi. 39½ mi.	3.9 mi. (based on 200 yd. coverage per ton)
LITE-MIX (Fibered) Ton or Bag	650 mi. 26¼ mi.	
		4.7 mi. (based on 140 yd. coverage per ton)

Quality controlled high strength uniform fibers, 1½" long, are well dispersed in the mix. Chart indicates fiberglass content measured in miles. (Figs. are approximate)

Further information and free consultation may be obtained by writing directly to the Bestwall Gypsum Company, or consult nearest district office listed on the back cover of this catalog.

PLAIN GYPSUM LATH

Description

Bestwall Gypsum Lath consists of a core of gypsum rock sandwiched between two layers of special multi-layer paper covering. The exposed layer is soft and water absorbent, permitting water in the plaster to penetrate the surface. As plaster sets, crystals of gypsum form on the lath paper surface and attach themselves to the main body of the plaster to form a mechanical key, thus assuring maximum bond. The lath paper has water resistant inner plies

which prevent the water in the plaster from soaking through it and thus minimizes sagging of the lath and plaster. Available with round edges.

Uses

The standard gypsum plaster base for nail or staple or clip application to wood or steel framing.

Size

16" x 48", $\frac{3}{8}$ " or $\frac{1}{2}$ " thick.
(16 $\frac{1}{2}$ " x 48" on West Coast only)

BESTWALL LONG-LENGTH LATH

Description

Manufactured in special lengths, up to 12', with round or tongue and groove edges. Has same core and paper as Plain Gypsum Lath.

Uses

Designed primarily for use as a plaster

base for thin (2") solid partitions providing fire resistive ratings up to two hours. Can also be used with furring over exterior masonry walls as a plaster base.

Size

24" x 96", $\frac{1}{2}$ " thick.

BESTWALL PERFOLATH

Description

Plain lath with $\frac{3}{4}$ " diameter holes spaced 4" center to center, 48 holes per sheet. Provides a double mechanical bond that increases fire protection. (See Technical Data, p. 9). Has same core and paper as Plain Gypsum Lath.

Use

Bestwall Perfolath's applications are identical to Plain Lath. A wood stud partition faced with Perfolath and full thickness of plaster specified has a fire rating of 1 hour (15 minutes longer than Plain Lath).

Size

16" x 48", $\frac{3}{4}$ " thick.

BESTWALL INSULATING LATH

Description

Plain Lath with aluminum foil laminated on the back. Reflects 90% of radiant heat and acts as efficient vapor barrier.

Use

Designed primarily for application to ex-

terior walls and top floor ceilings. Must face a minimum air space of $\frac{3}{4}$ " to develop reflective insulation value.

Size

16" x 48", $\frac{3}{4}$ " or $\frac{1}{2}$ " thick.

BESTWALL PINHOLATH

Description

Plain lath with the paper surface pinhole perforated into the gypsum core. Permits rapid absorption of water from plaster. Properly applied, full basecoat may be applied at one time, even when using machine application. Pinholes no larger than $\frac{1}{16}$ " in diameter, spaced $\frac{1}{4}$ " on centers.

Uses

Specially designed for machine-applied plasters. Fast and great water absorption speeds plaster application by holding plaster in place during rodding and darbying.

Sizes

16" x 48", 16" x 96", $\frac{3}{4}$ " thick.

SECTION 2 • LATHING SYSTEMS

Bestwall Olsen Gypsum Lath Clips permit fast erection of lath over wood or steel framing. Olsen clips attach lath permanently and securely to any framing, require less nailing and no wire-tying. Their strength and flexibility allow slight movement of framing without cracking plaster, compensating for expansion and contraction stresses. Clips also provide resilience in wall, reducing sound transmission. Simplified, efficient design designates their usage in a variety of wall and ceiling assemblages.

TYPICAL LATH SYSTEMS

THIN SOLID PARTITION SYSTEM HIGH SOUND TRANSMISSION RESISTANCE (Bestwall Gypsum Lath Base)

H Clips reinforce external corner wherever gypsum lath is not supported by studding and provide positive anchors for partition junctures.



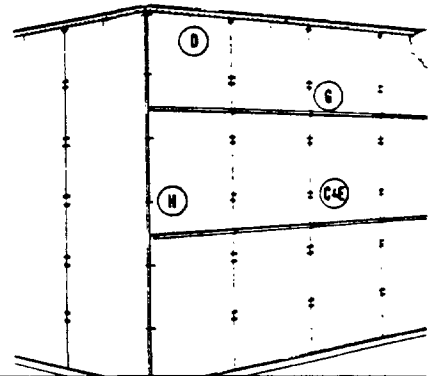
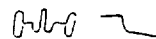
D Clips engage top edge of the long length lath at ceiling runners.



G Clips stabilize temporary bracing bar that supports lath during plastering operation.



C & E Clips attach flush edges of adjacent lath panels.



RESILIENT WALL CONSTRUCTION (Bestwall Gypsum Lath Base)

RX Clips attach gypsum lath to wood framing by means of resilient springs in the wire clips and nailed to the framing.



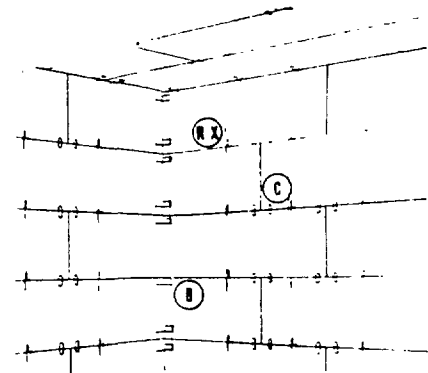
C Clips (Resilient) are nailed to wood framing members. These clips float the lath free from structure to provide less sound transmission.



K Clips (Resilient) are starting clips used at the base of a wall.



B-L Clips secure lath edges of internal and external angles formed by walls and ceilings. Do not require nailing.



SUSPENDED CEILING CONSTRUCTION (Bestwall Gypsum Lath Base)

Z Clips (Centerboard) are used in place of field clips to prevent ceiling lath from sagging.



Steel-Tie Clips attach cross runners to main runners in suspended ceiling systems.



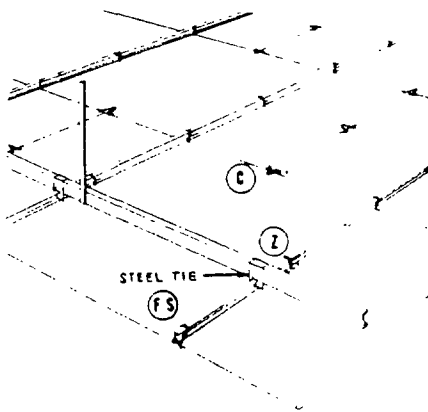
F Clips are field clips that attach gypsum lath to hot or cold rolled channels in ceiling construction.



FS Clips mechanically suspend gypsum lath from hot or cold rolled channels and are used for starting first score of lath.



C Clips (Bridge) when used in suspended ceiling systems, are used as field clips. They attach straight edges of abutting gypsum lath.



GENERAL

Bestwall Gypsum Company manufactures a complete line of highly efficient gypsum basecoat and high purity finish plasters.

These plasters provide a wide latitude of selection to meet all architectural requirements. Each is designed for a specific function.

Finish coat plasters provide the last plaster operation before decorating. Various finishes are available, depending on the type of texture or decorative effect desired.

Basecoat plasters form that portion of the plaster construction which is applied to masonry or lath bases and which help support and develop the properties of the finish coat. Basecoat plasters which require an aggregate are furnished with or without fibers. Bestwall basecoat plasters, both neat and mill mixed, are available glass fibered.

DESCRIPTION

The base of all gypsum plasters is gypsum in its calcined form. Gypsum can't burn and will not transfer heat substantially in excess of 212° F. until all its water of crystallization has been driven off in the form of steam. (It takes approximately an hour for 1700° heat to pass through a 1" thickness of solid gypsum). When water is added to gypsum plaster on the job, the material re-crystallizes (sets) reverting to its original rock-like chemical form.

FEATURES

Fire Protection—Because of its water of crystallization, gypsum with sand, wood fiber, vermiculite or perlite as aggregate offers superior fire protection in hundreds of constructions over wood or steel frame, in walls and partitions and in floor and ceiling construction and for beams and columns. (See fire ratings on p. 10).

Durability—When applied in accordance with specifications, Bestwall Plasters provide uniformly strong, stable walls and ceilings. Bestwall sets evenly and uniformly to maximum hardness and strength. Under normal conditions of service, the plaster will last for the life of the building.

Economy—Bestwall spreads freely, provides high coverage. The basecoat plasters bond securely to plaster bases, including gypsum lath, metal lath and masonry. The finish plasters, over basecoat plasters, provide hard, dense surfaces with a minimum of working. The finish wall can be maintained easily with normal care.

"Plasticized"—Bestwall basecoat plasters, Neat and Lite-Mix, are manufactured by a special, scientifically controlled process to maintain plasticity and easy workability. This process imparts plasticity and richness to the plaster and produces uniform high quality. Bestwall "Plasticized" Plaster makes possible fast and uniform application.

Sound Insulation—Plaster adds mass to masonry units or specially designed lathing systems, providing increased sound reduction through these assemblies.

Machine Application—Bestwall glass fibered plaster is recommended where fibered plaster is specified and machine application is used. Special "machine application" formulas are available. (See p. 8 and the Plastering Specifications for details).

BRAND	PRODUCT	ASTM STANDARDS	FEDERAL SPEC.	APPLIED UNDER
BESTWALL	NEAT BASE COAT PLASTER Unfibered, Fibered, and Extra Fibered	C-28-57	SS-P 402 (N)	ASA 42.1
BESTWALL	LITE-MIX BASE COAT PLASTER Unfibered, Fibered (Glass Only) and Masonry Mix	C 28-57	—	ASA 42.1
BESTWALL	WOOD FIBERED PLASTER	C 28-57	SS-P 402 (W)	ASA 42.1
BESTWALL	CONCRETE BOND PLASTER	C 28-57	SS-P 402 (W)	ASA 42.1
BESTWALL	GAUGING PLASTER—White (Satin Spar) or Local	C 28-57	SS-P 402 (G)	ASA 42.1
BESTWALL	MOLDING PLASTER—White (Sunflower) or Local	C 59-50	—	—
BESTWALL	BUILDERS LIME (Autoclaved Finish Lime)	C 206-49	SS-L 351 (F)	ASA 42.1
BESTWALL	SMOOTH FINISHING LIME (Normal Hydrated Finish Lime)	C 6-49	SS-L 351 (F)	ASA 42.1
BESTWALL	SPEEDY MASON'S LIME (Autoclaved Mason's Lime)	C 207-49 S	SS-L 351 (M)	ASA 42.1
BESTWALL	MASON'S LIME (Normal Hydrated Mason's Lime)	C 207-49 N	SS-L 351 (M)	ASA 42.1
BESTWALL	KEENE'S CEMENT	C 61-50	SS-C 161	ASA 42.1
BESTWALL	PREPARED SAND FLOAT FINISH PLASTER	—	—	ASA 42.1
BESTWALL	PREPARED TROWEL FINISH PLASTER	—	—	ASA 42.1
BESTWALL	LITE ACOUSTIC PLASTER—White or Ultra White	—	—	ASA 42.1

SECTION 3 • GYPSUM PLASTERS

BESTWALL BASECOAT PLASTERS

The basecoat is the most important element of a plastered wall. It not only rigidifies but strengthens the lath base, helping to resist minor structural stresses; it provides the foundation for the finish coat.

There are four distinct basecoat plasters, each designed for a specific function. Selection of the proper basecoat must be made with regard to the lath base to which it is applied and the desired finish coat which it must support.

BESTWALL NEAT GYPSUM PLASTERS

(Unfibred, Fibred and Extra-Fibred)

Description:

Basecoat plasters bond securely to any standard plaster base including gypsum lath, metal lath and masonry units. Requires addition of aggregate and water in field.

Uses:

1. **Fibred Plaster** is recommended to provide greater wet adhesion and to minimize droppings with open type lath.
2. **Unfibred Plaster** is used for scratch coat on solid surfaces and for the brown (second) coat on any backing.

FINISHING PLASTERS

GAUGING PLASTERS

Description:

Specially ground high purity gypsum finishing plasters designed to be blended with lime putty. They provide the base for final wall or ceiling decoration. Usually applied over a gypsum plaster basecoat and to a thickness of $\frac{1}{4}$ " to $\frac{1}{2}$ ". Available in "Slow Set" and "Quick Set".

Features:

White Coat Finish—Gauging sets to provide a hard, smooth white coat finish, over gypsum basecoat.

Plasticity—Lime is used to furnish whiteness, plasticity and bulk.

1. **Satin Spar Gauging Plasters** are very white.
2. **Bestwall Gauging Plasters** made of local rock are recommended for use where pure white finish is not necessary. They furnish the same high quality surface as Satin Spar.

MOLDING PLASTERS

Description:

Very white plasters made from selected gypsum rock of exceptionally high purity. Specially ground and processed to provide hard strong molds and casts. Excellent for run work and ornamental features.

1. **Sunflower Molding Plasters** are very white.
2. **Bestwall Molding Plasters** made of local rock are recommended for use where pure white work is not necessary. They furnish the same high quality surface as Sunflower.

FINISHING LIMES

Bestwall Smooth Finishing Lime (Normal Hydrated)

Description:

Hydrated Finishing Lime soaked to putty consistency (approximately 16 hours) blended in proper proportion with gypsum gauging plaster. Troweled to a smooth, hard finish over properly prepared gypsum basecoat. Must be blended with gypsum gauging plaster of proper proportion which provides initial set and strength, avoiding shrinkage cracks.

Features:

Whiteness, Bulk and Plasticity are provided by the lime. Fast, Easy Application with full flexibility and economy.

Features:

Durability—Applied according to specifications, Bestwall Basecoat Plasters provide uniformly strong, stable walls and ceilings.

Machine Application—Special plasters, both fibred and unfibred, are available for use in machine application.

BESTWALL LITE-MIX PLASTER

Description:

A base coat plaster that is 50% lighter than gypsum and sand plaster. Available either Fibred, Unfibred or Masonry Mix. Fibred Lite-Mix contains glass fibers to provide added strength and uniform thickness with less droppings. Requires addition of water only in field.

Masonry Mix available for application on masonry bases.

Uses:

May be used for machine or trowel application to produce a superior basecoat.

Features:

Fire-Resistant—Perlite aggregate provides higher fire resistance than sanded plasters.

Bestwall Builder's Lime (Autoclaved)

Description:

A pressure hydrated (less than 8% unhydrated oxides) special finishing lime. May be mixed by adding lime to water in mechanical mixer.

Features:

Requires no soaking to produce smooth, uniform, white, highly plastic putty.

Normal plasticity achieved immediately.

MASON'S LIME

Bestwall Mason's Lime (Normal Hydrated) and Bestwall Speedy Lime (Autoclaved) available.

BESTWALL KEENE'S CEMENT

Description:

A high strength, "dead burnt" white gypsum plaster. Provides stronger, harder surface when substituted for gauging plaster in a lime-gauging mix. The lower the lime content, the harder the finish. Available Regular and Fast set.

Features:

Resistance to Abrasion—provides high resistance to abrasion making it suitable for use in bathrooms, kitchens, hospitals, etc.

Low Water Absorption—because of high density, has low water absorption.

Various Finishes—Keene's Cement when mixed with varying proportions of lime putty provides "standard hard", "medium hard" and "extra hard" finishes.

BESTWALL PREPARED TROWEL FINISH

Description:

A pre-mixed gypsum finish coat plaster requiring addition of water only. Made from high grade gypsum rock of white or local gray.

Features:

Strength—produces very hard surfaces, approximately twice the strength of ordinary lime gauging finishes.

Easy Decoration—can be decorated as soon as dry.

Mixes smoothly—has no tendency to block the nozzle of the plaster gun.

High Insulation Value—Lite-Mix provides greater insulation than sanded gypsum plaster.

BESTWALL WOOD FIBERED GYPSUM PLASTER

Description:

Non-staining shredded wood fiber additive provides good working properties when used without aggregate.

Uses:

Intended for use without aggregate as scratch and brown coat. May be mixed with one part of sand for scratch coat over high suction masonry.

Features:

Economy—Can be applied quickly and easily.

Strength—Bestwall Wood Fibered Gypsum Plaster has approximately 3 times greater compressive and tensile strength than sanded plaster; up to 2½ times greater resistance to lateral impact and 50% greater surface hardness.

Fire-Resistant—Wood Fibered Plaster provides excellent fire rating up to 50% higher than sanded plaster.

BESTWALL CONCRETE BOND GYPSUM PLASTER

Description:

A basecoat plaster designed to bond permanently with monolithic concrete to preserve a hard, durable surface. Requires addition of water only in field.

Uses:

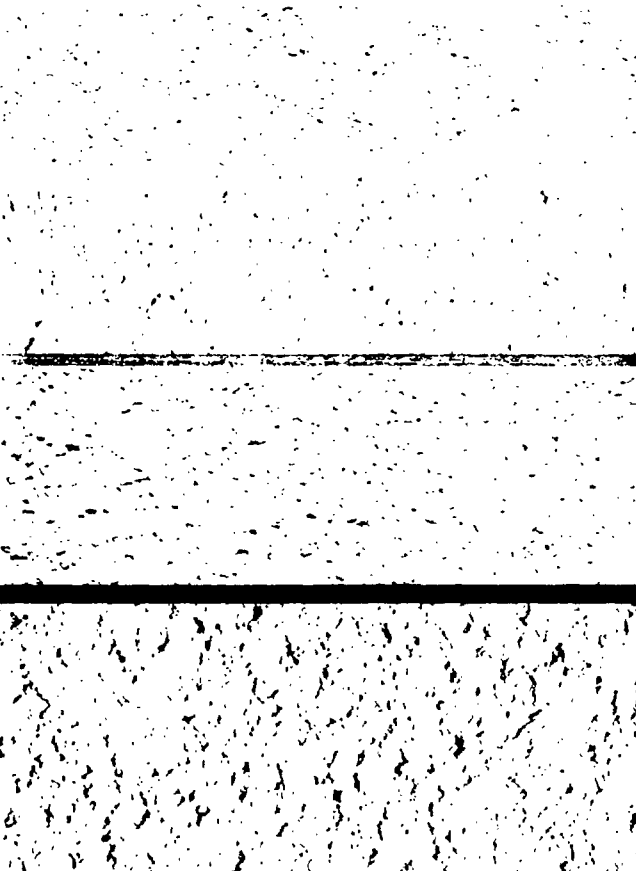
Specially formulated to compensate for 2 problems:

1. where surface is too dense for ordinary plaster to form a mechanical key, and
2. where thermal expansion of concrete is lower than that of ordinary plasters.

Features:

Bonding Strength—Concrete Bond adheres well to properly prepared concrete surfaces, columns and beams and on smooth cement block walls.

Low Cost—An economical basecoat plaster to provide for application direct to concrete surfaces.



BESTWALL PREPARED SAND FLOAT FINISH

Description:

This pre-mixed gypsum finish coat plaster has same qualities and advantages as Prepared Trowel Finish. The only difference: this finish contains proper amount of uniformly graded white silica sand to produce hard textured surface.

BESTWALL LITE ACOUSTIC PLASTER

A mill-mixed product, Bestwall Lite Acoustic Plaster is a versatile, highly light reflective, acoustical finishing material designed for machine application. Made of incombustible mineral materials, it provides exceptional bond to form a porous sound-absorbing surface. May be left with natural finish or spray painted according to directions after it's thoroughly dry.

Use of Lite Acoustic is not limited to new construction. Permanent bond is assured when it is properly applied to almost any surface (see Specifications). Existing ceilings can be covered effectively without removal or use of additional lath or backer board, providing the plaster is firm and the surface clean.

Because various textures can be achieved in either White or Ultra-White, Lite Acoustic offers a wide scope of decorative possibilities in residential, commercial or industrial construction. May also be applied by hand trowel (See Specifications for details).

Features:

Fire Protection—Lite Acoustic will not burn or support combustion.

Economy—Provides wide field of low cost acoustical treatment in both new work and remodeling.

Versatility—Applied over standard gypsum basecoat plaster wall or monolithic concrete. Lite Acoustic Ultra-White can be gun applied to provide coarse, medium coarse or fine textured finishes by adjustment of machine nozzle to meet various decorative requirements.

Sound Absorption Coefficients								
Texture Finish	Thick-ness	FREQUENCIES						Noise Reduction Coefficient
		125	250	500	1000	2000	4000	
	½"	25	27	52	69	78	38	55
								Riverbank

Light Reflection Coefficients		
	Spray	Trowel
White	85%	89%
Ultra-White	90%	94%

SECTION 3 • MACHINE APPLICATION

Bestwall manufactures a full line of basecoat plasters, specially formulated for easy application through plastering machines. They are designed to pump at low hose pressure which insures steady and uniform flow from the nozzle without aggregate separation or plug ups and to have low water demand assuring hard, strong plastering. For scratch coat over metal lath, Bestwall Glass Fibered Plaster forms adequate keys with minimum blow through, thus assuring strong rigid plastering with minimum waste.

These features provide the following advantages:

Economy—Due to trouble-free application, more yards of plaster can be applied per man hour with less waste.

Durability—When mixed and applied according to specifications, resultant plastering develops full strength and hardness resulting in strong, durable walls and ceilings.

Design Flexibility—Machine application lends itself to the flexibility of design for which gypsum plaster is noted, thus placing no limitation on use of this method of application.



Machine application plasters are as follows:

BESTWALL NEAT GYPSUM PLASTERS

Unfibred plaster may be used for the scratch (first) coat on gypsum lath or masonry (solid surfaces) and for the brown (second) coat on any backing. Fibred plaster contains a carefully measured amount of glass fiber to provide greater wet cohesion and minimize droppings behind open type lath. Fibred plaster is recommended for the scratch coat on perforated gypsum or metal lath and may be used for the brown coat on any backing. Extra-fibred plaster contains a greater proportion of glass fiber and is preferred in some areas for the scratch coat on metal lath.

BESTWALL LITE MIX Unfibred or Fibred (Glass only)

Mixes smoothly, spreads easily and has no tendency to block the nozzle of the plaster gun. Lite-Mix produces a superior basecoat. It is also available in a Masonry Mix for application on masonry bases. Water only is added on the job.

BESTWALL LITE ACOUSTIC White or Ultra White

Can be applied over standard gypsum basecoat plaster or other clean, dry, firm bases such as concrete, metal decks, etc. Lite Acoustic (Ultra White) can be gun applied to provide ceilings of acoustical value as well as textured beauty and high light reflectivity. Can also be applied by hand, if desired.



Bestwall Gypsum Plasters can be applied over gypsum or metal plaster bases on wood or steel framing. By varying the type of lath and the plaster mix and thickness, a full range of fire ratings may be obtained, from 45 minutes to four hours.

TECHNICAL DATA

CONSTRUCTION		TYPE BASE	PLASTER†		FIRE RATING	WEIGHT LBS. PER SQ. FT.	NRC (AVERAGE) DECIBELS
			MIX 1 part of Gypsum Plaster (100 pounds) to cu. ft. aggregate	THICKNESS Face of Lath to Face of Finished Surface			
PARTITIONS			(2 Mixes—Scratch and Brown) (1 Mix—Scratch Double-Up)				
Description	Thickness						
2" x 4" Wood Studs 16" on Center	5 1/8"	1/2" Plain Gypsum Lath	Gypsum Sand 1:2	1 1/2"	1 Hour	15	35 to 45
	5 1/8"	1/2" Plain Gypsum Lath	Gypsum Sand 1:2, 1:2	1 1/2"	45 Minutes	14.7	35 to 45
	5 1/8"	1/2" Plain Gypsum Lath	Gypsum Wood Fiber	1 1/2"	1 Hour	—	—
	5 1/8"	1/2" Perforated Gypsum	Gypsum Sand 1:2, 1:2	1 1/2"	1 Hour	—	—
	5 1/8"	1/2" Perforated Gypsum	Gypsum Perlite 1:2 1/2†	1 1/2"	1 1/2 Hours	—	—
	5 1/8"	Metal Lath	Gypsum Sand 1:2, 1:3	1 1/2"	1 Hour	18.1	39
	5 1/8"	Metal Lath	Gypsum Wood Fiber	1 1/2"	2 Hours	—	—
	5 1/8"	Metal Lath	Gypsum Perlite 1:2 1/2†	1 1/2"	1 Hour	—	—
Solid Partitions	2"	1/2" Long Length Gypsum Lath	Gypsum Sand 1:1, 1:2	1 1/2"	1 Hour	16.5	38
	2"	1/2" Long Length Gypsum Lath	Gypsum Perlite 1:2 1/2†	1 1/2"	1 1/2 Hours	—	—
	2"	1/2" Long Length Gypsum Lath	Gypsum Perlite 1:2, 1:3†	1 1/2"	2 Hours	10.9	37
	2"	1/2" Long Length Gypsum Lath	Gypsum Vermiculite 1:2, 1:3†	1 1/2"	2 Hours	—	—
	2"	Metal Lath	Gypsum Sand 1:2, 1:2	2"	1 Hour	18.1	38
	1 1/2"	Metal Lath	Gypsum Perlite 1:2 1/2†	1 1/2"	1 Hour	7.4	33
	2 1/2"	Metal Lath	Gypsum Perlite 1:2, 1:3†	2 1/2"	2 Hours	—	—
	2 1/2"	Metal Lath	Gypsum Vermiculite 1:2, 1:3†	2 1/2"	2 Hours	—	—
Steel Frame	4 1/4" to 5 1/8"	1/2" Plain Gypsum Lath	Gypsum Perlite 1:2 1/2†	1 1/2"	1 Hour	15	30
	4 1/4" to 5 1/8"	1/2" Perforated Gypsum Lath	Gypsum Sand 1:2, 1:2	1 1/2"	1 Hour	10	30
	5 1/8"	Metal Lath	Gypsum Sand 1:2, 1:3	1 1/2"	1 Hour	21	31
CEILINGS							
Wood Joists and Floor		1/2" Bestwall Plain Gypsum Lath plus 1" Hex Wire Mesh	Gypsum Sand 1:2	1 1/2"	1 Hour	—	—
		1/2" Perforated Gypsum Lath	Gypsum Sand 1:2	1 1/2"	45 Minutes	12.5	40
		1/2" Perforated Gypsum Lath Plus Metal Lath Strip	Gypsum Sand 1:2	1 1/2"	1 Hour	—	—
		1/2" Perforated Gypsum Lath	Gypsum Perlite 1:2 1/2†	1 1/2"	1 Hour	—	—
		Metal Lath	Gypsum Sand 1:2, 1:3	1 1/2"	1 Hour	17.5	32 to 34
		Metal Lath	Gypsum Perlite 1:2, 1:3†	1 1/2"	1 1/2 Hours	—	—
Furring Channels: 16" oc 16" oc 16" oc		1/2" Perforated Gypsum Lath (Clips)	Gypsum Perlite 1:2 1/2†	1 1/2"	1 Hour	—	—
		1/2" Perforated Gypsum Lath (Clips)	Gypsum Vermiculite 1:2 1/2†	1 1/2"	1 Hour	—	—
		1/2" Perforated Gypsum Lath (Clips)	Gypsum Perlite 1:2, 1:3†	1 1/2"	1 1/2 Hours	—	—
		1/2" Perforated Gypsum Lath Plus 1" Mesh	Gypsum Perlite 1:2 1/2†	1 1/2"	—	—	—
		1/2" (Clips) Plus 1" Mesh	Gypsum Perlite 1:2, 1:3†	1 1/2"	3 Hours	—	—
		1/2" (Clips) Plus 1" Mesh	Gypsum Perlite 1:2, 1:3†	1 1/2"	3 Hours	—	—
Steel Joists (2" Floor Slab)	16" oc	1/2" Perforated Gypsum Lath (Clips)	Gypsum Sand 1:2, 1:3	1 1/2"	3 Hours	—	—
	12" oc	1/2" Perforated Gypsum Lath (Clips)	Gypsum Perlite 1:2, 1:3†	1 1/2"	3 Hours	—	—
	12" oc	1/2" Perforated Gypsum Lath Plus 1" Mesh	Gypsum Perlite 1:2, 1:3†	1 1/2"	4 Hours	—	—
	12" oc	1/2" (Clips) Plus 1" Mesh	Gypsum Sand 1:2, 1:3	1 1/2"	2 Hours	—	—
Steel Floors 2 to 2 1/2" Concrete Floor with Suspended Ceilings	12" oc	Metal Lath	Gypsum Sand 1:2, 1:3†	1 1/2"	3 Hours	—	—
	12" oc	Metal Lath	Gypsum Vermiculite 1:2, 1:3†	1 1/2"	4 Hours	—	—
	12" oc	1/2" Perforated Gypsum Lath Plus Clips and Wire Reinforcing	Gypsum Perlite 1:2 1/2†	1 1/2" on Ceilings (3/4" on Beam)	3 Hours	—	—
	12" oc	Metal Lath	Gypsum Perlite 1:2, 1:3†	1 1/2"	4 Hours	—	—
COLUMNS							
Columns (Steel)		1/2" Perforated Gypsum Lath	Gypsum Sand 1:2 1/2	1 1/2"	1 Hour	—	—
		1/2" Perforated Gypsum Lath	Gypsum Sand 1:2, 1:3	1 1/2"	2 Hours	—	—
		1/2" Perforated Gypsum Lath	Gypsum Perlite 1:2 1/2†	1 1/2"	2 Hours	—	—
		1/2" Perforated Gypsum Lath	Gypsum Perlite 1:2, 1:3†	1 1/2"	3 Hours	—	—
		2" Layers 1/2" Plain Gypsum Lath	Gypsum Perlite 1:2, 1:3†	1 1/2"	4 Hours	—	—
		Metal Lath	Gypsum Sand 1:2, 1:3	1 1/2"	1 Hour	—	—
		Metal Lath	Gypsum Perlite 1:2, 1:3†	1 1/2"	4 Hours	—	—
		Metal Lath	Gypsum Perlite 1:2, 1:3†	1 1/2"	4 Hours	—	—

NOTE: This table is a summary only, based on tests at Underwriters' Laboratories, National Bureau of Standards and/or Ohio State University, sponsored by the Gypsum Association, Metal Lath Association, Perlite Institute, Vermiculite Institute, and others. The fire rating, weight and sound characteristics are based on a combination of specific details as published by the Associations and also by the National Bureau of Standards in various BMS reports, by National Board of Fire Underwriters in their List of Ratings, and others.

More complete listings and details are available from many sources.

† Sand float or other finish except smooth trowel shall be used over perlite or vermiculite basecoat where ratio exceeds 2 cu. ft. of aggregate to 1 cu. ft. of gypsum. Smooth trowel finish shall not be used.

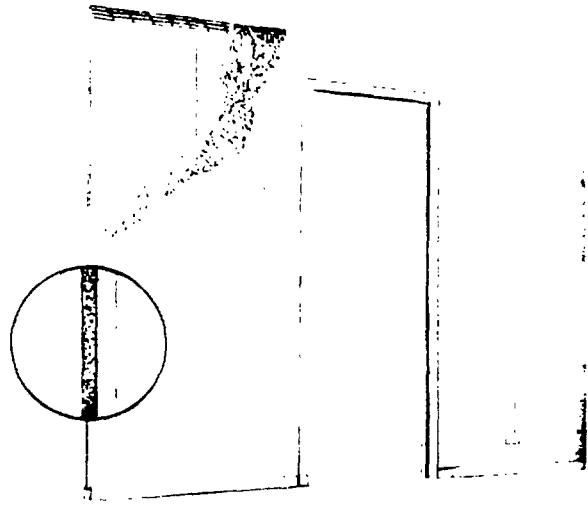
SECTION 4 • LATH AND PLASTER CONSTRUCTION

GYPSUM LATH AND PLASTER FIREPROOFING

THIN SOLID PARTITIONS

A 2" Solid Partition is a non-load bearing (non-supporting) unit composed of Bestwall Long-Length Gypsum lath three-coated out on both sides to a total 2" thickness. No studing is required. The lath is inserted into floor and ceiling runners and is temporarily braced during the plastering operation. 2" Solid Partitions make economical floor area dividers and render more usable space than hollow or tile partitions.

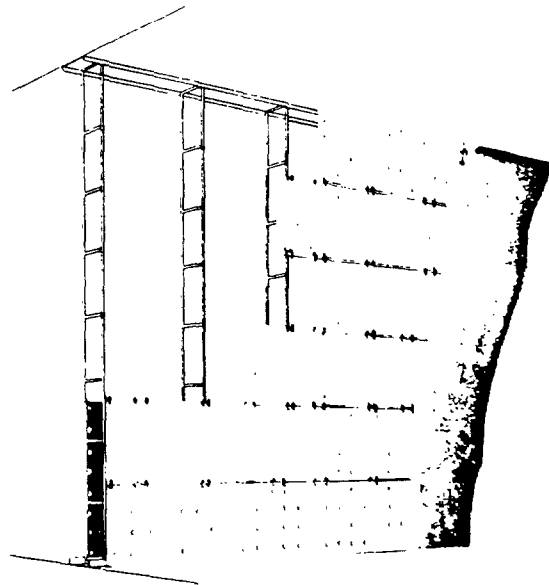
Bestwall Olsen Gypsum Lath Clips provide easier, faster erection and eliminate wire-tying. Tested under A.S.T.M. Standards, 2" Solid Partitions of lath and sanded plaster qualify for 1-hour fire rating. For higher fire ratings, consult Technical Data—Lath and Plaster Construction on the previous page.



HOLLOW STEEL STUD PARTITIONS

Hollow Steel Stud Partitions consist of gypsum lath and plaster over steel studding. These partitions may be load bearing or non-load bearing depending upon studding used. Studs are available in widths from 2½" to 6". Bestwall Gypsum Lath is secured to the studs by use of transverse clips or other special clips and techniques. These partitions are particularly adaptable where pipes and utilities are to be concealed.

Weight of Hollow Steel Stud Partitions is determined in pounds per square foot and will range from 10 lbs. to 15 lbs. depending upon aggregate used and thickness. A 1-hour fire rating is obtained when Bestwall Perfolath and a ½" plaster is used. Mix is 1 part plaster to 2 parts lightweight aggregate or sand.

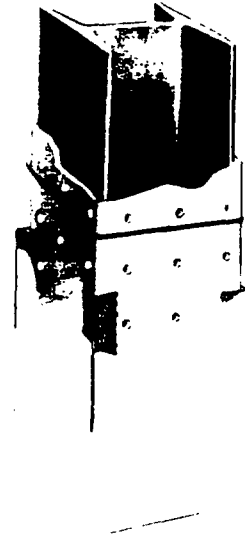


GYPSUM LATH AND PLASTER FIREPROOFING

BEAM AND COLUMN FIREPROOFING

Fireproofing of the beams and columns is accomplished by abutting $\frac{3}{8}$ " Bestwall Perfolath around the perimeter of the beam or column and plastering to thickness required for desired fire resistance rating. The Perfolath is held by tying double strands of the wire around the lath and spaced 16" o.c. Cornerbeads applied by staples or tie wire provide ground for proper thickness as well as straight true corners.

Sanded plaster is used for fire ratings up to three hours. Lightweight aggregates provide fire ratings up to 4 hours. A 4 hour column rating requires two layers of $\frac{1}{2}$ " thick gypsum lath.



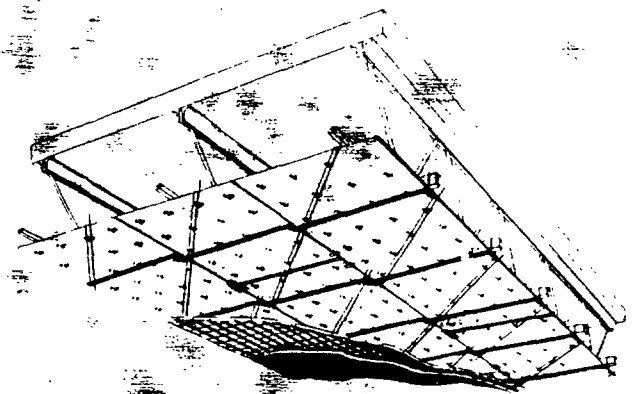
CEILING FIREPROOFING

Lath and plaster ceilings when directly attached to or suspended from structural members provide fire protection that eliminates concrete or tile encasement of steel framings. Dead weight loads are reduced by as much as 50%. This in turn reduces structural steel requirement to a minimum of 15%.

Thicknesses of lath and plaster are based on required fire ratings. Sand aggregate provides up to 2 hour fire rating while up to 4 hour fire ratings may be obtained with the use of vermiculite or perlite aggregates.

$\frac{3}{4}$ " furring channels are directly attached to the bottom of the structural members or tied to main runners in suspended systems. Bestwall $\frac{3}{8}$ " Perfolath is attached to furring with transverse clips and plastered out to required thickness.

For three and four hour fire resistive ratings, 12 gauge wire is laid diagonally across the plastering side of the lath and tied to each clip for additional support. Plaster mix shall be 1 part gypsum to 2 parts aggregate for scratch coat and 1:3 for brown coat. For double up work, the proportion can be changed to 1:2½ for entire basecoat.



SECTION 5 • SPECIFICATIONS

SPECIFICATIONS FOR INTERIOR LATHING

1. MATERIALS

A. Gypsum Lath shall conform to the current Standard Specifications for Gypsum Lath, ASTM Designation: C37. Gypsum lath shall be one of the following types: Plain, Perforated or Insulating.

All gypsum lath shall be as manufactured by Bestwall Gypsum Company and shall conform to the following dimensional requirements:

Thickness	Width	Length
$\frac{3}{8}$ " or $\frac{1}{2}$ "	16" (a) or 24"	48" (b)

(a) 16 $\frac{1}{8}$ " wide lath is available in Pacific Coast Markets.

(b) Long-length lath $\frac{1}{2}$ " thick is available for special systems such as solid gypsum lath and plaster partitions and furred walls.

B. Gypsum Lath Clips shall be Bestwall Olsen Gypsum Lath furnished by Bestwall Gypsum Company.

C. Other Metal Accessories such as corner beads, base screeds, concealed picture molds, etc., shall be not lighter than No. 26 U.S. gage steel, zinc-coated, with perforated or expanded flanges or clips shaped so as to permit complete embedment in the plaster.

D. Channels shall be hot-rolled or cold-rolled steel, free of rust, with required weight per thousand lineal feet.

2. APPLICATION OF GYPSUM LATH

A. Except where noted below Bestwall Gypsum Lath shall be securely nailed to wood supports spaced not to exceed 16" on center (24" on center for $\frac{1}{2}$ " lath) with 13 gage, 1 $\frac{1}{8}$ " long (1 $\frac{1}{4}$ " long for $\frac{1}{2}$ " lath), 19/64" flat-head, blued nails approximately 5" o.c. The nails shall be driven with the underside of the head flush with face of the lath and shall not be closer than $\frac{3}{4}$ " from edges or ends. There shall be not less than four nails per lath per support with 16" wide lath. Where 24" wide lath is applied, there shall be at least 5 nails per lath per support, approximately 5" on center.

B. Where $\frac{3}{8}$ " gypsum lath is used for certain fire-resistive rated construction, five 13 gage, 1 $\frac{1}{8}$ " long, $\frac{3}{8}$ " flat-head, blued nails per lath per support for 16" wide lath may be required.

C. $\frac{3}{8}$ " Bestwall Gypsum Lath may be applied with staples to wood nailing members by means of a pneumatic tool. Staples shall be not less than 16 gage flattened galvanized wire, $\frac{1}{4}$ " flat crown, divergent point, not less than $\frac{1}{2}$ " long. Staples shall be driven with the crown parallel to the long dimension of the nailing member, using not less than 4 staples per 16" width of lath per nailing member and not more than 5" o.c. in such a manner that the crown bears tightly against the lath but does not cut into the face paper. The legs of the staples shall not be closer than $\frac{3}{4}$ " from the ends and edges of the lath.

D. Bestwall Gypsum Lath shall be applied with its face side out and with the long dimension at right angles to the framing members. End joints shall be made to fall on different supports in alternate courses, or the lath shall be applied so that end joints are made continuously on one support. In the latter case, the continuous joints shall be covered with 3" wide strips of metal lath and the long or edge joints shall be offset or staggered. In all cases, the lath shall be butted together.

E. Corner bead shall be used over lath to protect all external vertical corners and to establish grounds, and shall be attached securely in such a manner as to assure proper alignment during application of plaster.

F. Cornerite shall be provided at all interior angles and shall be nailed lightly or stapled to the lath, not to the framing members.

G. Where Bestwall Olsen Gypsum Lath Clips are used, the erection of lath shall be in accordance with the directions and details shown in the various constructions.

3. METAL LATH AND METAL FURRING

Shall be in accordance with ASA Standard Specifications for Interior Lathing and Furring, No. A42.4 (latest current version).

4. WORKMANSHIP

All metal construction and lathing shall be erect so that finished plaster surfaces may be true to line, and be level, plumb, square, curved or as otherwise required without excessive thickness of plaster.

SPECIFICATIONS FOR GYPSUM PLASTERING

The following specifications covering machine mixed neat basecoat plasters with a lime putty white coat finish are applicable to a majority of plaster work. As indicated in Section 2A (Materials) Bestwall offers a full line of plaster materials which work well, applied under the ASA 42 Standard Specifications for Interior Plastering. For more information write the Bestwall Gypsum Co.

1. GENERAL PROVISIONS

The work includes all labor, materials, services, equipment, and scaffolding required to complete the plastering of the project in accordance with the drawings and specifications. (See interior lathing specifications.)

2. MATERIALS

A. Plastering Materials

The plaster materials shall be selected from the following categories and brands as manufactured by Bestwall Gypsum Company and conforming to the current ASTM specifications as noted:

BESTWALL Gypsum Plaster	C28
BESTWALL Lite-Mix	C28
BESTWALL Wood Fibered Plaster	C28
BESTWALL Concrete Bond Plaster	C28
BESTWALL Prepared Trowel Finish	—
BESTWALL Prepared Sand Float Finish	—
BESTWALL Satin Spar White Gauging Plaster	C28
BESTWALL Common Gauging Plaster	C28
BESTWALL Sunflower Molding and Casting Plaster	C59
BESTWALL Keene's Cement	C61
→ BESTWALL Lite Acoustic Plaster	—
BESTWALL Builder's Lime (Autoclaved Finish)	C206 Type S
BESTWALL Smooth Finishing Lime (Normal Hydrated)	C6 Type N

B. Aggregates (for use with gypsum plaster) Sand, Perlite or Vermiculite shall conform to ASTM Specification C35.5.1T for use in basecoat plaster. For plastering, the aggregate weight per cu. ft. shall be for sand, 100 lbs. for Perlite and Vermiculite, 7 to 11 lbs. Fine Sand having rounded particles uniform in size (frequently called "quicksand"), fine Perlite or fine Vermiculite shall not be used.

C. Water shall be clean, fresh, potable and free from harmful amounts of mineral and organic substances as would affect the set of the plaster.

D. Materials, Delivery of, and Protection All manufactured materials shall be delivered in the original packages, containers, or bundles bearing the name of the manufacturer of the brand.

Plaster and all cementitious materials shall be kept dry. If ready to be used, they shall be kept off the ground under cover, and away from sweating walls and other damp surfaces.

Metal goods shall be protected against rusting.

3. BASE COAT PROPORTION

Bestwall Gypsum Plaster shall be mixed with sand in the

or vermiculite in the proportion of 100 lbs. of plaster to not more than:

TWO COAT WORK		THREE COAT WORK	
Double up Method)	Sand Perlite or Vermiculite cubic feet		Sand Perlite or Vermiculite cubic feet
Over Gypsum Lath	2½ ^①	First (Scratch) coat over lath	2*
		First (Scratch) coat over masonry	3 ^②
Over Masonry (except over monolithic concrete)	3	Second coat over lath base	3 ^②
		Second coat over masonry base	3 ^①

*In lieu of the proportions specified above the proportions may be 100 lbs. of Bestwall Gypsum Plaster to not more than 2½ cu. ft. of sand, perlite or vermiculite provided this proportioning is used for both scratch and brown coats.

① Under smooth trowel finish, perlite or vermiculite limit 2 cu. ft.

② Over high suction base, sand may be 4 cu. ft.

4. MECHANICAL MIXING

Material that has partially set shall not be retempered or used. Frozen, caked or lumpy material shall not be used. The mixer shall be cleaned of all set or hardened material before materials for a new batch are loaded. Each batch shall be mixed separately. Materials shall be added while mixer is in continuous operation.

Put in the approximate amount of water; if sand is used add approximately half the amount of aggregate (if perlite or vermiculite is used add all the aggregate), add all the plaster; add the remainder of the sand aggregate; mix to the proper consistency, adding water if necessary; and dump the entire batch and use.

Note: The mixer should be flushed with water when used intermittently.

5. LIME PUTTY

A. Bestwall Smooth Finish Lime shall be box soaked or machine mixed with 6 to 6½ gal. of water for each 50 lb. bag and allowed to soak overnight.

B. Bestwall Builders Lime shall be mixed with approximately 6½ gal. of water per 50 lb. bag. It may be machine mixed and used immediately or soaked and used the next day.

6. FINISH COAT PROPORTIONS

A. Smooth Trowel Finish

NOTE: For smooth trowel finish ¼ to 1 cu. ft. of fine sand or perlite shall be added for each 100 lbs. of gypsum (Gauging or Keene's Cement).

1. Gypsum Lime Putty Trowel Finish shall be mixed in the proportions of 1 part of gauging plaster (calcined gypsum) to not more than 3 parts of lime putty by volume.

2. Keene's Cement Lime Putty Finish may be standard hard, medium hard, or extra hard finish. When mixed mechanically the water shall be put in the mixer first; then the lime (dry or putty); the sand, if used; and finally the Keene's Cement.

Standard Hard Finish shall be mixed in the proportions of 100 lbs. of Keene's Cement to not more than 100 lbs. of dry hydrated lime.

B. Sand Float Finish

1. Gypsum Sand Float Finish shall be mixed in the ratio of 100 lbs. of gypsum plaster (unfibred) to not more than 200 lbs. of sand.

2. Keene's Cement Lime Putty Sand Float Finish shall be mixed in the range of 2½ to 3 parts of sand to 1 part of a mixture of Lime and Keene's Cement by weight with ¼ to 1½ parts of Lime to 1 part of Keene's Cement by weight. The specified range is equivalent to the following: from 75 lbs. Lime to 100 lbs. Keene's Cement to 400 to

525 lbs. sand to 150 lbs. lime to 100 lbs. Keene's to 560 to 700 lbs. sand.

C. Bestwall Lite Acoustic Plaster shall be mixed with water to the proper consistency.

7. THICKNESS OF BASECOAT PLASTER

Plaster shall be of the following thicknesses measured from the face of plaster base to finished plaster surfaces. Wood or metal grounds or plaster screeds shall be installed to assure such thicknesses:

	Thickness of Plaster Including Finish Coat, in.
Gypsum	½ min.
Lath } Metal Lath, Wire Lath and Wire Fabric	5/8 min.
Masonry and Concrete Walls	5/8 min.
Monolithic Concrete Ceilings	1/8 min. 1/8 max.

A. Plaster thickness when measured from the back plane of metal lath, exclusive of ribs, shall be ¾" minimum.

B. If monolithic concrete ceiling surfaces require more than ¾" of plaster to produce required lines or surfaces, metal lath or wire lath bonding for the plaster shall be attached to the concrete before application of plaster. Where the concrete ceiling surfaces are such as to require the application of an excessive thickness of plaster to produce required lines or surfaces, lath shall be applied over furring secured to the concrete.

Wood Grounds shall be furnished and installed by others. Metal Grounds shall be furnished and installed by the (plastering) (lathing) contractor.

Plaster Screeds shall be installed by the plastering contractor.

8. PREPARATIONS FOR PLASTERING

A. Temperature and Ventilation: When the prevailing outdoor temperature at the building site is less than 55 F. a uniform temperature of not less than 55 F. shall be continuously maintained in the building for a period of not less than one week prior to the application of plaster while the plastering is being done, and after the plaster is dry. The heat shall be well distributed in all areas, and deflection or protective screens shall be used to prevent concentrated or uneven heat on plaster areas near the heat source. Products of combustion shall be vented to the outside.

Ventilation shall be provided to properly dry the plaster during and subsequent to its application. In glazed buildings this shall be accomplished by keeping windows open approximately 2" top and bottom (or side pivoted windows approximately 4") to provide air circulation, and by use of temporary circulators or the air conditioning system in enclosed areas or buildings lacking openings for natural ventilation.

If glazed sash are not in place and the building is subjected to hot, dry winds or temperature differentials from day to night of 20 F. or more, openings shall be screened with cheesecloth or similar materials.

B. Masonry Surfaces on which suction must be reduced shall be properly wet down immediately before the plaster is applied. Because bituminous compounds do not provide ideal bases for plaster, the application of plaster to masonry or concrete which has been coated with such compounds is forbidden.

C. Monolithic Concrete Surfaces shall be cleaned of all dust, loose particles, and other foreign matter. Laitance and efflorescence shall be removed by washing first with 10% solution of commercial hydrochloric acid (muriatic acid) and water and then with clean water to remove all traces of acid. Grease and oil shall be completely removed (Note 9b).

Concrete surfaces shall have sufficient roughness to provide proper bond. If necessary, the surface shall be evenly wet

SECTION 5 • SPECIFICATIONS

ted, but not saturated, to provide proper suction. If surfaces are not rough, they shall be hacked or bush-hammered or a dashcoat of Portland-Cement grout, composed of 1 part of cement to 1½ parts of fine sand mixed to a mush consistency, shall be applied. The Portland-Cement grout shall be forcibly dashed on the concrete surface, using a stiff fiber brush, with a whipping motion. This coat shall be kept damp for at least two days immediately following its application and then allowed to dry. Before application of plaster, the surface shall be evenly dampened if necessary to provide proper suction.

D. Metal Grounds and other accessories, such as corner beads, screeds, picture molds, etc., shall be carefully examined to see that they are straight, curved, plumb, level, square, or true to the acquired angles, as the case may require, before the plaster is applied.

E. Surfaces shall be carefully examined before the plaster is applied thereto, and the proper authorities notified of any and all unsatisfactory conditions. Application of the plaster then shall not proceed until such unsatisfactory conditions have been satisfactorily remedied or adjusted.

9. APPLICATIONS OF BASE COAT

A. Two-Coat Work—Base (first) coat shall be applied with sufficient material and pressure to form good bond on gypsum lath or masonry as the case may be, and to cover well. Then, before this scratch coat has set, and without raking its surface, material of the same proportions shall be doubled back to bring the plaster out to grounds struck to a true surface with rod and darby, without application of water and cross raked or scratched to provide a mechanical key for reception of the finish (second) coat. Slow-setting plaster shall be accelerated to provide a set (mixed material) of less than 4 hrs.

B. Three-Coat Work—Scratch (first) coat shall be applied with sufficient material and pressure to form good full keys on metal lath, wire lath, or wire fabric, or good bond on gypsum lath or masonry, as the case may be, and to cover well and then be scratched to a rough surface. Slow-setting plaster shall be accelerated to provide a set (mixed material) of less than 4 hrs.

Brown (2nd) coat shall be applied after the scratch (1st) coat has set firm and hard, brought out to grounds, straightened to a true surface with rod and darby, without application of water and cross raked or scratched to provide a mechanical key for reception of the finish (3rd) coat. To insure full plaster thickness, plaster screeds should be applied to the scratch coat prior to the application of the brown coat.

C. Plastering on Monolithic Concrete-Surfaces of walls and columns shall have a scratch coat of bond plaster, followed by a brown coat of gypsum plaster (in the proportions of 100 lb. of Bestwall Gypsum Plaster to not more than 3 cu. ft. of sand or perlite) troweled into the scratch coat before it has set. The brown coat shall be brought out to grounds, using a double-back application if required, straightened to a true surface with rod and darby, with application of water and cross raked or scratched to provide a mechanical key for reception of the finish coat.

Surfaces of ceilings shall have a coat of bond plaster, scratched in thoroughly, doubled back, and filled to a true, even surface and left rough (maximum thickness ¾"). to receive the finish coat.

D. 2" Solid Gypsum Lath and Plaster Partitions shall be scratched in on both sides with ¾" fast setting plaster (maximum 3 hrs.) practically simultaneously. The side away from the temporary bracing shall be browned after both scratch coats have set and partially dried. After this brown coat has set firmly, remove the braces and brown the other side leaving ¼" for finish coat to bring wall to full 2" thickness.

10. APPLICATION OF FINISHES

The finish coat shall be applied to a partially dry base coat or to a thoroughly dry base coat which has been evenly wetted by brushing or spraying. The use of excessive water shall be avoided in the application of all types of finish coat plastering.

NOTE: Fine sand or perlite shall be used in smooth trowel finishes. Over gypsum or metal lath bases where light weight aggregate is used and the aggregate content in the base-coat exceeds 2 cu. ft. per 100 lbs. of gypsum, a sand float, acoustical or other finish shall be used. Smooth Trowel Finishes shall not be used in this place.

A. Trowel Finishes—Trowel Finishes (smooth) shall be applied over the base coat scratched in thoroughly, laid on well, doubled back and filled out to a true, even surface. The general thickness shall be ¼" to ⅜". The finish shall be allowed to draw a few minutes and then it shall be well-trowelled with water to a smooth finish, free from cat faces and other blemishes or irregularities.

B. Float Finishes—Float finishes shall be applied over the base coat, scratched in thoroughly, laid on with a trowel to an even surface, and then floated (with wood, carpet, cork, rubber or other type floats, depending on the texture desired) to a true, even surface free from slick spots or other blemishes.

→ C. Acoustical Plaster and Other Special Plasters:

1. Bestwall Lite Acoustic (White) Plaster shall be mixed with clean water only for machine or trowel application over gypsum basecoat plaster, monolithic concrete and other surfaces which are firm, clean and free of efflorescence or water soluble substances. Gypsum basecoats should be half dry to dry. Concrete should be dry.

Spray—For first coat use 55 to 60 qts. of water per 40 lb. bag. Apply ¾" thick. Level with darby and allow to dry before applying finish coat. For finish coat use 5 to 10 additional qts. of water per bag depending upon texture desired. When applied over low suction bases such as dense concrete, metal, etc., the material should be applied in three applications, the first application furnishing the suction for subsequent coats. Any large fissures in the first coat should be filled and leveled before applying the finish coat.

Hand—Use 50 to 60 qts. of water per 40 lb. bag for both basecoat and finish coat. Apply basecoat ¾" thick, allow to dry, then apply finish coat ⅜" thick. Trowel finish may be smooth troweled, floated, stippled, or darbied after it has taken-up sufficiently.

Ultra-White Finish—Where a light reflection of 70% or more is desired with machine application use Bestwall Lite Acoustic Ultra White Plaster for the finish coat only.

2. Special Plasters shall be applied in accordance with the directions of the Manufacturer.

PLASTER†	BRANDS	USE	COVERAGE (square yards per ton)	Plaster THICKNESS
Basecoat Plasters NEAT Unfibered	BESTWALL	Scratch coat on all backings except metal lath and monolithic concrete. Brown coat on all backings.	(sanded 2:1) Gypsum Lath: 190-220 Metal Lath: 100-130 Gypsum Tile: 210-240 Clay Tile: 165-200	1/2" 3/8" 1/2" 3/8"
Fibered (glass fiber or sisal fiber)	BESTWALL	Scratch and brown coat on all backings except monolithic concrete.	same as above	same as above
Extra-Fibered (glass fiber or sisal fiber)	BESTWALL	Scratch coat on metal lath but may be used over all bases except monolithic concrete.	same as above	same as above
MILL-MIXED Fibered, Unfibered Masonry Mix	BESTWALL Lite-Mix (Available in 80 lb. bags only)	Where lightness is desired, for faster, easier application.	Gypsum Lath: 135-150 Metal Lath: 75-90 Gypsum Tile: 135-150 Clay Tile: 110-125	1/2" 3/8" 1/2" 3/8"
Wood Fibered	BESTWALL (Available in 100, 50 and 10 lb. bags)	Without sand-scratch coat and brown coat on all backings except masonry. With sand-scratch coat on masonry and brown coat on all backings.	(without sand) Gypsum Lath: 100-120 Metal Lath: 50-65 Gypsum Tile: 85-100 Clay Tile: 65-85	1/2" 3/8" 1/2" 3/8"
Concrete Bond	BESTWALL	Double back coat on monolithic concrete, or as scratch coat only	Monolithic Concrete: 90-120	1/8" - 3/8"
Finishing Plasters PREPARED TROWEL FINISH	BESTWALL	Where uniformity and extra hardness are desired. Can be decorated when dry—no waiting period. For use over gypsum basecoat only. White or gray color.	350-400	1/8" Maximum
PREPARED SAND FLOAT FINISH	BESTWALL	Same as prepared trowel finish except surface will be textured. White or gray color.	250-275	1/8" Maximum
WHITE GAUGING	BESTWALL Satin Spar	Mixed with lime for use over gypsum basecoat. Great workability; hard, smooth, white surface. Highest-grade rock. Available in quick set and slow set.	1600	1/8" Maximum
COMMON GAUGING	BESTWALL	Mixed with lime for use over gypsum basecoat. Selected quality rock, light gray color. Gives hard, smooth surface. Available in quick set and slow set.	1600	1/8" Maximum
KEENE'S CEMENT	BESTWALL	Mixed with lime. Gives strong, dense surface with high resistance to abrasion and water. Two sets: regular and fast finish.	(4:1 Mix) 550	1/8" Maximum
MOLDING AND CASTING	BESTWALL Sunflower	Made from rock over 98% pure. Gives hard, strong molds and casts with low expansion. Mixed with water only for casts. Mixed with lime and water for molds.		
ACOUSTICAL PLASTER (White, Ultra White)	BESTWALL Lite Acoustic Plaster (Available in 40 lb. bags)	Applied by plaster machine or hand troweling over gypsum base coat, monolithic concrete or other surfaces which are firm, clean and free of efflorescence or water soluble substances. Sound coefficient .55 to .60. Natural white color.	350 to 400	1/2"
LIME	BESTWALL Smooth Finishing Lime (Normal Hydrated) Builder's Lime (Autoclaved)	Mixed with gauging and molding plasters and Keene's cement to give plasticity, whiteness and bulk. Ohio Dolomite Lime furnished normal hydrated and autoclaved. (Available in 50 lb. bags only)	Up to 750	1/8" Maximum

† All plasters available in 100 lb. bags except where noted

LATH	EDGE	THICKNESS	WIDTH	LENGTH	WEIGHT LBS./1000 FT.	FRAMING SPACING	NAILS LBS./1000 FT.	NAIL SIZE	NAIL SPACING	PANELS PER BUNDLE
BESTWALL LATH (Plain, Perforated, Insulating, Pinholath)	Round	3/8"	16"	48"	1500	16" o.c.	6.8	13 gauge	5" o.c.	6
		1/2"			2000	24" o.c.	5.2			4
BESTWALL Long length Lath	Round or tongue and groove V edge	1/2"	24"	up to 12'	2000	Not Applicable				Shipped loose

* 1/4" only 16 1/5" width on Pacific coast, packed 5 panels per bundle



COMPANY

Bestwall, the nation's third largest gypsum company, has served builder, architect, contractor and property owner with a full line of quality gypsum building materials and construction components for more than 50 years.

FACILITIES

Strategically located plants across the nation utilize the most modern equipment and production techniques. In addition, quality control and research laboratories continuously check and control the performance of the finished product to meet highest quality standards. An efficient distribution network makes Bestwall a prompt and reliable source of supply.

SERVICES

Offices in principal cities are staffed by qualified sales representatives equipped to provide further information and assistance and to insure that your selection of materials is complete and applicable.



BESTWALL GYPSUM COMPANY
ARDMORE, PENNSYLVANIA

REINFORCED CONCRETE WALL BEARING PRESSURE

**GYPSUM WALLBOARD
BESTWALL FIRESTOP
FIREPROOF GYPSUM SHEATHING
BESTWALL HUMMER SYSTEMS
JOINT SYSTEMS
ACCESSORIES**

SGP 0003940

BESTWALL

the original and only
glass fiber reinforced
GYPSUM WALLBOARD

DESCRIPTION

Bestwall Gypsum Wallboard consists of a glass fiber reinforced core of gypsum rock enclosed between two layers of tough paper. The durable cream face paper is folded around the long edges to reinforce and protect the core. The ends are square cut and smooth finished. A strong gray paper is on the back side.

The fiberglass content of Bestwall gypsum board products is an important and unique factor to consider in specifying drywall construction. Literally miles of glass fiber filaments add greater resilience, strength and handling ease.

FEATURES

Glass Fiber Reinforced—Textile glass filaments of uniform strength and length are dispersed in the gypsum core (for example, up to 1.2 miles in every sq. ft. of $\frac{3}{8}$ " regular board; up to 6.3 miles in every sq. ft. of $\frac{5}{8}$ " Firestop).

Fireproof—The solid core of gypsum wallboard is incombustible. Gypsum will not burn and will not transfer heat in excess of 212° F. until all its water of crystallization has been driven off in the form of steam.

Strength—Readily resists flexural stresses and will not crack or sag when applied to ceilings in the specified manner. Flexible enough to conform to moderately curved surfaces.

Joint Treatment—Bestwall Wallboard is finished with tapered edges to accommodate the Bestwall Joint Systems or square edges for exposed joints.

Fast Decoration—Gypsum Wallboard, a "dry" material, allows painting or other decoration shortly after application of Joint Treatment.

Economy—Large, lightweight panels go up fast. They may be "scored and snapped" or sawn to size.

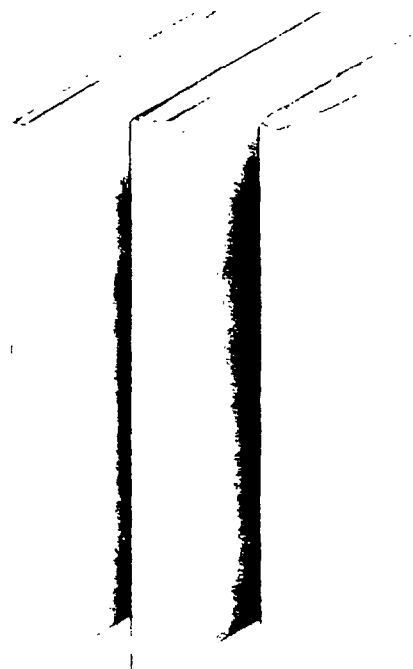
Drywall—Plant fabricated gypsum wallboard eliminates extreme moisture in wall constructions.

LIMITATIONS OF USE:

1. Gypsum Wallboard shall not be used where it will be exposed to water or excessive moisture.
2. $\frac{1}{4}$ " Bestwall Gypsum Wallboard should be applied only to existing surfaces or used in temporary or display work. Surfaces should be sound. When necessary, furring strips should not be spaced over 16" o.c. $\frac{3}{8}$ " Bestwall Gypsum Wallboard should not be applied to nailing members spaced over 16" o.c. Horizontal application must be used on ceilings. $\frac{1}{2}$ " or $\frac{5}{8}$ " Bestwall Gypsum Wallboard should not be used on nailing members over 24" o.c. When applied to ceilings with the nailing members exceeding 16" o.c. the wallboard must be applied with the paper bound edges at right angles to nailing member.
3. All furring used in application of gypsum wallboard shall have a minimum cross section of 2" x 2" (nominal), with space limitations as above.

GYPSUM WALLBOARD PRODUCTS

Regular Gypsum Wallboard



Square Edge

Beveled Edge

Tapered Edge

SIZES

LENGTH	WIDTH	THICKNESSES	EDGES
6 to 16' (in even feet)	4'	$\frac{1}{4}$ ", $\frac{3}{8}$ ", $\frac{1}{2}$ ", $\frac{5}{8}$ "	Tapered, Square, Beveled, special order only

DESCRIPTION

Available with tapered or square edges faced with a strong, cream faced paper which will take any type of decorative treatment.

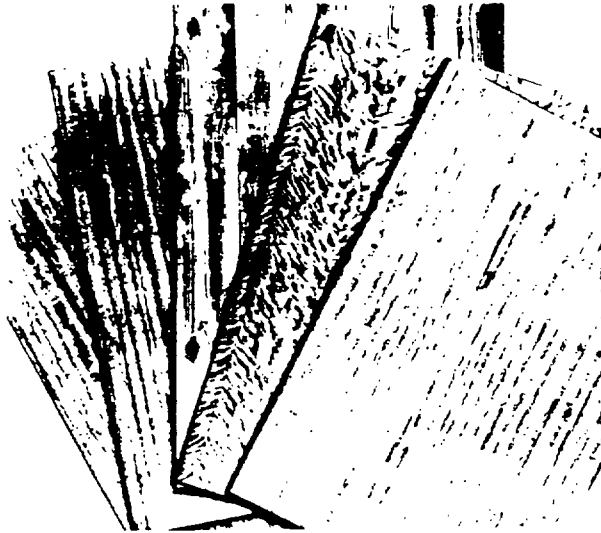
$\frac{1}{2}$ " and $\frac{5}{8}$ " Tapered Edge wallboard are recommended for single layer application in new construction. Should be used with Bestwall Joint System for smooth, seamless surfaces. Square Edge is recommended for use where exposed joints are acceptable. Greater thickness provides increased resistance to fire exposure and sound transmission.

Wood stud load bearing partitions faced on both sides with $\frac{1}{2}$ " Bestwall Gypsum Wallboard have a fire endurance of 40 minutes, as tested in accordance with E 119 Standard Method of Fire Tests of Building Construction and Materials specified by the American Society for Testing Materials. When faced with $\frac{1}{4}$ " Bestwall, the fire endurance is 25 minutes.

$\frac{1}{4}$ " Gypsum Wallboard is used primarily for repair and remodeling work. Light weight permits easy handling and application. It is also recommended for use in multi-layer laminated gypsum wallboard construction.

$\frac{1}{4}$ " Gypsum Wallboard is a lightweight material for application directly over existing walls and ceilings and for use on curved surfaces for specialty work.

Decorative Gypsum Wallboard



Wood Grained Gypsum Wallboard

SIZES

LENGTH	WIDTH	THICKNESSES	EDGES
8', 9', 10'	4'	$\frac{3}{8}$ " ($\frac{1}{2}$ " on order)	Beveled (Figured Aspen, Driftwood, Autumn Mahogany and Fawn Mahogany) Square (Knotty Pine)

DESCRIPTION

Bestwall Wood Grained Gypsum Wallboard is regular gypsum wallboard prefinished with reproductions of true-wood patterns. These photographic reproductions are printed on special paper, finished with a durable transparent coating and are cemented to the face of regular gypsum wallboard. Combines all the advantages of regular gypsum wallboard with the economy of natural-looking wood grained predecorated panels. It handles as easily as regular gypsum wallboard and can be scored and snapped off to the desired size or can be sawed.

AVAILABLE IN FIVE FINISHES:

Driftwood Mahogany, Knotty Pine, Autumn Mahogany
Figured Aspen, Fawn Mahogany

Matching color headed nails are recommended. Joints present a pleasing panelled effect when left unfinished. If desired, they may be covered with wood strips to achieve a more pronounced decorative effect.

Although factory finished, the surface may be covered with a coat of clear shellac or varnish, then waxed for added beauty and protection. An occasional wipe with a damp cloth is all that is necessary to keep the wallboard fresh and clean.

Vinyl Surfaced Gypsum Wallboard

Available in six lovely pastel shades of, Seafoam Blue, Shadow Gray, Spring Green, Sunset Pink, Sand and Snow-drift in a distinctive linen weave texture.

Insulating Gypsum Wallboard



SIZES

LENGTH	WIDTH	THICKNESSES	EDGES
6' to 16' (in even feet)	4'	$\frac{3}{8}$ ", $\frac{1}{2}$ ", $\frac{5}{8}$ "	Tapered, Square

DESCRIPTION

Bestwall Insulating Gypsum Wallboard is regular gypsum wallboard with aluminum foil laminated to the back surface. In a single application it provides the advantages of regular gypsum wallboard, an effective vapor barrier and insulating qualities.

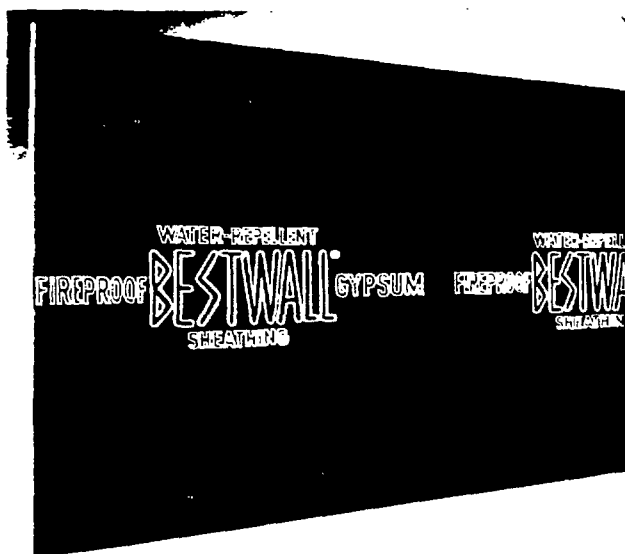
INSULATION

Panel must be installed with foil side against the studs. To have reflective insulation value, F.H.A. requires a minimum air space of $\frac{1}{4}$ ". The aluminum foil, according to U. S. Bureau of Standards Tests, reflects 90% of radiant heat. It provides insulation approximately equal to 3" fiberboard.

VAPOR BARRIER

Bestwall Insulating Gypsum Wallboard provides an efficient vapor barrier. The aluminum foil stops vapor from entering the exterior wall construction, thereby preventing condensation in stud spaces.

Gypsum Sheathing



SIZES

LENGTH	WIDTH	THICKNESSES	EDGES
8', 9'	2'	1/2"	V edge Tongue-and-Groove
8', 9'	4'	1/2"	Square

DESCRIPTION

Bestwall Gypsum Sheathing is the only gypsum sheathing reinforced with glass fibers. The "asphalted" reinforced gypsum core is protected by highly water repellent paper, eliminating need for an underlayer of treated building paper (except where required by local building codes).

The 2' wide sheathing is manufactured with precision-cut tongue-and-groove edges to provide a structurally strong and stable wall. V-tongue-and-groove edges fit snugly, minimizing wind infiltration.

The 4' wide square-edge sheathing, applied vertically, completely eliminates the need for corner bracing. It is designed to meet FHA Technical Circular 12 requirements. Racking Tests were made in conformance with ASTM E72.

FEATURES

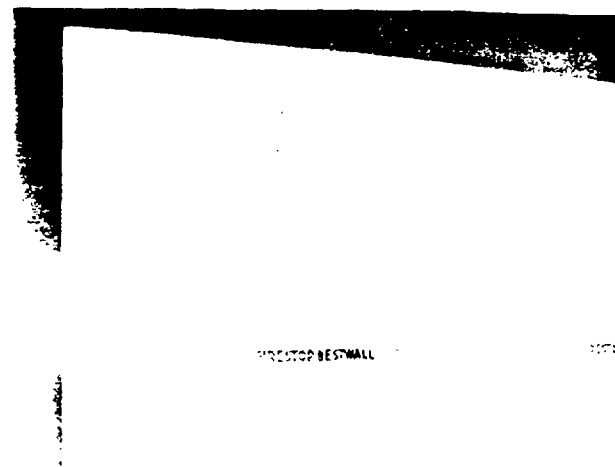
Fireproof—Officially rated for one full hour fire-resistance from both sides in combination with gypsum wallboard applied as specified over wood studs and any exterior finish (wood siding, stucco, brick veneer, etc.).

Glass Fiber Reinforced—This exclusive development assures greater flexibility and resistance to shock and settling, better nailing qualities and strength.

Water Repellent—The gypsum core contains an emulsion to provide high resistance to water. Meets ASTM 79-54 including the water resistance test.

Economical—Large panels cover large areas quickly. Building paper is not required (except where demanded by local building codes). New 4' sheathing eliminates corner bracing, thus keeping labor and material costs to a minimum.

Bestwall Firestop



SIZES

LENGTH	WIDTH	THICKNESSES	EDGES
6' to 16' (in even feet)	4'	1/2", 5/8"	Tapered, Square or Tongue-and-Groove

DESCRIPTION

Bestwall Firestop is the original drywall material to provide up to one hour fire resistant load bearing walls and ceilings with one layer application over both combustible and incombustible framing. It was also first to provide two-hour fire resistant load bearing walls in two layer application. It combines all the advantages of regular gypsum wallboard with increased fire protection—the result of an exclusive Bestwall manufacturing process. Incombustible glass fibers and unexpanded vermiculite are added to the gypsum core. The glass fibers remain strong under extreme heat and help keep the gypsum core intact, even after the chemically combined water has been released. The unexpanded vermiculite expands under heat, thereby balancing the shrinkage of the core after the loss of water. The thermally stabilized gypsum core, having increased insulation value at extreme high temperatures, provides up to three times greater fire resistance than conventional gypsum wallboard.

ADVANTAGES

Crack-Resistance: resists cracks due to framing movements, vibrations and settling. Unaffected by humidity or extremes in temperatures.

Strength: resists crosswise stresses. 5/8" Firestop has flexural strength of 225 to 275 lbs. as compared to ASTM minimum requirement of 145 lbs. for 5/8" regular gypsum wallboard and a Federal Specifications minimum requirement of 105 lbs. for 1/2" regular gypsum wallboard.

PRODUCTS

MEETS BUILDING CODE REQUIREMENTS

Building Code requirements may be met with Bestwall Firestop for 45 minute to 3 hour fire-resistant interior wall and ceiling construction in buildings of all types from highly incombustible to wood frame; and for various occupancies of residential, public and commercial character.

SOUND TRANSMISSION RATINGS

Results of sound transmission test by Riverbank Laboratories on a standard wood stud partition faced each side with single layer of $\frac{5}{8}$ " Bestwall Firestop Gypsum Wallboard show a 39 decibel noise reduction value with density of 7.2 pounds per square foot.

FIRE RESISTANCE

Bestwall Firestop is recommended where extra fire resistance is required in residential, commercial and public buildings. $\frac{5}{8}$ " thickness provides one-hour fire resistance in single layer application on both walls and ceilings over wood or steel. $\frac{1}{2}$ " thickness provides 45 minute fire rating in single layer application when applied over wood framing, for both walls and ceilings.

The extra fire protection offered by Bestwall Firestop is built right into the core through the use of specific amounts of incombustible glass fibers and unexpanded vermiculite.

$\frac{5}{8}$ " Bestwall Firestop qualifies for building code acceptance in all the constructions in the table below. Bestwall Firestop is listed by Underwriters' and carries the UL Label for 1, 2 and 3 hour Fire Resistance in various designs and for Fire Hazard Classification of 10-15.

MANIFEST FOR $\frac{5}{8}$ " BESTWALL FIRESTOP

FIRE HAZARD CLASSIFICATION			FIRE RETARDANT CLASSIFICATION		
			Floor and Ceiling	Walls and Partitions	
Flame Spread	10-15		Design No. 1—1 hr.	Design No. 5—1 hr.	Design No. 7—2 hrs.
Fuel Contributed	5-15		Design No. 2—1 hr.	Design No. 5—2 hrs.	Design No. 10—1 hr.
Smoke Developed	0-45		Design No. 3—1½ hrs.	Design No. 5—3 hrs.	Design No. 11—1 hr.

PARTITIONS—LOAD BEARING OR NON-LOAD BEARING

FRAMING	CONSTRUCTION	RATING	AUTHORITY	UL DESIGN NO.	ICBO RESEARCH RECOMMENDATION
Metal Studs 24" Max. O.C.	1 layer, $\frac{5}{8}$ " Bestwall Firestop both sides.	1 Hour	Test by independent, nationally-known laboratory. Name on request.	11	1155
2" x 4" Wood Studs 16" O.C.	2 layers, $\frac{5}{8}$ " Bestwall Firestop both sides.	2 Hour	Test by independent, nationally-known laboratory. Name on request.	—	1200
	1 layer, $\frac{5}{8}$ " Bestwall Firestop both sides.	1 Hour	Underwriters' Laboratories Retardant 2389 - 8/5/47	5	1145
	1 layer, $\frac{1}{2}$ " Bestwall Firestop both sides.	45 Min.	Underwriters' Laboratories Retardant 2717 - 7/29/46	1	—

PARTITIONS—NON-LOAD BEARING

NONE	1 layer, $\frac{5}{8}$ " Bestwall Firestop both sides over 1" gypsum strips	1 Hour	Underwriters' Laboratories Retardant 2717 19-21-6/3/57	10	1144
	1 layer, $\frac{5}{8}$ " Bestwall Firestop covered by $\frac{1}{4}$ " Bestwall Gypsum Wallboard both sides over 1" gypsum strips	1½ Hours	Underwriters' Laboratories Retardant 2717 24-6/17/60	—	—
	2 layers, $\frac{5}{8}$ " Bestwall Firestop both sides over 1" gypsum strips	2 Hour and 3 Hour	Underwriters' Laboratories Retardant 2717 20-22-8/26/57	7 5	1263

FLOOR AND CEILING

12" Bar Joists 24" O.C. Covered with 2" concrete floor slab	1 layer, $\frac{5}{8}$ " Bestwall Firestop as ceiling surface through metal furring	1 Hour	Underwriters' Laboratories Retardant 2717-16 12/1/52	2	1155
	2 layers, $\frac{5}{8}$ " Bestwall Firestop as ceiling surface through metal furring	1½ Hours	Underwriters' Laboratories Retardant 2717 23-12/1/59	3	—
2" x 13" Wood Joists Covered with wood subflooring building paper, wood finish flooring	1 layer, $\frac{5}{8}$ " Bestwall Firestop as ceiling surface	1 Hour	Underwriters' Laboratories Retardant 2717 7/12/51	1	1145
	1 layer, $\frac{1}{2}$ " Bestwall Firestop as ceiling surface	45 Min.	Underwriters' Laboratories Retardant 2717 6/27/50	1	—

PLUS a Flame Spread Rating of 10-15 for both $\frac{1}{2}$ " and $\frac{5}{8}$ " Firestop based on Official Underwriters' Tunnel Furnace Tests and listed by them for Fire Hazard Classification.

YOU ARE PROTECTED AGAINST SUBSTITUTION of inferior material by the Underwriters' Laboratories Label Service, as evidenced by the Underwriters' Laboratories Manifest which appears on the twin mounting tape binding each bundle of 2 pieces. And

Especially important to architects and building inspectors, the manifest is marked with "Bestwall Firestop" so that it's easy to identify which is a

Details of construction and information about sound transmission rating, flexural strength, backer for acoustical tile will be sent upon your request.

Technical Data Wallboard Construction

CONSTRUCTION		WALL SURFACE		FIRE RATING	WEIGHT SQ. FT.	NRC (AVERAGE DECIBELS)
PARTITIONS:	Wood Studs 16" on center unless noted otherwise. Load bearing and non load bearing unless noted.	Surfaced both sides with	1/2" Bestwall	25 minutes	—	—
			1/2" Bestwall	40 Minutes	5.9	35
			1/2" Bestwall with Mineral Wool in stud space.	1 Hour	—	—
			1/2" Bestwall Firestop	45 Minutes	—	—
			1/2" Bestwall Firestop	1 Hour	7.2	39
PARTITIONS:	Steel Studs 24" on center (Nailable) load bearing	Surfaced both sides with	2 layers 1/2" Bestwall, Bestwall Hummer System "A"	1 Hour	8.2	38
			2 layers 1/2" Bestwall	1 1/2 Hours	—	—
			2 layers 1/2" Bestwall Firestop	2 Hours	12.9	45
			1/2" Bestwall Firestop	1 Hour	6.5	—
			1/2" Bestwall Firestop	1 Hour	—	—
PARTITIONS:	Gypsum Studs Non Load Bearing	Partitions 2 1/4" Thick	2 layers 1/2" Bestwall Firestop separated by 1" Gypsum Studs Bestwall Hummer System "B"	1 Hour	7.2	35
		2 1/4" Thick	2 layers 1/2" Bestwall separated by 1/2" Gypsum Studs, Bestwall Hummer System "C"	45 Minutes	7.7	39
		6" Thick	1 layer Bestwall Firestop plus 1 layer Bestwall Gypsum Wallboard on each side of 1" Gypsum Studs.	1 1/2 Hours	—	—
		4" Thick	2 layers 1/2" Bestwall Firestop on each side of 1" Gypsum Studs	2 Hours	13.4	37
		5" Thick	2 layers 1/2" Bestwall Firestop on each side of staggered 1" Gypsum Studs	3 Hours	13.4	40
CEILINGS:	Wood Joists 16" on center unless noted otherwise. Finished wood floor on rough wood subfloor	Ceiling	1/2" Bestwall	15 Minutes	—	—
			1/2" Bestwall	25 Minutes	11.4	—
			1/2" Bestwall Firestop	30 Minutes	—	—
			1/2" Bestwall Firestop	45 Minutes	—	—
			1/2" Bestwall Firestop	1 Hour	12.0	—
CEILINGS:	Steel Joists 24" on center unless noted otherwise. 2" Cement floor slab cross lurring 16" center	Ceiling	2 layers 1/2" Bestwall	30 Minutes	12.4	32
			2 layers 1/2" Bestwall	1 Hour	—	—
			1/2" Bestwall Firestop	1 Hour	34.2	44
			1/2" Firestop Backer	1 Hour	34.1	—
			2 layers 1/2" Bestwall Firestop	1 1/2 Hours	36.8	—
STEEL COLUMNS:	Board tied and Finished		2 layers 1/2" Bestwall	1 Hour	—	—
			3 layers 1/2" Bestwall	1 1/2 Hours	—	—
			4 layers 1/2" Bestwall	2 1/2 Hours	—	—

Fire Hazard Classification

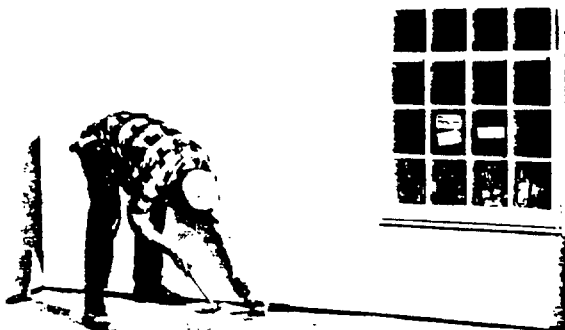
Official Underwriters Tests 1/2" & 1/4" Firestop (Listed) 10 15

1/8", 1/2", and 3/4" Bestwall (Tested Not Listed) 10 15

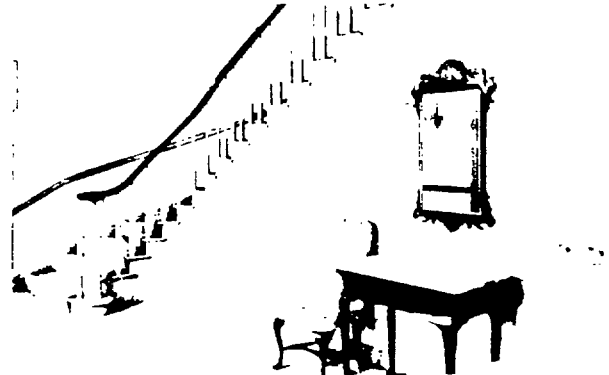
NOTE: This table is a summary only based on tests at Underwriters Laboratories, National Bureau of Standards and/or Ohio State University, sponsored by the Bestwall Gypsum Company, the Gypsum Association and/or others. The fire rating, weight and sound characteristics are based on a combination of specific details as covered in official publications of Underwriters Laboratories, the National Bureau of Standards, Ohio State University and/or the Bestwall Gypsum Company.

*Inconsistencies Due to Reports covering 15 years and work of different laboratories. (Details on request)

Typical Bestwall Applications



Two layers of Bestwall gypsum wallboard as applied in Bestwall Hummer System A, through lamination, to any frame wall or ceiling construction.



Smooth surfaced walls of permanent beauty can easily be obtained through use of any Bestwall application.

BESTWALL HUMMER SYSTEMS

four advanced methods for multiple layer application of gypsum wallboard for partitions, walls and ceilings.

The Bestwall Hummer Systems A, B, C and D are specially designed methods for erecting gypsum wallboard in multiple layer applications. Developed by Bestwall through E. B. Hummer, nationally known wallboard specialist, these original, field proven laminated drywall constructions permit the selection of an interior appropriate to intended use and meet various fire ratings and economy requirements. They may be used with conventional framing (without framing in non-load bearing partitions) to provide low-cost, high quality wall and ceiling surfaces.

These original laminated gypsum wallboard constructions provide strong, durable walls and ceilings with great resistance to sound and heat transmission and superior fire protection. Subsequent maintenance costs are kept to a

minimum. Erected with Bestwall Gypsum Wallboard, application costs are moderate because of convenient-sized sheets and minimum waste. Further economies are realized by savings on materials and labor, depending on the system used.

Most interior framing can be eliminated when some of the constructions are combined with trussed roof construction in residential work and for non-load bearing partitions in commercial, institutional and industrial buildings.

Thin wall sections—2¼" thick—make it possible to use many standard thin wall-opening details. Modern, narrow, plain trim fits in with these thin laminated gypsum wallboard partitions.

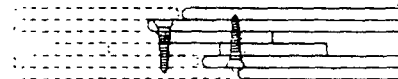
Systems A, B, and D are designed to have the joints treated with a paper tape and cement to present a clean, unbroken surface. (See p. 14 for Joint System details.) System C, built with prefabricated panels, is a non-load bearing wall construction for use where joints are left unfinished. More detailed specifications and architectural consultation are available upon request.

"A" SYSTEM

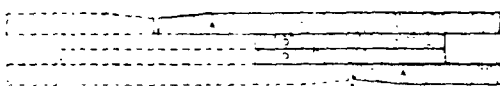
Bestwall Hummer System A is the original laminated gypsum wallboard construction for applying gypsum wallboard to frame construction. Two layers are used. The first is nailed. The second is applied with adhesive and screws to eliminate nail popping and joint beading. A tapered edge board with a center taper is used on the ceiling.

**SYSTEM A****"C" SYSTEM**

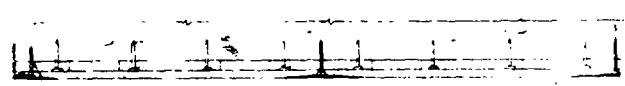
Bestwall Hummer System C is the original and only factory fabricated construction providing movable or permanent gypsum partitions. Ideal for less than ceiling high partitions for fast, low-cost dividing walls in large office or loft buildings. An entire room can be erected, trimmed and painted in one day. Special edges provide an attractive panelled effect.

**SYSTEM C****"B" SYSTEM**

Bestwall Hummer System B is the original system for constructing non-load bearing smooth surfaced partitions entirely of laminated gypsum wallboard. Sheets of 4' wide 5½" Bestwall Firestop are laminated together with narrow strips used between them to provide bulk and weight. The construction provides 1 hour fire resistance and, with variations, 1½, 2 and 3 hours fire protection.

**SYSTEM B****"D" SYSTEM**

Bestwall Hummer System D is the original low cost gypsum wallboard job laminated construction. Full size sheets are applied to the framing of walls and ceilings over strips of gypsum wallboard. There is less cost in place, yet the finished surface closely matches a complete two layer installation.

**SYSTEM D**

SYSTEM A SPECIFICATIONS

Materials: All gypsum wallboard and joint system materials required for installation of Bestwall Hummer System "A" shall be as manufactured by Bestwall Gypsum Co.

1. $\frac{3}{8}$ " backer board, 4' wide (or 2' wide) gray face and back paper.
2. $\frac{3}{8}$ " Tapered Edge Bestwall Gypsum Wallboard.
3. $\frac{3}{8}$ " Tapered Edge Bestwall Gypsum Wallboard with Center Taper parallel to long edges of board.
4. $1\frac{1}{2}$ " GWB-54 gypsum wallboard nails or $1\frac{1}{2}$ " long, .098 gauge annular ring nail with $\frac{1}{4}$ " head and a medium diamond point.
5. $1\frac{1}{4}$ ", 4-d, 13 gauge, $\frac{1}{4}$ " flat head blue diamond point nail.
6. $\frac{3}{4}$ " No. 14 Phillips flat head Type A (Tapping) screw, American Screw Co. of Chicago, Ill., or equal.
7. Bestwall Joint System materials, including Laminating Compound, Cement, Bedding Compound, Topping Compound, and Tape.

Construction: a. Ceiling and Sidewalls (first layer)—For ceilings and sidewalls install first layer of $\frac{3}{8}$ " Bestwall Gypsum Backer board at right angles to framing members. Edges shall center on studs and joists, using $1\frac{1}{4}$ " long blue nails (or staples) at 5" to 7" o.c. on ceilings and 6" to 8" o.c. on walls. DO NOT DIMPLE THE BOARD.

NOTE: Face wallboards shall be bowed as per details.

b. Ceiling (face layer)—Apply Bestwall Laminating Compound on back of face layer board or to Backer Board and install the $\frac{3}{8}$ " Bestwall Tapered Edge Board with center taper at right angles to joists. Neither end joints nor edge joint in the face layer shall fall over the joints in the back layer. No edge joint in face layer shall fall over a joist, but be so installed as to fall midway between joists. End joints may fall over or between joists. Nail face board at edges and center taper and before laminating compound has set, drive $\frac{3}{4}$ " No. 14 flat head type "A" screws between joists and in tapered edge joint formed by two adjacent boards if joists are over 16" on center. Space screws in end joints 12" o.c.

c. Sidewalls (face layer)—Apply similar to ceiling face boards: Nail the top Regular $\frac{3}{8}$ " Tapered Edge Board in

place with $1\frac{1}{2}$ " 5-d annular ring nails $\frac{1}{2}$ " from ceiling line so as to fall under joint treatment. Press board against back layer and nail $\frac{1}{8}$ " from bottom edge at each stud. Install bottom face board similarly to the top board with end joints staggered, if they occur. Vertical end joints to fall midway between studs. Before laminating compound has set drive $\frac{3}{4}$ " No. 14 Phillips flat head type "A" screws between stud spaces in the tapered edge joint formed by two adjacent boards if studs are over 16" on center. Install screws 12" o.c. at vertical joints.

Bestwall Laminating Compound: Must be mixed to a consistency so that combed ridges will not self level when the board is in a vertical position (use approx. $2\frac{3}{4}$ pounds per one gallon of water).

Joint Work: Apply Bestwall Bedding Compound or Bestwall Joint System Cement to the Taper Edge joints and screw heads. Shear off surplus, leaving no material on high edges. Allow 12 hours drying before taping, leaving a uniform depth of taper for uniform shrinkage of joint finishes over and under tapes.

Apply Bestwall Bedding Compound or Joint System Cement in taper edge joints and in center taper and embed tape leaving a uniform thickness of material under the tape.

When Bedding Compound or Joint System Cement has whitened (surface dry) cover taped joint with Bestwall Topping Compound. Shear off surplus leaving a uniform coverage over tape with edges well feathered.

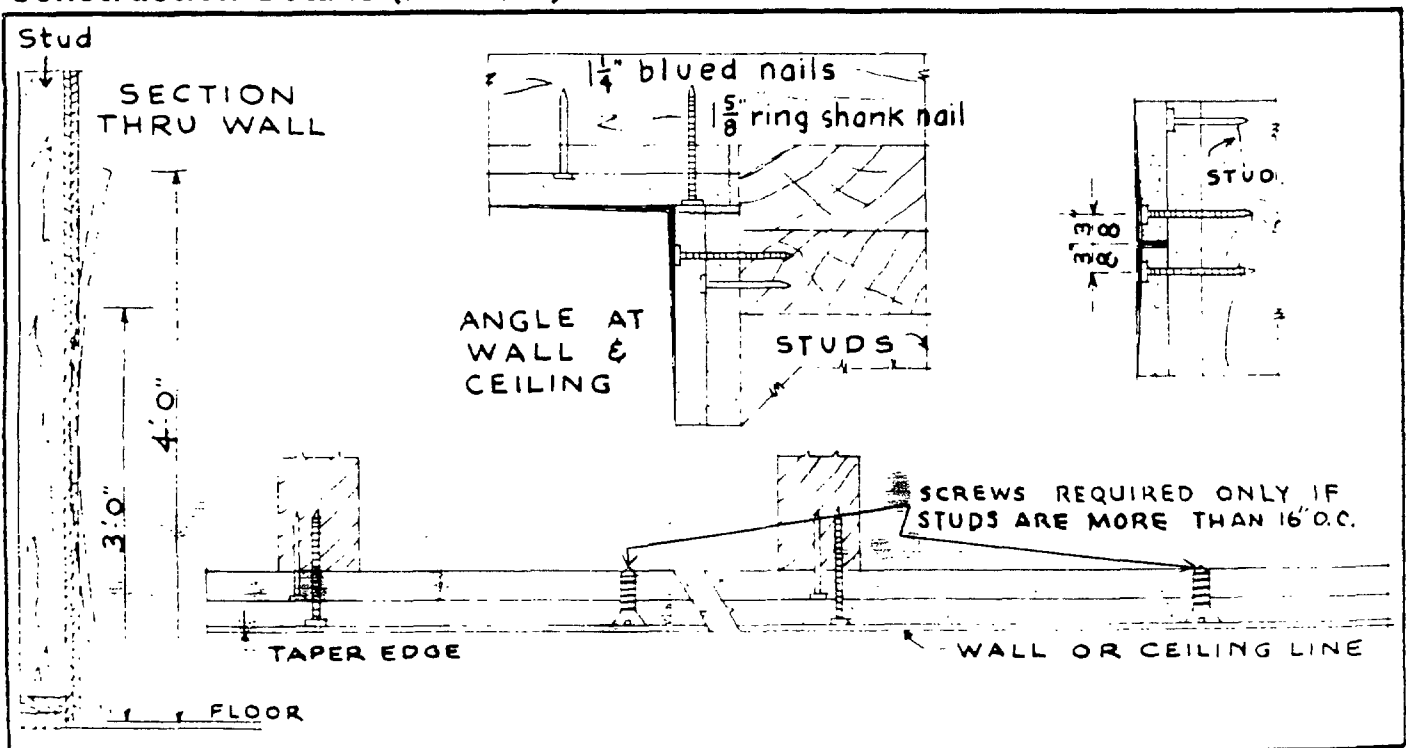
The Bedding Compound or Joint System Cement under the tape and first coverage of tape with Topping Compound must be thoroughly dry before further treatment.

Cover joints a second time with Topping Compound. Shear off surplus leaving a smooth, well-feathered joint.

For best results and a more uniform suction, apply a skim coat of Joint System Cement or Topping Compound over the entire surface and shear off tight in lieu of a third application of Topping Compound to joints only.

Decorating: Decorating of finished walls is to be done by others. Where a skim coat has been used to finish the wallboard, a one-coat paint application may be satisfactory. For best results use a prime coat over wallboard before final decoration.

Construction Details (no scale)



HUMMER SYSTEMS

SYSTEM D SPECIFICATIONS

Materials: All gypsum wallboard and joint system materials required for installation of Bestwall Hummer System "D" shall be as manufactured by Bestwall Gypsum Co.

1. $\frac{3}{8}$ " by 8" and $\frac{3}{8}$ " by 4" strips of Bestwall Gypsum Wallboard.
2. $\frac{1}{2}$ " Tapered Edge Bestwall Gypsum Wallboard.
3. $\frac{1}{2}$ " Tapered Edge Bestwall Gypsum Wallboard with Center Taper parallel to long edges of board.
4. $1\frac{5}{8}$ " GWS-54 gypsum wallboard nails or $1\frac{5}{8}$ " long, .098 gauge annular ring nail with $\frac{1}{4}$ " head and a medium diamond point.
5. $1\frac{1}{4}$ ", 4-d, 13 gauge, $\frac{1}{4}$ " flat head blue diamond point nail.
6. $\frac{3}{4}$ ", No. 14 Phillips flat head Type "A" (Tapping) screw (American Screw Company of Chicago, Ill.), or equal.
7. Bestwall Joint System materials including Laminating Compound, Cement, Bedding Compound, Topping Compound and Tape.

Construction: a. Strips— $\frac{3}{8}$ " gypsum board strips, 8" wide, shall be nailed on both the wall and ceiling framing. 4" strips may be used at ceiling angles and at the floor line on all walls. $\frac{3}{8}$ " gypsum board strips 8" wide by 8" long shall be spaced so that the long edges and center of face board center on those strips. Maximum center to center of the 8" strips shall be 24". $\frac{3}{8}$ " gypsum board strips 8" wide of sufficient length to span two joists or studs shall be installed between long strips and directly under end joints of face board in ceiling and on walls. Nail strips with two blue nails one inch from edge of strip at each joist and stud. DO NOT DIMPLE THE BOARD.

NOTE: Face wallboards shall be bowed as per details.

b. Ceiling (Face Layer) Before face board is installed, cut off all damaged ends and apply strips of Bestwall Laminat-

ing Compound to backside of face board or to strips on ceiling. Install $\frac{1}{2}$ " Bestwall Tapered Edge Board with a center taper at right angles to ceiling joists over stripping. No edge joint in the face layer shall fall over a stud or joist. End joints may fall midway between studs or joists or over joist or studs. After the board is in place, nailed in edge and center taper only, and before the laminating compound has set, drive $\frac{3}{4}$ " No. 14 Phillips flat head Type "A" screws in the tapered edge joint formed by two adjacent boards. Screws are required in the edge taper if joists are over 16" o.c. Screws also shall be installed at 12" o.c. at end joints falling between center of joists.

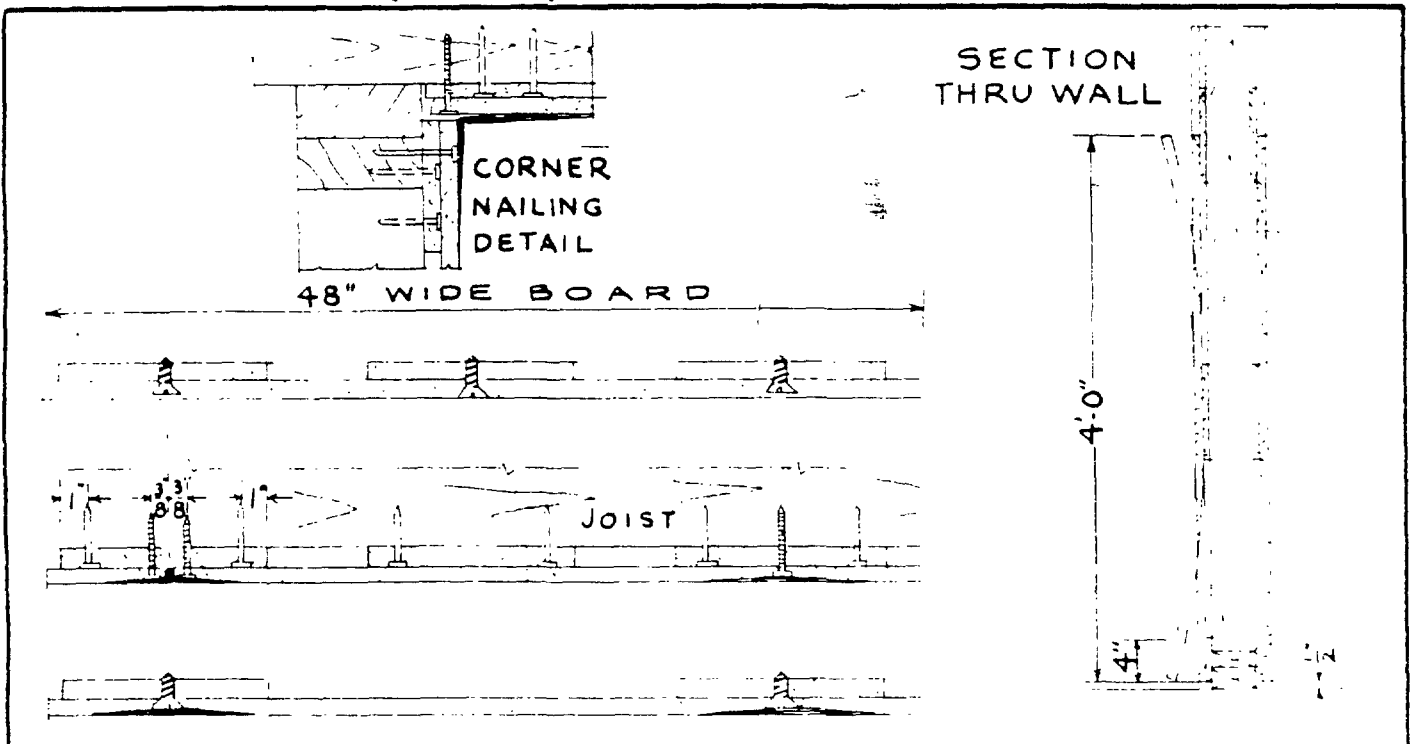
c. Sidewalls (Face Layer) Regular $\frac{1}{2}$ " Tapered Edge Board shall be applied horizontally over the walls. Bestwall Laminating Compound shall be applied in strips to the back of the face board or to the strips on wall. The top face board shall be nailed in place with 5-d, $1\frac{5}{8}$ " annular ring nails $\frac{1}{2}$ " from ceiling line so as to fall under joint treatment or proposed trim. Press board against strips and nail $\frac{3}{8}$ " from edge at each framing member. The bottom board shall be installed similarly to the top face board with end joints staggered, if they occur. Vertical end joints between face boards may fall midway between or over studs. After the board is in place and before the Laminating Compound has set, drive $\frac{3}{4}$ " No. 14 Phillips flat head Type "A" screws between stud spaces in the Tapered Edge joint formed by two adjacent boards if studs are over 16" o.c. Screws shall also be installed 12" o.c. at vertical end joints.

Bestwall Laminating Compound: Must be mixed to a consistency so that combed ridges will not self level when the board is in a vertical position (use approx. 2 $\frac{3}{4}$ pounds per one gallon of water).

Joint Work: . . . See System "A" Specifications.

Decorating: Decorating of finished walls is to be done by others. Where a skim coat has been used to finish the wallboard, a one-coat paint application may be satisfactory. For best results use a prime coat over wallboard before final decoration.

Construction Details (no scale)



SYSTEM B SPECIFICATIONS

Materials: All gypsum wallboard and joint system materials required for installation of Bestwall Hummer System "B" shall be as manufactured by Bestwall Gypsum Co.

1. $\frac{5}{8}$ " Bestwall Firestop Tapered Edge Gypsum Wallboard.
2. Gypsum Wallboard Studs, Factory laminated (or on job).
3. $1\frac{1}{4}$ " and $1\frac{1}{2}$ " No. 14 Phillips flat head wood screws (American Screw Company, Chicago, Ill.) or equal.
4. Nails, Rawl type drives, screws, etc. as shown in details.
5. Bestwall Joint System materials including Laminating Compound, Cement, Bedding Compound, Topping Compound, Tape, and Texture.
6. Metal and/or wood, door frames, runners, trim, caps, etc. as per details.

Construction: a. General Preparation—Floor runners for partition work shall be laid out and fastened securely to the floor. Where partitions extend to ceiling, the ceiling runner shall be plumbed up over floor runner and fastened in place. Install $2" \times 4"$ nailers between joists at $24"$ o.c. where partitions run parallel with joists. Where one piece door frames are used, they are to be set in place and braced.

b. Erecting First Side of Partition (Panels with Rib Attached)—Apply Bestwall Laminating Compound with box type comb spreader to the overlapping edge or strip. Set panel in position, hold in place and nail panel to the ceiling and floor runners with $1\frac{5}{8}"$, .098 gauge annular ring nails spaced $5"$ to $7"$ o.c. Reinforce joint between panels by installing $1\frac{1}{2}"$ long Phillips flat head wood screws in the taper, $\frac{3}{4}"$ from edge of board spacing screws $24"$ o.c.

c. Erecting Second Side of Partition (Panels without Ribs Attached)—Apply strips of Bestwall Laminating Compound to back of face board with box type comb spreader where board comes in contact with laminated ribs in place. Set face board in place and nail at top and bottom in the same manner as the first side. The edges in the second sheet shall be offset so that the vertical joints in the finished wall do not fall over the joint in opposite face board. After two of the second face panels are in place, reinforce the joints by installing $1\frac{1}{2}"$ Phillips flat head wood screws in the joint, 1 ft. from ceiling or floor-spacing screws $24"$ o.c.

d. Door Openings—Fill in rib space around door and other openings in the wall with a $3\frac{1}{2}"$ rib covered on both sides with laminating compound. Drive wood clamps in place immediately and allow at least 12 hours setting time. After clamps are removed, the door and jambs shall be set in openings and trimmed, and the base and ceiling molding nailed in place. $1" \times 1\frac{3}{4}"$ wood may be used for core space filler. $6\frac{1}{4}"$ ribs shall be used for doors weighing 100 pounds or more.

e. Self-Furring Walls—To keep gypsum board panels from contact with exterior masonry walls, nail no-drip shims to panel ribs.

Electrical Work: Thin wall conduit can be installed after the first side of the partition is in place, and run in the rib space vertically and along the top and bottom of the panels in the space left by holding the rib strips back from panel ends. For rigid conduit requiring $1\frac{1}{2}"$ space 2 strips $\frac{5}{8}"$ board should be used. This will result in a $2\frac{1}{2}"$ thick wall. Runners, door frames, and trim should be specified accordingly. The opposite side of the panel is set in place after the conduit is installed.

Fire Rated Walls: 1, 2 and 3 Hours (Non Load Bearing): The $2\frac{1}{2}"$ wall described above with certain additional mechanical fastenings (closer spacing) is listed by Underwriters' Laboratories as 1 Hour Fire Resistive (see Bestwall detail plan sheet No. 5583—"Bestwall Firestop Gypsum Wallboard One Hour Non Load Bearing Studless Wall").

Adding one additional layer of $\frac{5}{8}"$ board on each side of the partition with two runners and making the two sides

independent results in a wall $4"$ thick which is listed by Underwriters' Laboratories as 2 Hour Fire Resistive (see detail plan sheet No. 5584—"Bestwall Firestop Gypsum—2 Hour Non-Load Bearing Studless Wall").

Separating the two double layer faces by an additional inch making a wall $5"$ thick gives a wall section listed by Underwriters' Laboratories as 3 Hour Fire Resistive (see Bestwall detail plan sheet No. 5585—"Bestwall Firestop Gypsum 3 Hours Non-Load Bearing Studless Wall").

Joint Work: Apply Bestwall Bedding Compound or Bestwall Joint System Cement to the Taper Edge joints and screw-heads. Shear off surplus, leaving no material on high edges. Allow 12 hours drying before taping, leaving a uniform depth of taper for uniform shrinkage of joint finishes over and under tapes.

Apply Bestwall Bedding Compound or Joint System Cement and embed tape leaving a uniform thickness of material under the tape.

When Bedding Compound or Joint System Cement has whitened (surface dry) cover taped joint with Bestwall Topping Compound. Shear off surplus leaving a uniform coverage over tape with edges well feathered.

The Bedding Compound or Joint System Cement under the tape and first coverage of tape with Topping Compound must be thoroughly dry before further treatment.

Cover joints a second time with topping compound. Shear off surplus leaving a smooth, well-feathered joint.

For best results and a more uniform suction, apply a skim coat of Joint System Cement or Topping Compound over the entire surface and shear off tight in lieu of a third application of Topping Compound to joints only.

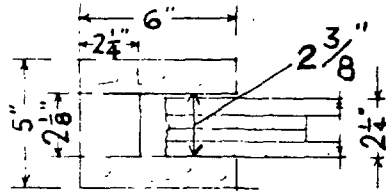
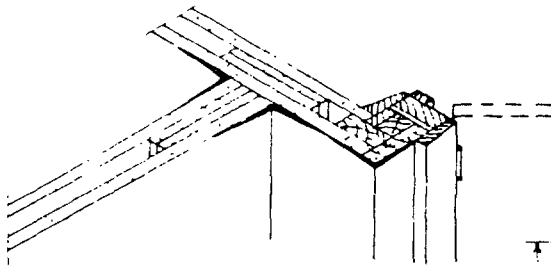
Decorating: Decorating of finished walls is to be done by others. Where a skim coat has been used to finish the wallboard, a one-coat paint application may be satisfactory. For best results use a prime coat over wallboard before final decoration.



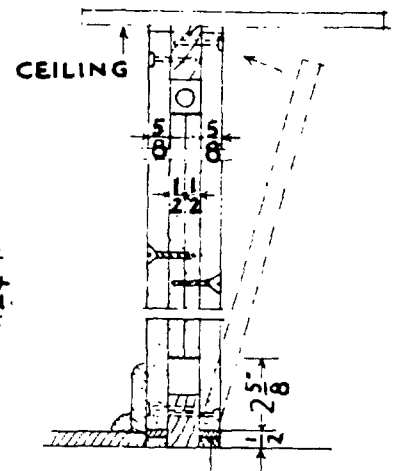
This modern insurance office is typical of results obtained through the use of Bestwall Hummer System B.

Construction Details (no scale)

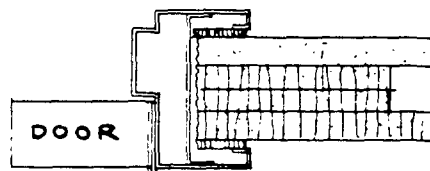
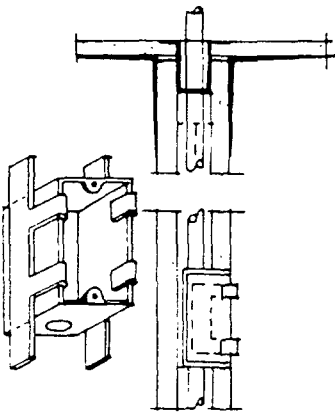
HUMMER SYSTEMS



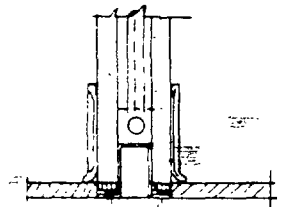
WOOD DOOR CLAMP



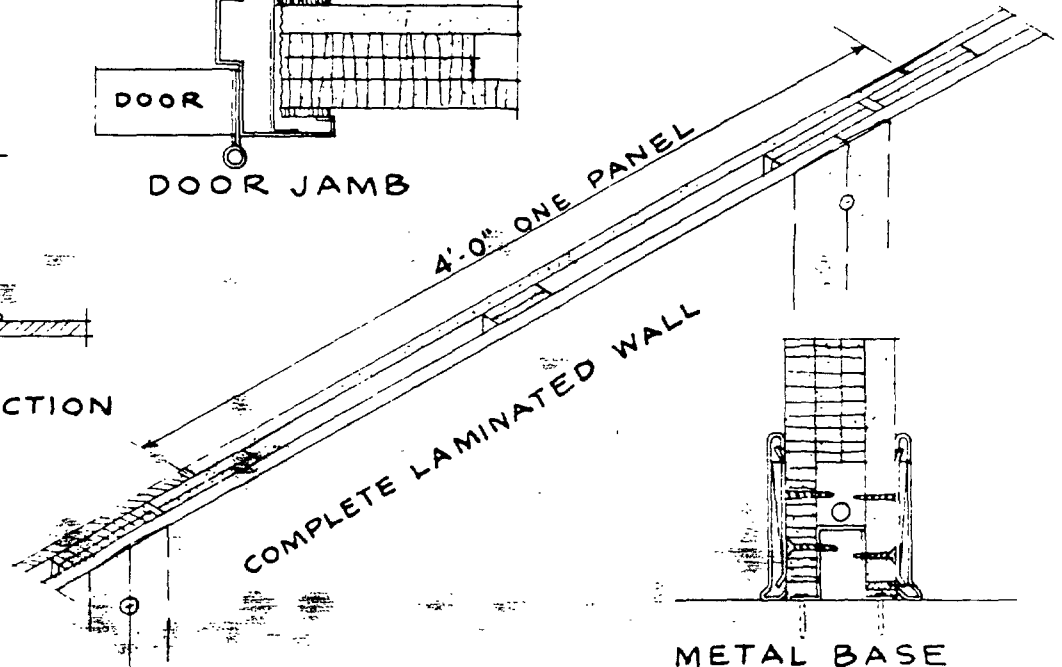
WALL SECTION A



DOOR JAMB



WALL SECTION



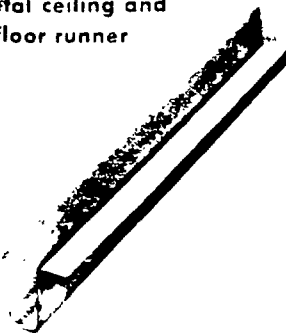
METAL BASE

SPECIAL ACCESSORIES

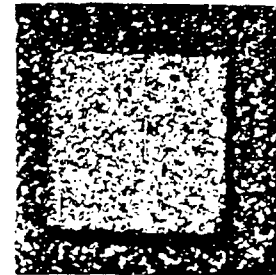


Metal Clip-on Base
(clips shown)

Metal ceiling and floor runner



APPLICABLE TO "B" AND "C"



No drip shim, edge view, flat view, used with self furring wall

BESTWALL HUMMER SYSTEMS

SYSTEM C SPECIFICATIONS

Materials: All gypsum wallboard and laminating compound required for installation of Bestwall Hummer System "C" shall be as manufactured by Bestwall Gypsum Co.

1. 24" wide, beveled edge Bestwall Hummer "C" Panel, 8', 10', or 12' long.
2. Nails, rawl drives, screws, etc., as shown in details.
3. 1½" No. 14 Phillips flat head wood screws (American Screw Company, Chicago, Ill.) or equal.
4. Bestwall Laminating Compound, non-setting mastic, and quick setting mastic.
5. Metal and/or wood, door frames, runners, cap and trim as per details.
6. Metal corner and casing sections as per details.

Construction: a. General Preparation—Floor runners for partition work shall be laid out and fastened securely to the floor. Where partitions extend to ceiling, the ceiling runner shall be plumbed up over floor runner and fastened in place. Install 2" x 4" nailers between joists at 24" o.c. where partitions run parallel with joists.

b. Erection of Panels—After floor and ceiling runners are installed including runners at intersecting walls, install 24" "C" panel as outlined. Stagger joints in the partition to develop the tongue and groove feature. As each panel of the opposite face is set in place, run ribbons of Bestwall Laminating Compound, for permanent partition (non-setting mastic for movable partition) down the strips of ¾" board on the back of the panel. Set them in place. Use punch with ¼" pin to countersink for heads of 1½" No. 14 Phillips head wood screws to be driven in the tongue of the previous panel set in place. Install 1½" No. 14 Phillips head wood screws approximately 24 inches o.c. The panels on the opposite side shall be held in place so that the screw can be drawn up tight without stripping.

c. Opening:—After the panels are erected, the doors and jambs shall be set in the openings and trimmed and the base and ceiling molding nailed in place. Where an opening has been made in the wall section leaving a hollow space at the opening, cut pieces from erected panels, or wood 1½", shall be glued on the sides and inserted around the opening. Consider that they have a solid gypsum rib core at

least 3" wide at the edge of every opening to give rigidity and backing for the installation of the casing and trim.

d. Self-furring Walls—On existing smooth interior walls apply a coat of Bestwall Laminating Compound or non-setting mastic on panel ribs, press panel firmly against wall and hold permanently in place with Phillips head wood screws or nails at the top, bottom and middle of panel. For rough interior and exterior walls install "C" panel with "no drip" shims and filler strips as shown on details. Flat head nails shall be driven at top, bottom and middle through tongue and shim.

Metal Corners and Base—Note: Where local code requires a noncombustible partition, add the following:

All floor, ceiling and wall runners at intersecting walls shall be sheet metal of 24 gauge as per detail No. 1 on drawing No. 1. All cut ends of partitions shall be concealed with a metal corner closure or moulding. Metal door frames and base boards shall be used.

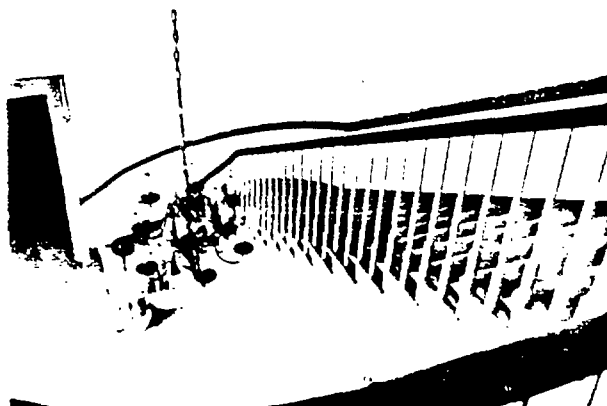
Electrical Work: Thin wall conduit can be installed after the first side of the partition is in place, and run in the rib space vertically and along the top and bottom of the panels in the space left by holding the rib strips back from panel ends. For rigid conduit requiring wider space a 2¼" x ¾" strip may be used at each rib between panels to widen space to 1½". Runners, door frames, and trim should be specified accordingly. If necessary, the back panel may be gouged out for connectors at boxes. Do not cut paper between the two full ¾" sheets of "C" panel. The opposite side of the panel is set in place after the conduit is installed.

Fire Rated Walls: 45 minutes and 1 hour (Non-Load Bearing): The 2¼" wall described above has been proven by tests to provide 45 minute fire resistance.

Adding a strip of ¾" board 8" wide along the center line on the back of each panel before erection results in a finished wall having a fire resistance of one hour tested by independent nationally known laboratory (name and copy of official test report available on request).

Decorating: As there is no Joint System in the wall area, a one coat paint job may give a satisfactory job if a flat or semi-gloss finish is used. Wood trim should have all nail holes puttied and primed before final coat of paint.

Typical Hummer System Installations



BESTWALL HUMMER SYSTEM A

Curved stairway of elegant private residence at Louisville, Ky.

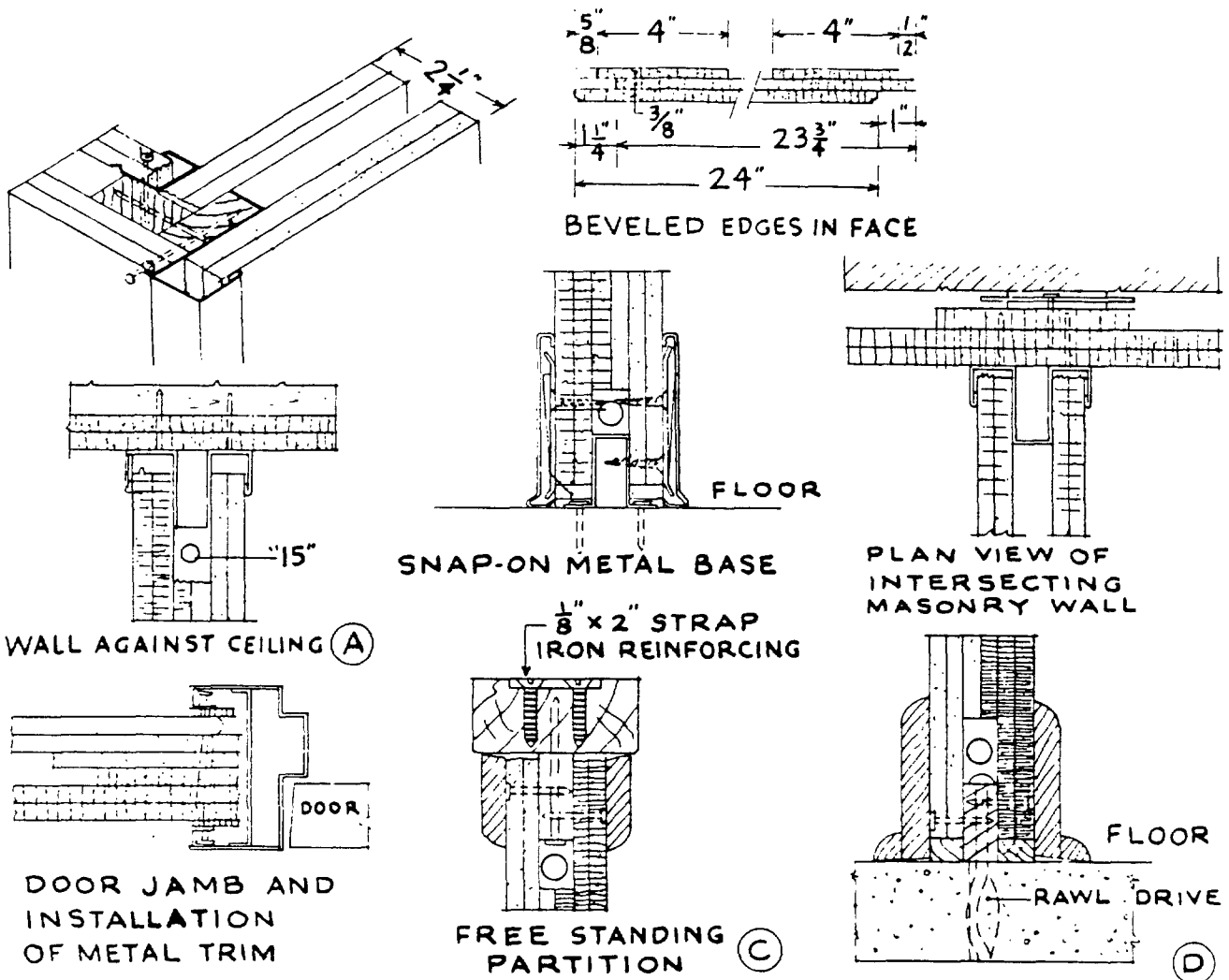


BESTWALL HUMMER SYSTEM B

Smooth surfaced non-load bearing partition of beauty and strength as used in board room of Travelers Insurance Co.

Construction Details (no scale)

HUMMER SYSTEMS



BESTWALL HUMMER SYSTEM C
Partitions of factory fabricated panels in office at Certain-teed Products Corp. research laboratory.



BESTWALL HUMMER SYSTEM D
Ceilings and exterior walls of single layer of gypsum wallboard laminated to strips of gypsum.

SINGLE LAYER APPLICATION

BESTWALL REGULAR GYPSUM WALLBOARD

Where Bestwall is applied directly to wood framing members, ceilings are put up first, then walls. Board layout should be planned to minimize joints. End joints must always occur over a stud. Boards should be accurately cut to fit and joints loosely butted. Horizontal application (long dimension at right angle to framing) is recommended where joints are to be concealed. Vertical application is recommended where joints are to be left exposed or finished with metal or wood trim. In ceiling application, the boards should always be applied at right angles to the nailing member (horizontal application). Nails should be spaced not to exceed 7" on ceilings and not to exceed 8" on walls.

Advantages of Horizontal Application:

1. Reduces necessary joint treatment footage.
2. Avoids need for headers.
3. Each board braces more framing members.
4. The fewer joints can be treated at convenient height for finishing.

Thickness: $\frac{1}{4}$ ", $\frac{3}{8}$ ", $\frac{1}{2}$ ", $\frac{5}{8}$ "

Width: 4'

Edges: Tapered or Square

Length: 6' to 16'

BESTWALL FIRESTOP

$\frac{1}{2}$ " and $\frac{5}{8}$ " Bestwall Firestop combine all the advantages of regular gypsum wallboard with increased fire resistance—the result of a specially formulated core containing incombustible glass fibers and unexpanded vermiculite. A single layer of $\frac{1}{2}$ " Firestop on both sides of a load bearing wood stud wall or as the ceiling finish of a standard wood joist and floor construction provides a 45 minute fire rating. One layer of $\frac{3}{8}$ " Firestop over load bearing wood or metal studs, or used in a non-load bearing Bestwall Hummer System "B" construction provides one hour fire resistance. One hour fire rating is also provided by one layer of $\frac{5}{8}$ " Firestop as the ceiling finish beneath either a wood joist and floor construction or steel bar joist and cement floor construction. Bestwall Firestop is applied in the same manner as Bestwall Gypsum Wallboard.

Thickness: $\frac{1}{2}$ ", $\frac{5}{8}$ "

Width: 4'

Edges: Tapered or Square

Length: 6' to 16'

BESTWALL WOOD GRAINED GYPSUM WALLBOARD

In single layer application, with square or beveled edges, presents a more attractive appearance when applied vertically. Joints may be covered with wood trim or left exposed. Use matching color-headed nails.

Decoration: Bestwall Wood Grained Wallboard Gypsum may be given a glossy finish by painting with a clear shellac or by varnishing and then waxing.

Thickness: $\frac{3}{8}$ " ($\frac{1}{2}$ " on order)

Width: 4'

Edges: Beveled (Figured Aspen, Driftwood Mahogany, Autumn Mahogany and Fawn Mahogany)
Square (Knotty Pine)

Length: 8', 9', 10'

BESTWALL VINYL SURFACED GYPSUM WALLBOARD

Eternawall should be applied vertically by lamination over a backer board or an existing wall. Eternawall may be applied vertically with matching color headed nails directly to framing or to furring strips. Joints may be covered by trim to further accentuate paneled wall or left with beveled edges exposed.

No further decoration needed.

Thickness: $\frac{3}{8}$ " ($\frac{1}{2}$ " on order)

Width: 4'

Edges: Beveled

Length: 8' Standard (other lengths on order)

Colors: Seafoam Blue, Shadow Gray, Spring Green, Sunset Pink, Sand, Snowdrift

BESTWALL INSULATING GYPSUM WALLBOARD

Bestwall Insulating Gypsum Wallboard is made by laminating bright aluminum foil to the back surface of regular gypsum wallboard.

Vapor Barrier—It serves as a vapor barrier when applied over exterior walls and ceilings. It is applied with foil surface against nailing base in same manner as Bestwall Gypsum Wallboard.

Insulation—To achieve insulation value, it must be installed with the foil side against the studs and facing a minimum air space of $\frac{3}{4}$ ".

Thickness: $\frac{3}{8}$ ", $\frac{1}{2}$ ", $\frac{5}{8}$ "

Width: 4'

Edges: Tapered, Square

Length: 6' to 16'

JOINT SYSTEM PRODUCTS

There are two Bestwall Joint Treatments that literally surface "weld" Bestwall gypsum wallboard panels together. Each enables the end and edge joints of gypsum wallboard to be concealed by cement and tape. Both are designed to provide smooth, uninterrupted walls with joints as strong as wallboard itself. Complete instructions for treating end joints, nailhead areas, corners and curved surfaces are included on each box or bag.

ONE-MATERIAL TREATMENT

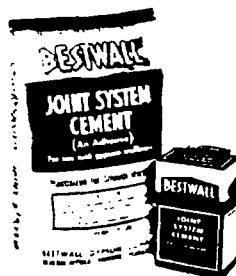
This system utilizes Bestwall Joint System Cement for both bedding and topping the Bestwall Tape and for spotting nail heads. This treatment is suitable for remodeling as well as new construction work and gives excellent results similar to the two-material treatment.

A good "topping-out" job with Bestwall Joint System Cement eliminates sanding, saving time and money for the applicator.

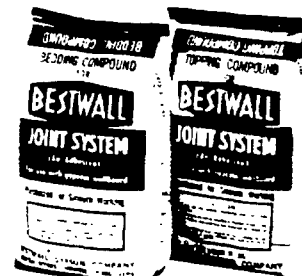
Bestwall Tape is designed for rapid drying and to permit air to escape during application and to provide maximum adhesion to cement.

TWO-MATERIAL TREATMENT

This system combines Bestwall Bedding Compound for bedding the tape and Bestwall Topping Compound for finishing the joint and spotting nail heads. It is recommended for use on large projects where uniformly good results must be obtained with minimum time and labor. With proper application, sanding is unnecessary.



One-Material Treatment



Two-Material Treatment

DECORATION

Gypsum wallboard properly prepared can be decorated with any of the treatments ordinarily used for walls, including oil paints, water paints, enamel and wallpaper. Before any decoration after the Joint System is applied, the surface shall be sealed with a vinyl or pigmented varnish primer. For textured finishes, the wallboard surface should be primed with a vinyl primer and the texture applied over the primer.

JOINT TREATMENT SPECIFICATIONS

Scope: All walls, partitions and ceilings are included in these specifications. Furnish all labor and material necessary to reinforce and conceal joints between gypsum wallboards according to specifications.

Materials: 1. One-Material Treatment—Bestwall Joint System Cement (used for both bedding and topping and for spotting nail heads). Specially suited for remodeling and home improvement work.

2. Two-Material Treatment—Bestwall Bedding Compound, Bestwall Topping Compound. Specially designed for use on large projects.

Reinforcing Tape: Bestwall Tape

Joint Work: Apply Bestwall Bedding Compound or Bestwall Joint System Cement to the taper edge joints, end joints and nailheads. Shear off surplus, leaving no material on high edges. Allow 12 hours drying before taping, leaving a uniform depth of taper for uniform shrinkage of joint finishes over and under tapes.

Apply Bestwall Bedding Compound or Joint System Cement and embed tape leaving a uniform thickness of material under the tape. If Bestwall Center Taper Gypsum Wallboard is used on the ceilings embed tape in Center Taper at this point.

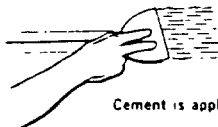
When Bedding Compound or Joint System Cement has whitened (surface dry) cover taped joint with Bestwall Topping Compound or Joint System Cement. Shear off surplus leaving a uniform coverage over tape with edges well feathered.

The Bedding Compound or Joint System Cement under the tape and first coverage of tape with Topping Compound must be thoroughly dry before further treatment.

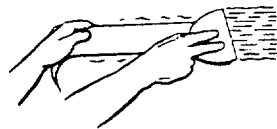
Cover joints a second time with Topping Compound. Shear off surplus leaving a smooth, well feathered joint.

For best results and more uniform suction, apply skim coat of Joint System Cement or Topping Compound over entire surface. Shear off tight in lieu of a third application to joints only.

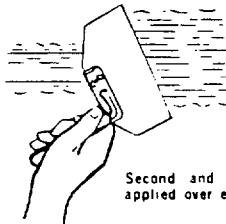
Decorating: Where a skim coat has been used to finish the wallboard, a one coat paint application may be satisfactory. For best results use a prime coat over wallboard before final decoration.



Cement is applied to joint.



Tape is "bedded" in cement.



Second and third coats of cement are applied over entire reinforced joint.

Cross-section of finished Bestwall joint.

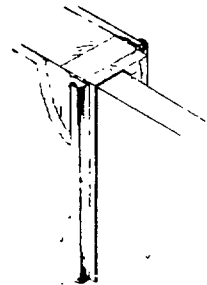
INSTALLATION ACCESSORIES

Bestwall Metal Corners and Metal Casings

Most Bestwall Metal Corners and Metal Casings are made of .018" gauge hot-galvanized steel, knurled and perforated for maximum cement and paint adhesion. They provide straight corners and low-cost neat wall closures for uncased openings. Nails may be driven through board into studs, jambs or headers. Some casings may be nailed first and wallboard slipped into place. Typical accessories are shown below.



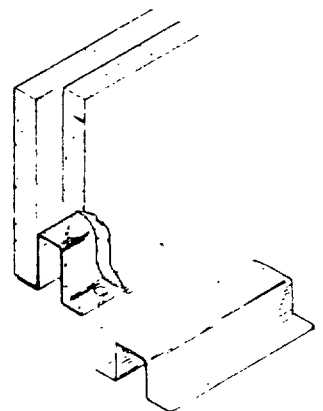
100, DL-100 and DLL-100 METAL CORNER—Stronger, more accurate external wallboard corners. Easy to apply by nailing through board to stud. Provides proper grounds and precise screed for cement application. Knurled and perforated for maximum cement and paint adhesion. Regular 100 has 1" x 1" flanges; DL-100, 1 1/4" x 1"; DLL-100, 1 1/4" x 1 1/4".



104 ROUND-NOSE METAL CASING—Extra rigid traditional type casing for wallboard construction with streamlined quarter round returns. May either be nailed in place first—and board inserted into nose as shown—or slid over wallboard edge at openings, nailed right through board and flange into door buck. Hemmed edge may be left untreated as decorative offset trim.



105 SQUARE-NOSE METAL CASING—Same as 104 except for square nose as illustrated.



HAT SECTION—Sheet metal shape for use as floor or ceiling runner in 2 1/4" wallboard partitions 1/4" wide for Bestwall Hammer-Cut Board. For Bestwall Hammer-Cut Board.

COMPANY AND SERVICES

COMPANY

For over half a century, Bestwall gypsum building materials have been accepted as a standard of quality everywhere. This recognition is earned through continued creative research which provides you with better building products and construction components.

FACILITIES

Strategically located plants across the nation utilize the most modern equipment and production techniques. In addition, quality control and research laboratories continuously check and control the performance of the finished product to meet highest quality standards. An efficient distribution network makes Bestwall a prompt and reliable source of supply.

SERVICES

Bestwall representatives are qualified to give you assistance if needed to insure that your specifications are complete and applicable. Bestwall Hummer Systems are installed by Approved Drywall Contractors located throughout the United States.



BESTWALL GYPSUM COMPANY
ARDMORE, PENNSYLVANIA