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GP-1043



BESTWALL®

GYPSUM LATH & PLASTER

SGP 0003956



BESTWALL GYPSUM LATH AND PLASTER

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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SECTION 1

GLASS FIBER REINFORCEMENT

GYPSUM PLASTERS

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.

FIBER GLASS DATA

Content in Typical Bestwall Plasters		Sq. yd. ½" thick over Gypsum Lath
NEAT (Fibered)		
Ton	790 mi.	3 9 mi. (based on 200 yd. coverage per ton)
or		
Bag	39½ mi	
LITE MIX (Fibered)		
Ton	650 mi.	4 7 mi. (based on 140 yd coverage per ton)
or		
Bag	26½ mi.	

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 [illegible] of this catalog.

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TYPES OF BESTWALL GYPSUM LATH

BESTWALL PLAIN LATH

Description

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, gypsum crystals form on the paper surface and attach themselves to the main body of the plaster to form a mechanical key, thus assuring maximum bond. Lath paper has water resistant inner plies which prevent the water in the plaster from soaking through it and thus minimize sagging of the lath and plaster. Available with round edges.

Use

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

Size

16" x 48", 3/8" or 1/2" thick. (16-1/5" x 48" West Coast only)

BESTWALL LONG-LENGTH LATH

Description

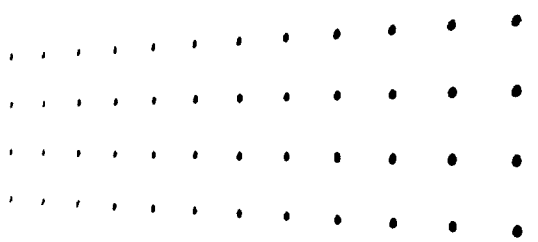
Manufactured in special lengths, up to 12', with round or tongue and groove edges. Has same core and paper as Plain Gypsum Lath.

Use

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", 1/2" thick.



BESTWALL PERFOLATH

Description

Plain Lath with 3/4" diameter holes spaced 4" o.c., 48 holes per sheet. Provides a double mechanical bond that increases fire protection. (See Technical Data, p. 9.)

Use

Applications identical to Plain Lath. A wood stud partition faced with Perfolath and full thickness of plaster specified has one-hour fire rating (15 mins. more than Plain Lath).

Size

16" x 48", 3/8" thick

BESTWALL INSULATING LATH

Description

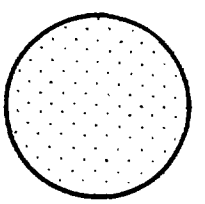
Plain Lath with aluminum foil laminated on the back. Reflects 90% of radiant heat and acts as efficient vapor barrier.

Use

Designed primarily for application to exterior walls and top floor ceilings. Must face a minimum air space of 3/4" to develop reflective insulation value.

Size

16" x 48", 3/8" or 1/2" thick.



BESTWALL PINHOLATH

Description

Plain Lath surface-perforated with pinholes no larger than 1/16" in diameter, spaced 1/2" o.c. This unique feature permits rapid suction of water from plaster mix. Provides up to 60% greater compressive strength (psi) on finished walls. One hour fire resistance over wood frame when plastered to 1/2" thickness, sanded 1:2. (See Technical Data, p. 9.)

Use

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

Size

16" x 48", 16" x 96", 3/8" thick.

BESTWALL T-C LATH

Description

A wide long length gypsum lath with special high absorbent facing permits quick take-up of plaster. Also available pinholed to provide extra suction when plaster is applied over 1/16" by machine. Large sheets decrease number of joints, giving greater strength and crack resistance to wall and ceiling surfaces. Available with tapered edges.

Use

Specially designed for reception of veneer or thin coat plasters. Plain or pinholed surfaces are available depending upon desired suction necessary.

Size

4' x 8' x 10' x 12', 1/2" thick.

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BESTWALL OLSEN GYPSUM LATH CLIPS

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

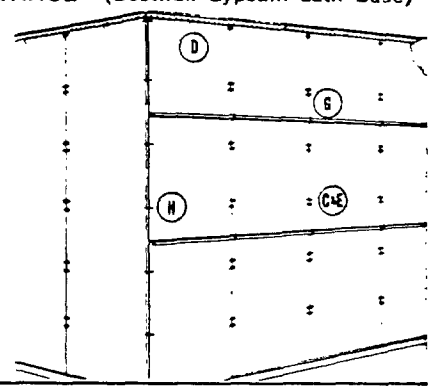
THIN SOLID PARTITION SYSTEM HIGH SOUND TRANSMISSION RESISTANCE (Bestwall Gypsum Lath Base)

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.



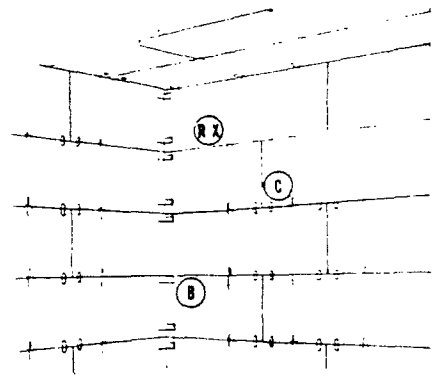
RESILIENT WALL CONSTRUCTION (Bestwall Gypsum Lath Base)

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)

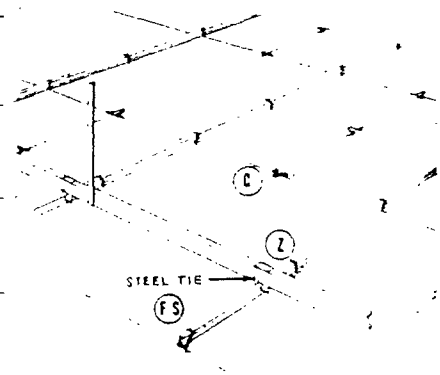
Z Clips (Centerboard) are used in place of field clips to prevent ceiling lath from sagging

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 FIREPROOF GYPSUM PLASTER

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

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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.

BESTWALL 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 1/16" to 1/8". 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.

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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:

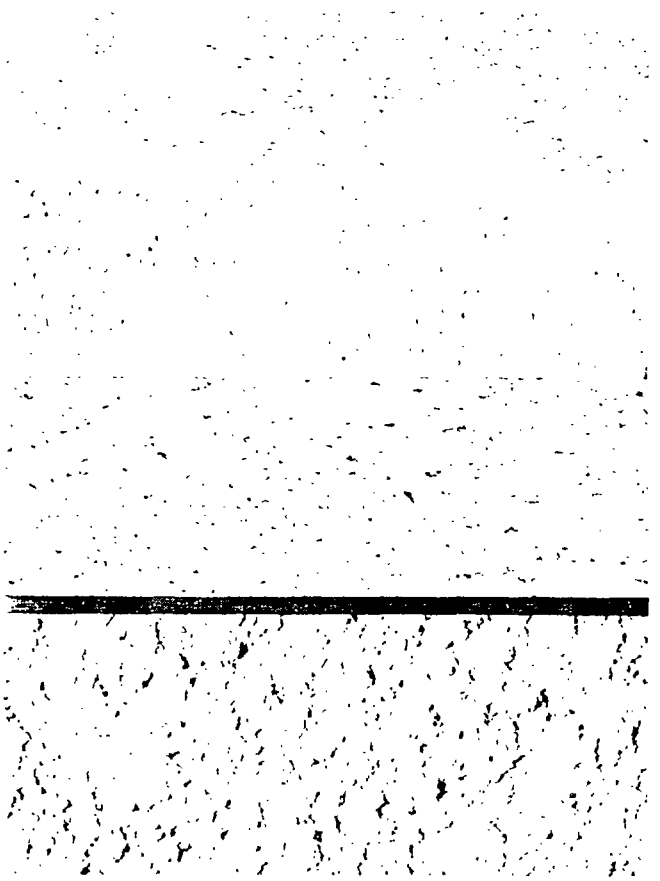
1. where surface is too dense for ordinary plaster to form a mechanical key, and

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 monolothic 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	Thickness	FREQUENCIES 125	250	500	1000	2000	4000	Noise Reduction Coefficient	Authority
	½"	25	27	52	69	78	38	55	Riverbank

Light Reflection Coefficients

	Spray	Trowel
White	66%	69%
Ultra-White	70%	74%

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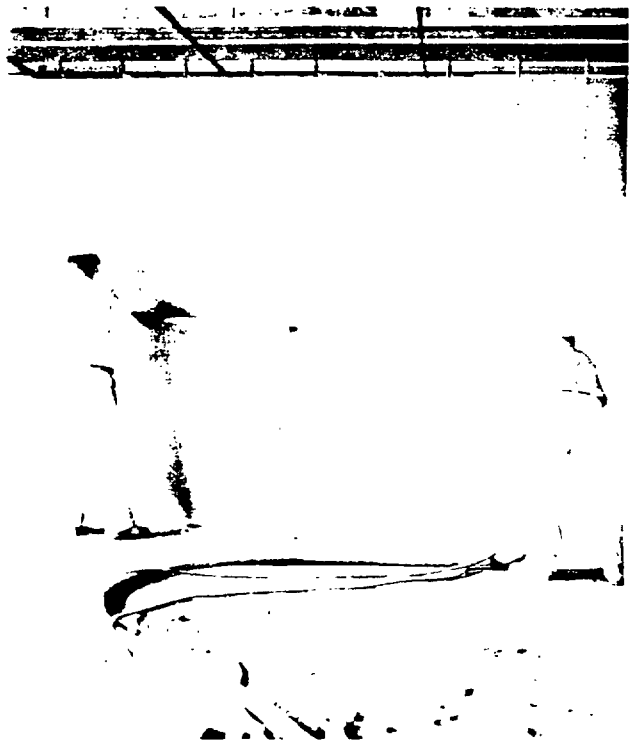
SECTION 3 • MACHINE APPLICATION



MACHINE APPLICATION

Bestwall manufactures a complete line of products specifically designed for machine application. Specially formulated plasters are designed to pump at low hose pressure with less water demand. These advantages assure steady, uniform flow from the nozzle without aggregate separation or plug ups and strong, rigid plastering with minimum waste. For scratch coat over metal lath, Bestwall Glass Fibered Plaster forms adequate keys with minimum blow through. To accommodate machine applied plasters, Bestwall also has developed special pinhole-perforated gypsum lath—Pinholath and T-C Lath (see Product Descriptions, p. 3). The primary value of pinholing, a Bestwall exclusive, is to permit greater water absorption in machine application resulting in greater densification.

ADVANTAGES

Speedy Application—Machine plastering speeds construction time and lowers production costs. It eliminates mixing set-up at intermediate floors and dependence upon general contractors for hoisting facilities.

Economy—Machine application, using gypsum lath and plasters developed for this purpose by Bestwall Gypsum Company, offers maximum coverage per man with minimum 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.

BESTWALL MACHINE APPLICATION PRODUCTS

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 TWIN PLASTER **(Available on West Coast only)**

A specially controlled process gives Twin Plaster easy workability for fast, uniform coverage. In machine application, it prevents clogging in the nozzle and plugging in the hose. It is used with equal facility for hand application. Made of highest purity gypsum, Twin Plaster is available glass fibered or unfibered to meet every job condition.

BESTWALL PINHOLATH

Bestwall Pinholath provides an excellent base for a variety of machine applied plasters on walls, combining coverage ease with one-hour fire rating. Pinholes, scientifically designed to precise depth, width and space permit the lath to uniformly absorb up to 12 times more water from the plaster mix than regular lath. The mix quickly achieves proper consistency for various finish treatments. Special papers have high tensile strength to prevent plaster cracking. (See Technical Data, p. 9).

BESTWALL T-C LATH

Designed specifically for thin coat plaster application, T C Lath is available Plain or Pinholed. Where the plaster is put on over ⅛" thick by machine, the pinholed product is required for high water suction so that the mix can be darbied and troweled. A 2-in. wide fiberglass mesh is used for joint strengthening between sheets and in vertical and ceiling corners. Thin coat plasters shall be applied in accordance with manufacturers' specifications.

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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† MIX (1 part of Gypsum Plaster (100 pounds) to cu. ft aggregate)	PLASTER† THICKNESS (Face of Lath to Face of Finished Surface)	FIRE RATING	WEIGHT LBS. PER SQ. FT.	NRC (AVERAGE) DECIBELS
PARTITIONS			**(2 Mixes—Scratch and Brown) (1 Mix—Scratch Double-Up)**				
Description	**Thickness**						
2" x 4" Wood Studs 16" on Center	5⅛"	⅜" Bestwall Pinholath	Gypsum Sand 1:2	½"	1 Hour	15	35 to 45
	5⅛"	⅜" Bestwall Plain Gypsum Lath	Gypsum Sand 1:2	½"	1 Hour	15	35 to 45
	5⅛"	⅜" Plain Gypsum Lath	Gypsum-Sand 1:2, 1:2	½"	45 Minutes	14.7	35 to 45
	5⅛"	½" Plain Gypsum Lath	Gypsum Wood Fiber	½"	1 Hour	—	—
	5⅛"	⅜" Perforated Gypsum	Gypsum-Sand 1:2, 1:2	½"	1 Hour	—	—
	5⅛"	½" Perforated Gypsum	Gypsum-Perlite 1:2½†	½"	1½ Hours	—	—
	5⅛"	Metal Lath	Gypsum-Sand 1:2, 1:3	¾"	1 Hour	18.1	39
	5⅛"	Metal Lath	Gypsum Wood Fiber	⅞"	2 Hours	—	—
	5⅛"	Metal Lath	Gypsum Perlite 1:2½†	½"	1 Hour	—	—
	5⅛"	Metal Lath	Gypsum-Vermiculite 1:2, 1:3†	¾"	1 Hour	—	—
Solid Partitions	2"	½" Long Length Gypsum Lath	Gypsum-Sand 1:1, 1:2	1½"	1 Hour	16.5	38
	2"	½" Long Length Gypsum Lath	Gypsum Perlite 1:2½†	1½"	1½ Hours	—	—
	2"	½" Long Length Gypsum Lath	Gypsum-Perlite 1:2, 1:3†	1½"	2 Hours	10.9	37
	2"	½" Long Length Gypsum Lath	Gypsum Vermiculite 1:2, 1:3†	1½"	2 Hours	—	—
	2"	Metal Lath	Gypsum-Sand 1:2, 1:2	2"	1 Hour	18.1	38
	1½"	Metal Lath	Gypsum-Perlite 1:2½†	1½"	1 Hour	7.4	33
	2½"	Metal Lath	Gypsum-Perlite 1:2, 1:3†	2½"	2 Hours	—	—
	2½"	Metal Lath	Gypsum-Vermiculite 1:2, 1:3†	2½"	2 Hours	—	—
Steel Frame	4¼" to 5⅛"	⅜" Plain Gypsum Lath	Gypsum-Perlite 1:2½†	½"	1 Hour	16	30
	4¼" to 5⅛"	⅜" Perforated Gypsum Lath	Gypsum-Sand 1:2, 1:2	½"	1 Hour	to	to
	5⅛"	Metal Lath	Gypsum-Sand 1:2, 1:3	¾"	1 Hour	21	41
	4"	½" Perforated Gypsum Lath	Gypsum-Perlite 1:2, 1:2	¾"	2 Hours	15	—
CEILINGS							
Wood Joists and Floor		⅜" Bestwall Plain Gypsum Lath plus 1" Hex Wire Mesh	Gypsum Sand 1:2	½"	1 Hour	—	—
		⅜" Perforated Gypsum Lath	Gypsum-Sand 1:2	½"	45 Minutes	12.5	40
		½" Perforated Gypsum Lath Plus Metal Lath Strip	Gypsum-Sand 1:2	½"	1 Hour	—	—
		⅜" Perforated Gypsum Lath	Gypsum-Perlite 1:2½†	½"	1 Hour	—	—
		Metal Lath	Gypsum Sand 1:2, 1:3	⅞"	1 Hour	17.5	32 to 34
		Metal Lath	Gypsum Perlite 1:2, 1:3†	½"	1½ Hours		
	Furring Channels 16" oc	⅜" Perforated Gypsum Lath (Clips)	Gypsum Perlite 1:2½†	⅝"	1 Hour	—	—
	16" oc	⅜" Perforated Gypsum Lath (Clips)	Gypsum Vermiculite 1:2½†	⅝"	1 Hour	—	—
	16" oc	½" Perforated Gypsum Lath (Clips)	Gypsum Perlite 1:2, 1:3†	1"	1½ Hours	—	—
Steel Joists (2" Floor Slab)	16" oc	½" Perforated Gypsum Lath (Clips)	Gypsum Perlite 1:2½†	½"	—	—	—
	12" oc	⅜" Perforated Gypsum Lath (Clips)	Gypsum Perlite 1:2, 1:3†	⅝"	3 Hours	—	—
	16" oc	⅜" Perforated Gypsum Lath Plus 1" Mesh	Gypsum-Perlite 1:2½†	½"	3 Hours	—	—
	12" oc	½" (Clips) Plus 1" Mesh	Gypsum-Perlite 1:2, 1:3†	1"	4 Hours	—	—
		Metal Lath	Gypsum-Sand 1:2, 1:3	¾"	2 Hours	—	—
		Metal Lath	Gypsum Perlite 1:2, 1:3†	¾"	3 Hours	—	—
		Metal Lath	Gypsum Vermiculite 1:2, 1:3†	⅞"	4 Hours	—	—
Steel Floors 2 to 2½ Concrete Floor with Suspended Ceilings	12" oc	½" Perforated Gypsum Lath Plus Clips and Wire Reinforcing	Gypsum-Perlite 1:2½†	½" on Ceilings (⅝" on Beam)	3 Hours	—	—
		Metal Lath	Gypsum Perlite 1:2, 1:3†	⅞"	4 Hours	—	—
		Metal Lath	Gypsum Wood Fiber	⅞"	4 Hours	—	—
COLUMNS							
Columns (Steel)		⅜" Perforated Gypsum Lath	Gypsum Sand 1:2½	½"	1 Hour	—	—
		⅝" Perforated Gypsum Lath	Gypsum Sand 1:2, 1:3	1⅛"	2 Hours	—	—
		½" Perforated Gypsum Lath	Gypsum-Perlite 1:2½†	1"	2 Hours	—	—
		⅝" Perforated Gypsum Lath	Gypsum Perlite 1:2, 1:3†	1⅛"	3 Hours	—	—
		2 Layers ½" Plain Gypsum Lath	Gypsum Perlite 1:2, 1:3†	1½"	4 Hours	—	—
		Metal Lath	Gypsum Sand 1:2, 1:3	⅝"	1 Hour	—	—
		Metal Lath	Gypsum Perlite 1:2, 1:3†	1¼"	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 composite of the 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 in these cases.

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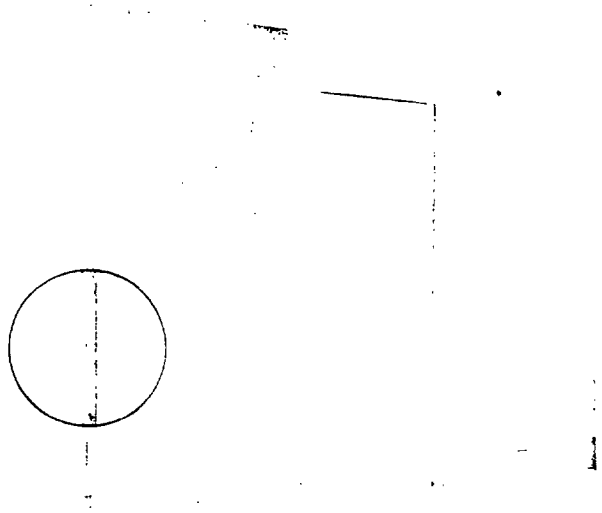
GYPSUM LATH AND PLASTER FIREPROOFING

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.

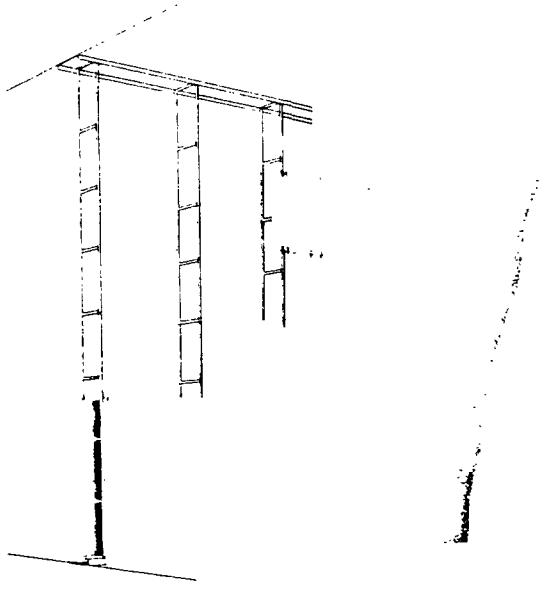
Bestwall Olsen Gypsum Lath Clips provide easier, faster erection and eliminate wire-tying. Tested under A.S.T.M. Standards, 2" Solid Partitions of lath and sanded plaster qualify for 1-hour fire rating. For higher fire ratings, consult Technical Data—Lath and Plaster Construction on the previous page.



HOLLOW STEEL STUD PARTITIONS

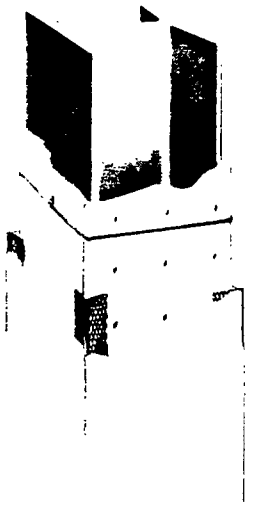
Hollow Steel Stud Partitions consist of gypsum lath and plaster over steel studding. These partitions may be load bearing or non-load bearing depending upon studding used. Studs are available in widths from 2½" to 6". Bestwall Gypsum Lath is secured to the studs by use of transverse clips or other special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

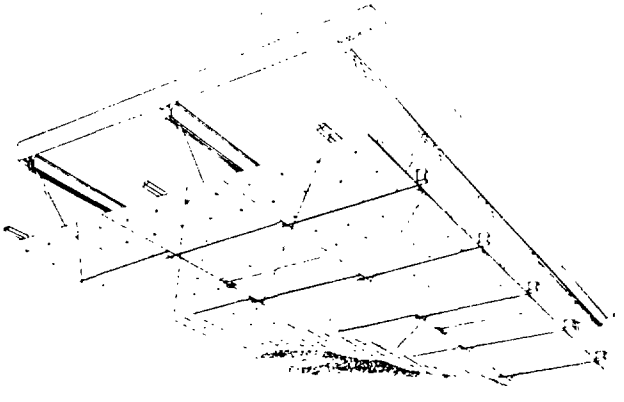
BEAM AND COLUMN FIREPROOFING



Fireproofing of the beams and columns is accomplished by abutting ⅜" 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 ½" 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 encasment 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.

¾" furring channels are directly attached to the bottom of the structural members or tied to main runners in suspended systems. Bestwall ⅜" 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.

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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
3/8" or 1/2"	16" (a) or 24"	48" (b)

(a) 16⅓" wide lath is available in Pacific Coast Markets.

(b) Long-length lath ½" 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 ½" lath) with 13 gage, 1⅛" long (1¼" long for ½" 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 ⅜" 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 ⅜" gypsum lath is used for certain fire-resistive rated construction, five 13 gage, 1⅛" long, ⅜" flat-head, blued nails per lath per support for 16" wide lath may be required.

C. ⅜" 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, 7/16" flat crown, divergent point, not less than ⅞" 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 ⅜" 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 cementious 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

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RECOMMENDED AGGREGATE PROPORTIONS WITH BESTWALL BASE COAT PLASTER
Note: Six = 2 shovels of loose damp sand are equivalent to 1 cu. ft. of sand

Plaster Base	Number of Coats	Max. cu. ft. of aggregate to be mixed with 100 lbs. of neat gypsum plaster	
		UNDER SMOOTH TROWEL FINISHES	
		Sand [1]	Perlite or Vermiculite
Gypsum Lath	Two coat work: Base Coat	2½	2 [2]
	Three coat work: Scratch Coat	2	2
	Brown Coat	3	2 [3]
Metal Lath	Three coat work: Scratch Coat	2	2 [4]
	Brown Coat	3	2 [5]
Over Masonry except monolithic concrete [6]	Two coat work: Base Coat	3 [7]	3
	Three coat work: Scratch Coat	3 [7]	3
	Brown Coat	3	3

[1] Under sand float or acoustical plasters (other finishes than smooth trowel) 2½ cu. ft. of perlite or vermiculite may be used.
[2] Under sand float or acoustical plasters, other finishes than smooth trowel) perlite or vermiculite up to 3 cu. ft. may be used.
Vermiculite aggregate shall not be used over metal lath where smooth trowel finish is used.
[3] Over high suction base, sand may be 4 cu. ft.
Bonding agents for application to monolithic concrete as a base for reception of plaster may be used at the discretion of the specifier. Such bonding agents shall be applied in accordance with the specifications of the manufacturer. A certificate of satisfactory job performance may be requested from the bonding agent manufacturer.

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 (unfibered) 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 ¾ 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, INCH
Lath: Gypsum	½ min.
Lath: Metal Lath, Wire Lath and Wire Fabric	⅝ min.
Masonry and Concrete Walls	⅝ min.
Monolithic Concrete Ceilings	⅛ min. ⅜ 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 ⅜" 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 (muriatic acid) and water and then with clean water to remove all traces of acid. Grease and oil shall be completely removed (Note 9b).

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Concrete surfaces shall have sufficient roughness to provide proper bond. If necessary, the surface shall be evenly wetted, 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 wtih 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 scratch coat prior to application of 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 ⅜"), to receive the finish coat

D. 2" Solid Gypsum Lath and Plaster Partitions shall be scratched in on both sides with ⅛" 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 1/16" 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 basecoat 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 1/16" 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 ⅜" 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 ⅜" thick. Allow to dry, then apply finish coat 1/8" 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

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BESTWALL • PRODUCT DATA • SECTION 6

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	½" ⅝" ½" ⅝"
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	½" ⅝" ½" ⅝"
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	½" ⅝" ½" ⅝"
Concrete Bond	**BESTWALL**	Double back coat on monolithic concrete, or as scratch coat only	Monolithic Concrete: 90-120	⅛"-⅜"
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	⅛" Maximum
PREPARED SAND FLOAT FINISH	**BESTWALL**	Same as prepared trowel finish except surface will be textured. White or gray color.	250-275	⅛" 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	⅛" 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	⅛" 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	⅛" 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	½"
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	⅛" 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	[illegible]	16"	48"	1500	16" o.c.	6.8	13 gauge	5" o.c.	6"
		[illegible]			2000	24" o.c.	5.2			4
BESTWALL Long-length Lath	Round or tongue and groove V-edged	½"	24"	up to 12"	2000	Not Applicable				Chipped dose
BESTWALL T-C Lath	Tapered	½"	48"	8 10 2	2000	16" o.c. 24" o.c.	7 approx. 5 approx.	1¼" ring hank nail JWB 54	7" o.c.	Twin Mounted

[illegible] only 16 1/5" width on Pacific coast, packed 5 panels per bundle

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COMPANY DATA

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.

DISTRICT OFFICES

ATLANTA
134 Peachtree Street
Atlanta 3, Georgia

BRUNSWICK
P.O. Box #1397
Foot of Union Street
Brunswick, Georgia

BUFFALO
4548 Main Street
Buffalo 26, New York

CHICAGO
604 Davis Street, Suite 203
Evanston, Illinois

CINCINNATI
6901 Wooster Pike
Cincinnati 27, Ohio

CLEVELAND
815 Superior Avenue, N.E.
Cleveland 14, Ohio

DALLAS
P.O. Box 6030
Dallas 22, Texas

DETROIT
15800 W. McNichols Road
Suite 112, Officenter Building
Detroit 35, Michigan

HOUSTON
1118 Buffalo Drive
Houston 19, Texas

INDIANAPOLIS
1812 N. Meridian Street
Indianapolis 2, Indiana

KANSAS CITY
4233 Blue Ridge Boulevard
Kansas City 33, Missouri

LOS ANGELES
2670 Leonis Boulevard
Vernon, California

NEW ORLEANS
P.O. Box 26278
Chef Menteur Station
7800 Alamonaster Drive
New Orleans 26, Louisiana

NEW YORK
P.O. Box 161
119 Summit Avenue
Summit, New Jersey

OMAHA
531 Center Building
42nd & Center Streets
Omaha 5, Nebraska

PHILADELPHIA
2011 Concord Pike
Wilmington 3, Delaware

ST. LOUIS
17th Street & Broadway
East St. Louis, Illinois

SALT LAKE CITY
119 West Second So
Salt Lake City 1, Uta

SAN FRANCISCO
301 El Cerrito Plaza
El Cerrito, California

SEATTLE
1005 Tower Building
7th Avenue at Olive Way
Seattle 1, Washington

TWIN CITIES
1515 West Lake Stree
Minneapolis 8, Minn

WASHINGTON
P.O. Box 7025
Suite 202, Broyhill Bldg.
4620 Lee Highway
Arlington 7, Virginia

FIREPROOF GYPSUM
BESTWALL
BUILDING PRODUCTS

BESTWALL GYPSUM COMPANY
ARDMORE, PENNSYLVANIA

A.I.A. FILE No. 21.B2

Bes



BESTWALL®

GYPSUM LATH & PLASTER

SGP 0003972

BESTWALL FIREPROOF GYPSUM PLASTER

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

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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:

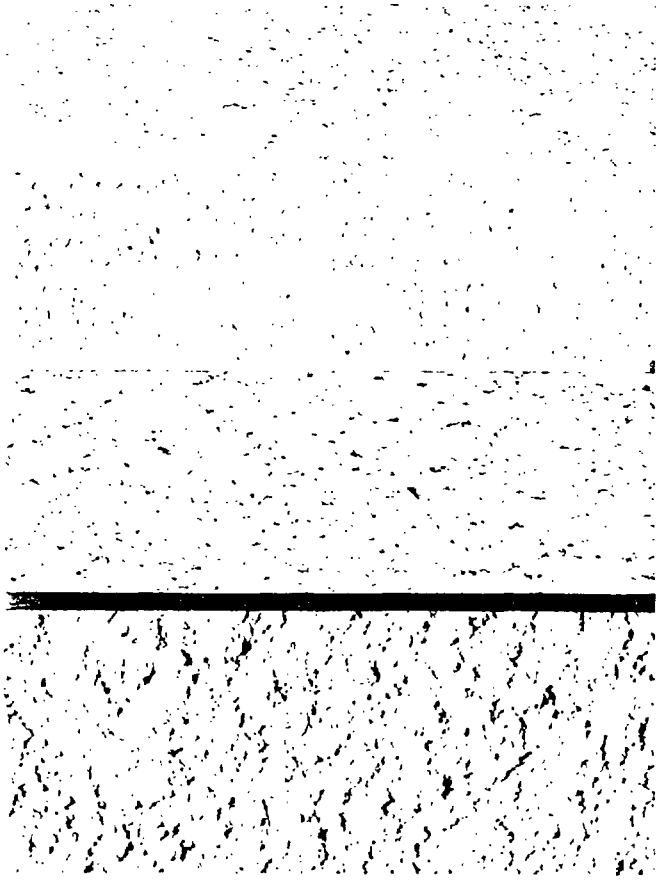
1. where surface is too dense for ordinary plaster to form a mechanical key, and

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.

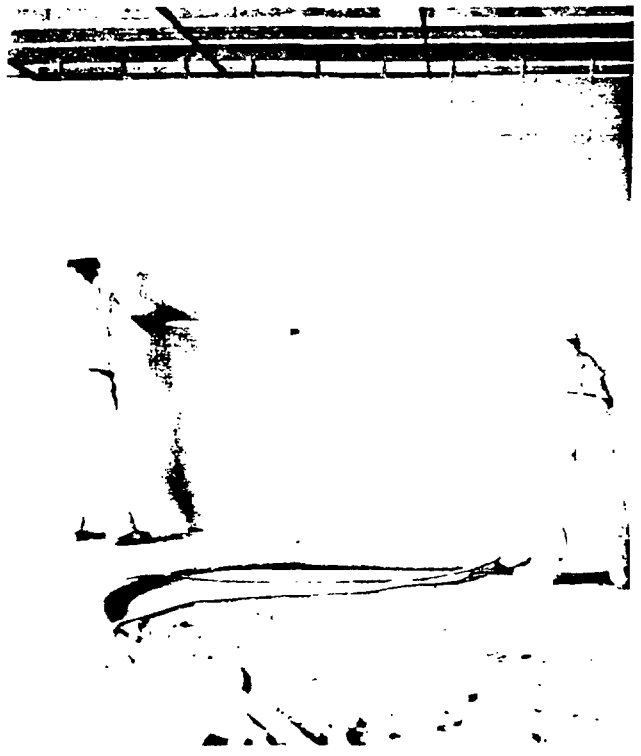
Versatility—Applied over standard gypsum basecoat plaster, wall or monolothic concrete, Lite Acoustic Ultra-White can be gun applied to provide coarse, medium coarse or fine textured finishes by adjustment of machine nozzle to meet various decorative requirements.

Sound Absorption Coefficients

Texture Finish	Thickness	FREQUENCIES 125	250	500	1000	2000	4000	Noise Reduction Coefficient	Authority
	½"	.25	.27	.52	.69	.78	.88	55	Riverbank

Light Reflection Coefficients

	Spray	Trowel
White	66%	69%
Ultra-White	70%	74%



MACHINE APPLICATION

Bestwall manufactures a complete line of products specifically designed for machine application. Specially formulated plasters are designed to pump at low hose pressure with less water demand. These advantages assure steady, uniform flow from the nozzle without aggregate separation or plug ups and strong, rigid plastering with minimum waste. For scratch coat over metal lath, Bestwall Glass Fibered Plaster forms adequate keys with minimum blow through. To accommodate machine applied plasters, Bestwall also has developed special pinhole-perforated gypsum lath—Pinholath and T-C Lath (see Product Descriptions, p. 3). The primary value of pinholing, a Bestwall exclusive, is to permit greater water absorption in machine application resulting in greater densification.

ADVANTAGES

Speedy Application—Machine plastering speeds construction time and lowers production costs. It eliminates mixing set-up at intermediate floors and dependence upon general contractors for hoisting facilities.

Economy—Machine application, using gypsum lath and plasters developed for this purpose by Bestwall Gypsum Company, offers maximum coverage per man with minimum 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.

BESTWALL MACHINE APPLICATION PRODUCTS

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 TWIN PLASTER (Available on West Coast only)

A specially controlled process gives Twin Plaster easy workability for fast, uniform coverage. In machine application, it prevents clogging in the nozzle and plugging in the hose. It is used with equal facility for hand application. Made of highest purity gypsum, Twin Plaster is available glass fibered or unfibered to meet every job condition.

BESTWALL PINHOLATH

Bestwall Pinholath provides an excellent base for a variety of machine applied plasters on walls, combining coverage ease with one-hour fire rating. Pinholes, scientifically designed to precise depth, width and space permit the lath to uniformly absorb up to 12 times more water from the plaster mix than regular lath. The mix quickly achieves proper consistency for various finish treatments. Special papers have high tensile strength to prevent plaster cracking. (See Technical Data, p. 9).

BESTWALL T-C LATH

Designed specifically for thin coat plaster application, T-C Lath is available Plain or Pinholed. Where the plaster is put on over 1/16" thick by machine, the pinholed product is required for high water suction so that the mix can be darbied and troweled. A 2-in. wide fiberglass mesh is used for joint strengthening between sheets and in vertical and ceiling corners. Thin coat plasters shall be applied in accordance with manufacturers' specifications.

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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
3/8" or 1/2"	16" (a) or 24"	48" (b)

(a) 16⅓" wide lath is available in Pacific Coast Markets.

(b) Long-length lath ½" 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 ½" lath) with 13 gage, 1⅛" long (1¼" long for ½" 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 ⅜" 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 ⅜" gypsum lath is used for certain fire-resistive rated construction, five 13 gage, 1⅛" long, ⅜" flat-head, blued nails per lath per support for 16" wide lath may be required.

C. ⅜" 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, 7/16" flat crown, divergent point, not less than ⅞" 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 ⅜" 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 cementious 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 wtih sand, perlite or vermiculite in the proportion of 100 lbs. of plaster to not more than:

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RECOMMENDED AGGREGATE PROPORTIONS WITH BESTWALL BASE COAT PLASTER
Note: Six ±2 shovels of loose damp sand are equivalent to 1 cu ft of sand

Plaster Base	Number of Coats	Max. cu. ft. of aggregate to be mixed with 100 lbs of neat gypsum plaster	
		UNDER SMOOTH TROWEL FINISHES	
		Sand (1)	Perlite or Vermiculite
Gypsum Lath	Two coat work: Base Coat	2½	2 (3)
	Three coat work: Scratch Coat	2	2
	Brown Coat	3	2 (3)
Metal Lath	Three coat work: Scratch Coat	2	2 (2)
	Brown Coat	3	2 (3)
Over Masonry (except monolithic concrete) (4)	Two coat work: Base Coat	3 (5)	3
	Three coat work: Scratch Coat	3 (5)	3
	Brown Coat	3	3

(1) Under sand float or acoustical plasters (other finishes than smooth trowel) 2½ cu ft of perlite or vermiculite may be used.
(2) Under sand float or acoustical plasters (other finishes than smooth trowel) perlite or vermiculite up to 3 cu ft may be used.
(3) Vermiculite aggregate shall not be used over metal lath where smooth trowel finish is used.
(4) Over high suction base, sand may be 4 cu ft.
(5) Bonding agents for application to monolithic concrete as a base for reception of plaster may be used at the discretion of the specifier. Such bonding agents shall be applied in accordance with the specifications of the manufacturer. A certificate of satisfactory job performance may be requested from the bonding agent manufacturer.

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 (unfibered) 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 ¾ 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, INCH
Lath { Gypsum	½ min.
Lath { Metal Lath, Wire Lath and Wire Fabric	⅝ min.
Masonry and Concrete Walls	⅝ min.
Monolithic Concrete Ceilings	⅛ min. ⅜ 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 ⅜" 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).

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Concrete surfaces shall have sufficient roughness to provide proper bond. If necessary, the surface shall be evenly wetted, 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 wtih 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 scratch coat prior to application of 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 ⅜"), to receive the finish coat.

D. 2" Solid Gypsum Lath and Plaster Partitions shall be scratched in on both sides with ⅜" 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 basecoat 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-troweled 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 ⅜" 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 ⅜" 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.

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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	½" ⅝" ½" ⅝"
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	½" ⅝" ½" ⅝"
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	½" ⅝" ½" ⅝"
Concrete Bond	**BESTWALL**	Double back coat on monolithic concrete, or as scratch coat only.	Monolithic Concrete: 90-120	⅛"-⅜"
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	⅛" Maximum
PREPARED SAND FLOAT FINISH	**BESTWALL**	Same as prepared trowel finish except surface will be textured. White or gray color.	250-275	⅛" 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	⅛" 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	⅛" 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	⅛" 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	½"
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	⅛" 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	⅜"	16"	48"	1500	16" o.c.	6.8	13 gauge	5" o.c.	6
		½"			2000	24" o.c.	5.2			4
BESTWALL Long length Lath	Round or tongue and groove V edged	½"	24"	up to 12'	2000	Not Applicable				Shipped loose
BESTWALL T C Lath	Tapered	½"	48"	8' 10' 12'	2000	16" o.c. 24" o.c.	7 (approx.) 6 (approx.)	1¼" ring shank nail GWB 54	7" o.c.	Twin Mounted

⅜" only 16-1/5" width on Pacific coast, packed 5 panels per bundle

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