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PLAINTIFF'S EXHIBIT

GP-1959

Fireproof Gypsum BESTWALL Building Products

1958

Products of Bestwall Gypsum Company

FIRESTOP BESTWALL®

For fire-rated gypsum wallboard construction in single layer application over combustible and incombustible framing. 2

BESTWALL HUMMER SYSTEMS

Laminated Bestwall® gypsum wallboard constructions for thin, non-bearing partitions and quality work. 4

BESTWALL 2" SOLID PARTITIONS

Non-bearing partition of Bestwall® gypsum lath and plaster to save space and costs in new construction and remodeling. 6

BESTWALL OLSEN GYPSUM LATH CLIPS

For fast, efficient attachment of gypsum lath. 7

BESTWALL JOINT SYSTEM 8

For smoother, better drywall construction.

BESTWALL FIREPROOF GYPSUM SHEATHING 8

Fireproof · Wind Resistant · Water Repellent · Glass Fibered.

FIREPROOF GYPSUM BESTWALL BUILDING PRODUCTS

SGP 0026253

FIRESTOP BESTWALL

OW REINFORCED WITH OWENS-CORNING FIBERGLAS

For Fire Rated Drywall Construction Over Wood or Steel Framing To Meet Many Code Requirements For Fire Resistance

Firestop Bestwall Gypsum Wallboard was the first drywall material to provide:

Up to one hour fire resistant, load-bearing walls and ceilings with one layer application on both combustible and incombustible framing.
Two-hour fire resistant, load-bearing walls with two layer application.

This outstanding performance results from Bestwall's development of a gypsum board core with greatly improved fire resistive characteristics.

Fire Ratings Proved
(See Table Opposite Page)

Constructions surfaced with Firestop Bestwall have been officially tested by two nationally-known laboratories under ASTM Std. E-119, following the standard time-temperature curve.

Fire resistance ratings based on these tests are shown in the table on opposite page.

Fire Hazard Classification proven by test.

Easily Identified

Firestop Bestwall is made under Underwriters' Label Service. Underwriters' representatives conduct frequent inspection of Firestop Bestwall at each Bestwall plant where it is manufactured, as a check on Bestwall's manufacturing, inspection and quality-control operations.

It is easy to identify Firestop Bestwall for each and every panel is branded on both front and back with the thickness of the board and the words "Firestop Bestwall."

The Underwriters' manifest shown below appears on the twin mounting tape which binds the two cut ends in a bundle of two pieces (normal shipping package). This is for 5/8" Firestop.

Meets Building Code Requirements

Firestop Bestwall may be used to meet building code requirements for fire-resistant interior wall and ceiling construction in buildings of all types from highly incombustible to wood frame, and various occupancies as dwellings, single and multiple, institutional and commercial. Firestop may also be used as the interior finish of exterior load bearing walls to provide one-hour fire resistance. Firestop Bestwall meets F.H.A. and V.A. requirements and has been accepted under most municipal, state and county codes and the national model codes.

Improved Gypsum Core Aids Fire Resistance

Firestop Bestwall's extra fire protection lies in its core. An exclusive Bestwall process minimizes shrinking and cracking of the gypsum core thus delaying the breaking up of the board when it is exposed to intense heat.

Small amounts of glass fibers and unexpanded vermiculite are added to the gypsum core of Firestop Bestwall. The incombustible glass fibers retain their strength under extreme heat, and so help hold the gypsum core together even after all the chemically-combined water has been released. The unexpanded vermiculite — added in an exact amount and well dispersed in the core — expands under heat, just balancing the shrinkage of the gypsum core as it loses its chemically-combined water. Thus a solid face of calcinated gypsum stays in place.

This thermo-stabilized gypsum core increases Firestop Bestwall's insulation value at high temperatures and provides up to three times greater fire resistance than conventional gypsum wallboard.

Sound Transmission Rating

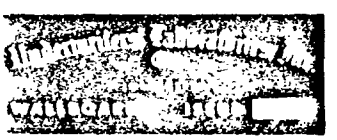
Results of sound transmission tests by Riverbank Laboratories on a standard wood stud partition faced each side with a single layer of 5/8" Firestop Bestwall Gypsum Wallboard, are shown in the table below.

This Firestop Bestwall construction compares favorably with similar constructions as reported in National Bureau of Standards Report BMS 17.

2" x 4" Wood Stud Partition 16" o.c. Surfaced on Both Sides with . . .	Ave. Noise Reduction Value	Density Per Sq. Ft.
Single lay of 5/8" Firestop Bestwall	39.0	7.2 lbs.
3/8" gypsum lath with 1/2" sanded plaster	34.9	15.0 lbs.
3/8" gypsum lath with 1/2" gypsum vermiculite plaster	32.6	9.6 lbs.
Metal lath with 3/4" sanded plaster	39.2	20.0 lbs.
1/2" Fiberboard (no plaster)	32.2	3.8 lbs.

FIRE HAZARD CLASSIFICATION

Flame Spread	10-15
Fuel Contributed	5-15
Smoke Developed	0-45



FIRE RETARDANT CLASSIFICATION

Floor and Ceiling — Design No.
Design No.
Walls and Partitions — Design No.
Design No.
Design No. [illegible] Design No.

SGP 0026254

Fire Resistance Ratings

RATINGS	PARTITIONS—Load Bearing or Non-Load Bearing	FLOOR AND CEILING CONSTRUCTION
	WOOD FRAME 2" x 4" Wood Studs, 16" on centers. Both Sides of Partition Covered with	WOOD FRAME 2" x 10" Wood Joist Covered with Wood Sub-Flooring, Building Paper, and Wood-Finish Flooring, Ceiling Surfaced with
30 Minutes	1 layer ⅜" thick	1 layer ⅜" thick
45 Minutes	1 layer ½" thick	1 layer ½" thick
60 Minutes (1 Hour)	1 layer ⅝" thick or 2 layers ⅜" thick	1 layer ⅝" thick
120 Minutes (2 Hours)	2 layers ⅝" thick*	
	STEEL FRAME Steel Studs—24" (Max.) on centers. Both Sides of Partition Covered with	STEEL FRAME 12" Steel Bar Joists 24" on Centers. Covered with 2" Concrete Floor Slab. Ceiling Surfaced, through Metal Furring with
60 Minutes (1 Hour)	1 layer ⅝" thick*	1 layer ⅝" thick
	Non-Load Bearing	*Independent Laboratory Tests (Name on Request)
	Gypsum Strips for Studs Both Sides of Partition Covered with	
60 Minutes (1 Hour)	1 layer ⅝" thick	
180 Minutes (3 Hours)	2 layers ⅝" thick	

*Load Bearing Test by Independent Laboratory (Name on Request). **Stran-Steel Studs used in test.

Note: One layer of ½" thick regular gypsum wallboard on ceiling only gives 25 minutes resistance.

Nails for ½" thick boards — 5d c.c. 13½ ga. flat head 1⅝" long, 6" on centers in ceiling, 7" on center in walls.

Nails for ⅝" thick boards — 6d c.c. 13 ga. flat head 1⅞" long, 6" on centers in ceiling, 7" on center in walls.

Nails for second layer in two layer applications of ⅜" thick board — 8d c.c. 11½ ga. flat head 2⅜" long, 7" on centers in walls.

These nailing specifications apply also to nailable steel framing with a nailing line or groove.

†Non Load Bearing Steel Framing — 1 layer ⅝" Firestop Bestwall, Underwriters' Tests July 1955 — UL Design No. 8 — 1 hr.

Six Other Advantages

In addition to its great fire resistance, Firestop Bestwall is:

1. STRONG — It readily resists crosswise stresses. ⅜" Firestop Bestwall has a flexural strength of 225 to 275 lbs. as compared to Federal Specifications minimum requirement of 105 lbs. for ½" regular gypsum wallboard.
2. LONG LASTING — Firestop Bestwall resists cracks due to framing movements, vibration and settling. It's unaffected by extremes in temperature and relative humidity.
3. VERSATILE — It is adaptable to any plan. Can be arched or curved.
4. EASILY DECORATED — Properly primed and sealed, Firestop Bestwall will take any type of decoration — enamel, oil paint, resin emulsion paint, water paint, wallpaper, etc.
5. QUICKLY APPLIED — Large, easy to handle panels cover up to 48 square feet of wall surface.
6. ECONOMICAL — Firestop Bestwall goes up fast, cuts by scoring and snapping, is easily nailed.

SIZES, THICKNESSES, WEIGHTS

Thickness	Width	Length	Edge	Wt sq. ft.
⅜"	48"	6' to 12'	Tapered	2.6 lbs.
½"	48"	6' to 12'	Tapered	2.1 lbs.

BESTWALL® Hummer SYSTEMS



LAMINATED GYPSUM WALLBOARD CONSTRUCTIONS

Patented and Patents Pending

Available Through Licensed Applicators

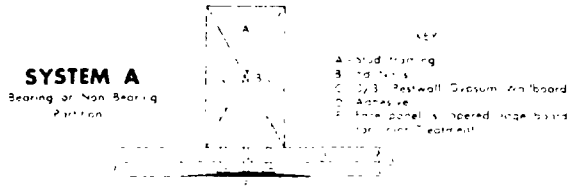
Space-Saving Non-Bearing Partitions to Reduce Building Time and Costs

Bestwall Hummer Systems are especially designed methods for erecting Bestwall Gypsum Wallboard in multiple layer applications. They may be used with conventional framing or without framing in nonload bearing partitions to provide low-cost, high-quality wall and ceiling surfaces.

Laminated gypsum wallboard constructions provide sturdier, stronger walls and consequently less maintenance cost, greater resistance to sound and heat transmission, and better fire protection. Most interior framing can be eliminated when laminated gypsum board constructions are combined with trussed roof construction in residential work, and with flat slab or beam and girder construction in commercial and industrial buildings.

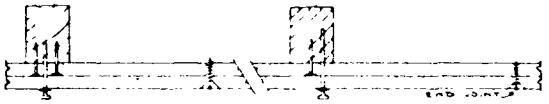
Thin wall sections — in the range of from 2" to 2½" thick — make it possible to use many standard thin wall-opening details. Modern, thin, narrow, plain trim fits in with these thin laminated gypsum wallboard partitions.

Bestwall Hummer System A



This is the oldest and simplest laminated wallboard construction. Application is over conventional framed walls and ceilings. The first layer is nailed (spot nailed only) and the second layer is applied with adhesive and nailed. (Illustrated above.)

Bestwall Hummer System A Modified



SYSTEM A MODIFIED

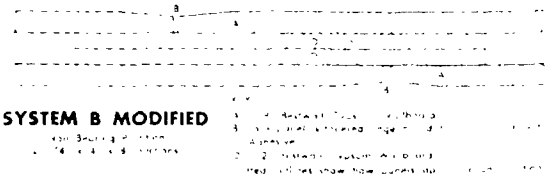
System A Modified is an improved method of applying gypsum wallboard to frame constructions in two layers. It is a sure way of putting up gypsum wallboard to minimize nail poping and joint beading and provides a perfect installation. Bestwall Hummer System A Modified assures you of top quality laminated gypsum wallboard construction.

Bestwall Hummer System B Modified

System B Modified was developed to provide walls without frame or support of any material other than gypsum wallboard. Sheets of 4' wide Bestwall Gypsum Wallboard are laminated, narrow strips being used between outer layers to reduce bulk, weight, cost, and to provide space for wiring, and to reduce sound transmission.

The improved construction combines one sheet of ⅝" Bestwall Gypsum Wallboard laminated on each side of three strips of two thicknesses of ½" board which serve much as gypsum studs. This panel has proved excellent for interior nonload bearing partitions.

The two-layer laminated application of System A is the accepted way to finish framed ceilings and framed exterior walls. In buildings with solid masonry walls, a refinement of the non-load bearing partition (System B Modified) makes a simple, self-furring, free-standing wall surfacing. Essentially this variation in construction detail omits the full sheet on one side of the panel.



SYSTEM B MODIFIED

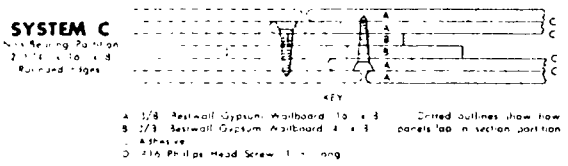
Bestwall's ⅝" Firestop Bestwall consistently shows a flexural strength in the direction parallel to the folded paper edges of the board of 250 lbs. (plus) against a Federal Specification (SS-W-51a) requirement of 105 lbs. for ½" regular gypsum wallboard.

Systems A and B Modified Require Joint Treatment

Systems A and B Modified are designed to have the joints treated with a paper tape and cement and to present a clean, unbroken surface.

This factory-fabricated narrow panel of several layers of gypsum board is ideal for walls where joints are left unfinished and for movable wall construction. Special lapped edges give a good-looking paneled effect.

The panel can be used in homes, apartments, offices and factories. It can be erected in the morning, trimmed and painted in the afternoon since there are no nails in the surface and no joints to be treated.



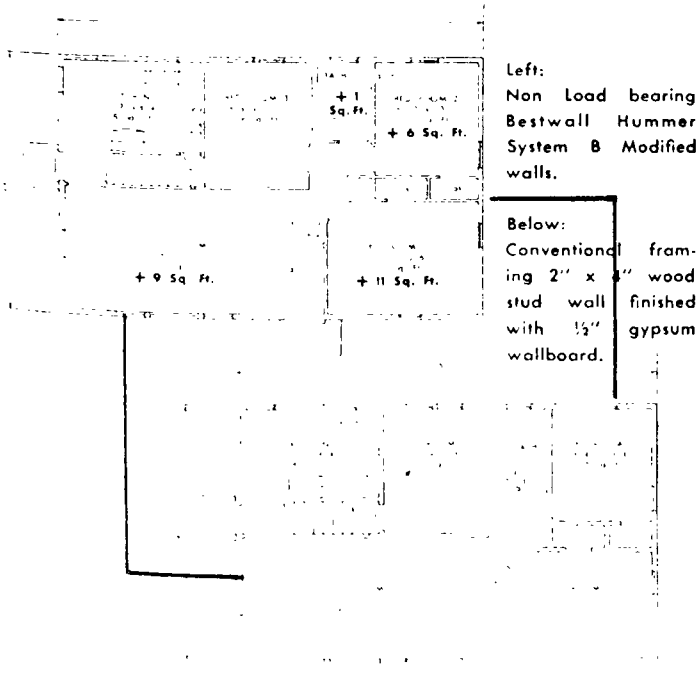
System C is recommended where omission of joint treatment is desired. Basic units are fabricated at Bestwall's gypsum plants, which results in a minimum amount of labor in the field.

The factory-made panels are 8' long and are made of two full sheets of $^3/_8$" Bestwall Gypsum Wallboard and two strips. The edges are so arranged as to effect a tongue and groove product. The face paper is that of regular gypsum wallboard and may be readily decorated. Two combinations are available.

In one, the full sheets are 16" wide and the edges are rounded.

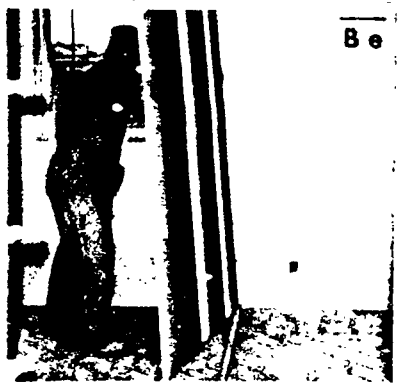
The second panel is made with sheets 24" wide and the edges are beveled.

The second panel being a little wider is a little less expensive to erect. However, with the exposed joints 2' on centers, the paneled effect will be different in appearance. Although both panels can be handled easily, the 16" wide unit is the lighter.



Left: Non Load bearing Bestwall Hummer System B Modified walls.

Below: Conventional framing 2" x 4" wood stud wall finished with ½" gypsum wallboard.



Bestwall Hummer System B Modified panel is set against floor and ceiling runners.



Workman sets pre-hung door and frame with trim (on one side) in Bestwall Hummer System C partition.

Neither panel is recommended for use if the joints are to be treated. In addition to the extra cost of finishing the greater number of joints, the finished wall will not be as true as can be accomplished with 4' wide sheets.

System C can be erected very rapidly with a minimum amount of field work. Besides saving the cost of the joint treatment this system uses blind nail and screw attachment to make possible one coat paint decorations with good results.

The panel is designed for use in a movable partition but will be equally satisfactory in a permanent partition. Thus, it finds its place in remodeling work as well as new construction.

The panels of System C can also be used to erect a less than ceiling high partition for fast, low-cost dividing walls in large office or loft buildings.

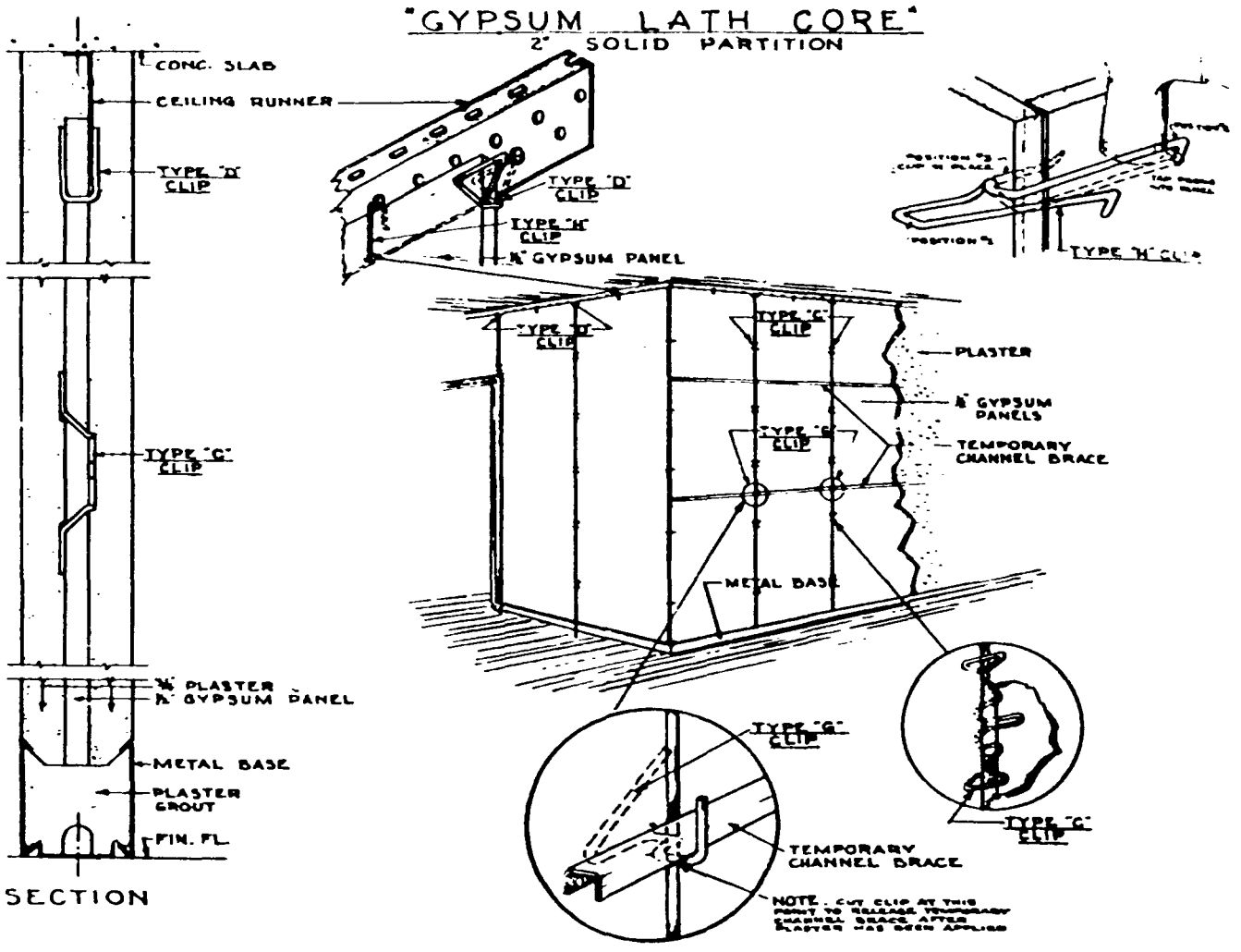
Bestwall Hummer System B Modified and C Ideal for Homes Built with Trussed Roof Construction

Bestwall Hummer System B Modified provides an ideal nonload bearing gypsum wallboard partition in the popular trussed roof construction — used to help reduce house costs in one story and so-called story-and-a-half houses. Illustrations (left) show typical small home with roof framed in conventional manner with center load bearing partition carrying the ceiling joists, and with walls finished with $^1/_2$" gypsum board. The same home is shown in which trussed roof design is used and interior partitions are the thin gypsum wallboard construction of Bestwall Hummer System B Modified. Notice possible space savings. There are corresponding cost savings.

SGP 0026257

BESTWALL® 2" Solid Partition Gypsum Lath and Plaster

For Lightweight, Fire-Resistant, Non-Bearing Walls in New Construction or Remodeling



Bestwall 2" Solid Plaster Partition of incombustible Bestwall Gypsum Lath and Bestwall Gypsum Plaster provides quick, inexpensive non-load-bearing walls in either new construction or remodeling. It reduces labor costs because of the speed with which it can be erected. Lath goes fast, especially with Bestwall Olsen Gypsum Clips for attaching lath panels to each other, to ceiling, runners and to horizontal and vertical bracing.

ADVANTAGES

1 Hour Fire Rating	Tested under A.S.T.M. standards.
Economical	Eliminates studs and double lath. Clips speed work. Save time, labor and materials.
Light Weight	2" solid plaster partition weighs from 14 to 19 lbs. per sq. ft. 4" plastered tile partition weighs from 26 to 30 lbs. per sq. ft.
Solid	No hollow space for vermin, rodents, dirt.
Durable	Solid wall is sturdy, rigid, permanent.

SGP 0026258

BESTWALL®

Olsen Gypsum Lath Clips

ECONOMICAL

Save time and labor. Therefore, job costs are lower.

EFFICIENT

Lath is permanently and securely attached to any type of framing.

FAST

Less nailing, no wire-tying, and easy attachment enable the lath to be erected faster.

VERSATILE

Loth is easily clipped to bar joists, I-Beams, wood studs and joists, steel studs, steel channels, and Z-Bars. Single clips perform many functions.

DURABLE

Clips are made of 12 gauge electro-galvanized wire (or heavier).

REDUCES CRACKING

Resilient clips reduce cracks caused by movement of framing.

CONTROL SOUND

Improve resistance to sound transmission by resilient attachment of lath to studs. No solid attachment to transmit sound through the wall.

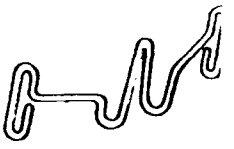
Holds gypsum lath panels at right angles to each other; i.e., at wall corners and at ceiling perimeter. Type B-1 for ⅜" lath; B-2 for ½" lath.



TYPE

TYPE C RESILIENT AND CONNECTOR CLIP

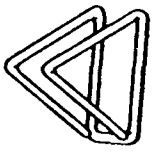
For attaching gypsum lath panels to wood studs and joists, various steel studs, bar joists, and Junior I-Beams. Also used as a bridge clip to connect lath panels in many applications. In National Bureau of Standards test with the Type C Clip attaching gypsum lath to wood studs, a plastered partition had a Sound Transmission Loss of 44.5 decibels average from 128 to 4096 cycles per second.



TYPE

TYPE D TURN CLIP

Secures long-length gypsum lath to the ceiling runner of solid plastered partitions. Other uses: attaching gypsum lath to steel studs, channels or Z-Bars of hollow wall partitions or furred walls. Simplifies the insertion of the last lath panel of a partition or ceiling since the clip can be turned on an adjoining panel, to avoid interference, and then be turned back to engage the last panel being installed. It eliminates blind tying. Can also be used as a bridge clip to connect lath panels.



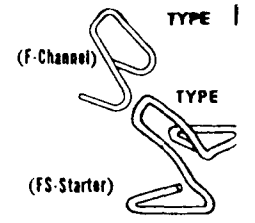
TYPE

TYPE FS STARTER CLIP

is used to attach the first lath panel at the ceiling edge.

TYPE F CHANNEL CLIP

To attach gypsum lath panels to ¾" furring channels or pencil-rod type bar joists for application of plaster or acoustical tile. Eliminates cross furring with ¾", channels when used with this type of joists. Type F-1 is for ⅜" lath; F-2 for ½" lath.



TYPE

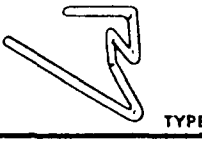
(F-Channel)

TYPE

(FS-Starter)

TYPE G FURRING CLIP

Used to support ¾" furring channels as a temporary horizontal bracing of gypsum lath for solid plastered partitions. Also to secure long-length gypsum lath to horizontal furring channels of furred walls. It eliminates blind tying.



TYPE

TYPE H CORNER AND CEILING RUNNER CLIP

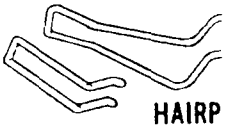
Used to secure long-length gypsum lath to each other at corners in plastered studless partitions. Also to attach the mid-point of long-length lath to ceiling runners, when prong-type runners are not used.



TYPE

HAIRPIN TYPE CHANNEL CLIP

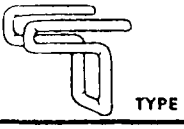
Used in suspended ceiling construction to suspend furring channels from 1½" cold rolled carrying channels. One clip suspends ¾" hot rolled furring channels; the other suspends ¾" cold rolled channels.



HAIRP

TYPE I-B I-BEAM CLIPS

Used in suspended ceiling construction to connect ¾" or 1" furring channels to I-Beam. The clips are made of 6 gauge wire for plastered ceilings and 8 gauge for acoustical ceilings.



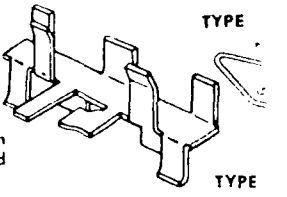
TYPE

TYPE JX

Used to attach ⅜" gypsum lath to light gauge metal studs.

TYPE J STEEL STUD AND FURRING CHANNEL CLIP

For attaching ⅜" gypsum lath to all of the following: ¾", 1" 1½" hot or cold rolled furring channels, and metal studs with a flange ½" broad. It can be used in most any suspended ceiling construction and in metal-stud wall construction.

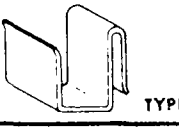


TYPE

TYPE

TYPE S

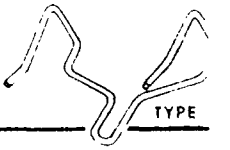
Used to anchor bottom edge of the bottom sheet of gypsum lath to the bottom plate in metal stud, hollow partitions.



TYPE

TYPE K RESILIENT STARTER CLIP

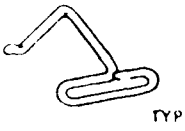
Used in resilient wall and ceiling construction to hold the lath panels at the top, bottom, ends and corners of the wall, and around the perimeter of the ceiling.



TYPE

TYPE Z CENTER CLIP

For suspended ceiling construction. Attaches gypsum lath to furring channels through the center of the panel. Prevents the lath from sagging. Also used as a starter clip around the ceiling perimeter. Provides the necessary attachment for light troffers, eliminating wire tying.

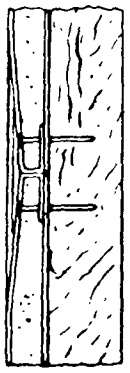


TYPE

SGP 0026259

BESTWALL

JOINT SYSTEM PRODUCTS



BESTWALL
JOINT SYSTEM

Two different gypsum wallboard joint treatments are available.

A one-material treatment, Bestwall Joint System Cement, does for both embedding and topping tape and for spotting nail heads. The Cement has the adhesive qualities needed to hold embedded tape and the workability needed for topping. Color of cement, when dry, matches the face paper of Bestwall Gypsum Wallboard. A good topping out job with Bestwall Joint System Cement eliminates sanding.

A two-material treatment provides Bestwall Bedding Compound for bedding tape, and Bestwall Topping Compound for covering tape, finishing the joint and covering nail heads. Topping Compound is soft enough when dry to be sanded, so is preferred by applicators who wish to sand their joint work.

PACKAGING: Bestwall Joint System Cement.

No. 1 Package 18 lbs. Cement; 250 ft. Tape.

No. 2 Package 4 lbs. Cement; 60 ft. Tape. (6 to carton)

No. 3 Package 4 lbs. Cement; 60 ft. Tape; 1 Plastic Broadknife. (6 to Carton).

Cement only — 5 lbs. (6 to carton) — 25 lb. bags.

Bestwall Bedding Compound — 25 lb. bags.

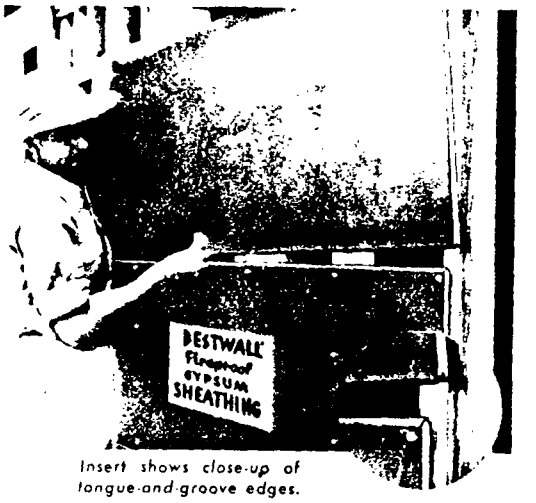
Bestwall Topping Compound — 25 lb. bags.

Bestwall Certex Texture — 25 lb. bags.

Bestwall Tape — 250 ft. and 500 ft. rolls. (5000 ft. to carton).



FIREPROOF GYPSUM SHEATHING



Insert shows close-up of tongue-and-groove edges.

BESTWALL FIREPROOF GYPSUM SHEATHING

Bestwall Fireproof Gypsum Sheathing is reinforced with textile gloss filaments for easier, quicker application, cleaner breaks, and greater flexibility. Insist on Bestwall Fireproof Gypsum Sheathing.

Bestwall's precision-made 2' x 8' panels, applied horizontally across framing members, tie 7 studs together. Precision-cut tongue-and-groove edges fit together to help make a permanent, rigid surface, structurally strong and dimensionally stable.

FIREPROOF • WIND RESISTANT • WATER REPELLENT
REINFORCED WITH GLASS FIBERS

STRUCTURAL STRENGTH • DIMENSIONAL STABILITY

During the devastating Kansas flood in 1951, only the roof of this house was visible for days. When the raging waters receded the gypsum sheathing was found to be undamaged. The water-repellent core returned to its original hardness without any warpage, shrinkage or buckling. (Note that most of the shingles, secured by double-headed nails with double shanks that expand in the gypsum core were held fast against the fury of the flood. Those which were torn away were easily replaced.)

Bestwall Gypsum Sheathing is extra water-repellent because the moisture has to get through the tough, treated covering paper before it can attack the treated core. This extra measure of water repellence provides a solution to the old, nagging problem of outside on-the-job storage.



Manufactured by

BESTWALL GYPSUM COMPANY

Sold Through

SGP 0026260

General Offices: Ardmore, Pennsylvania

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