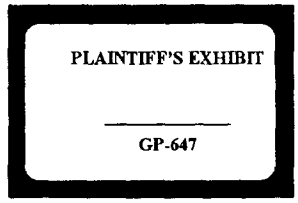
LATH AND PLASTER

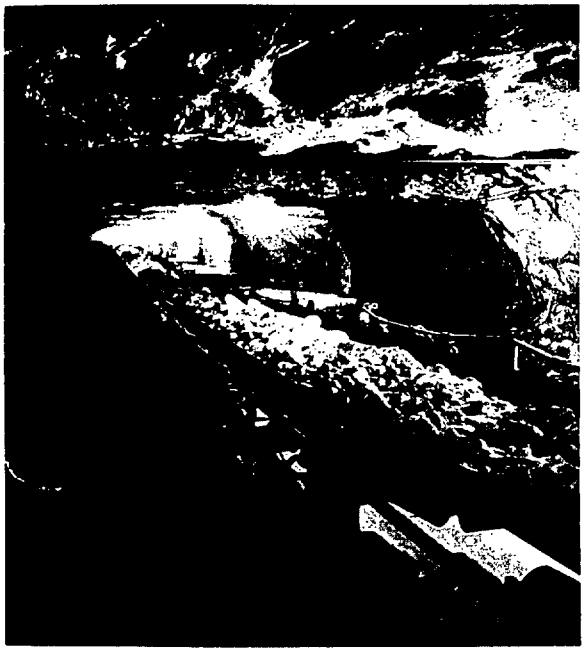


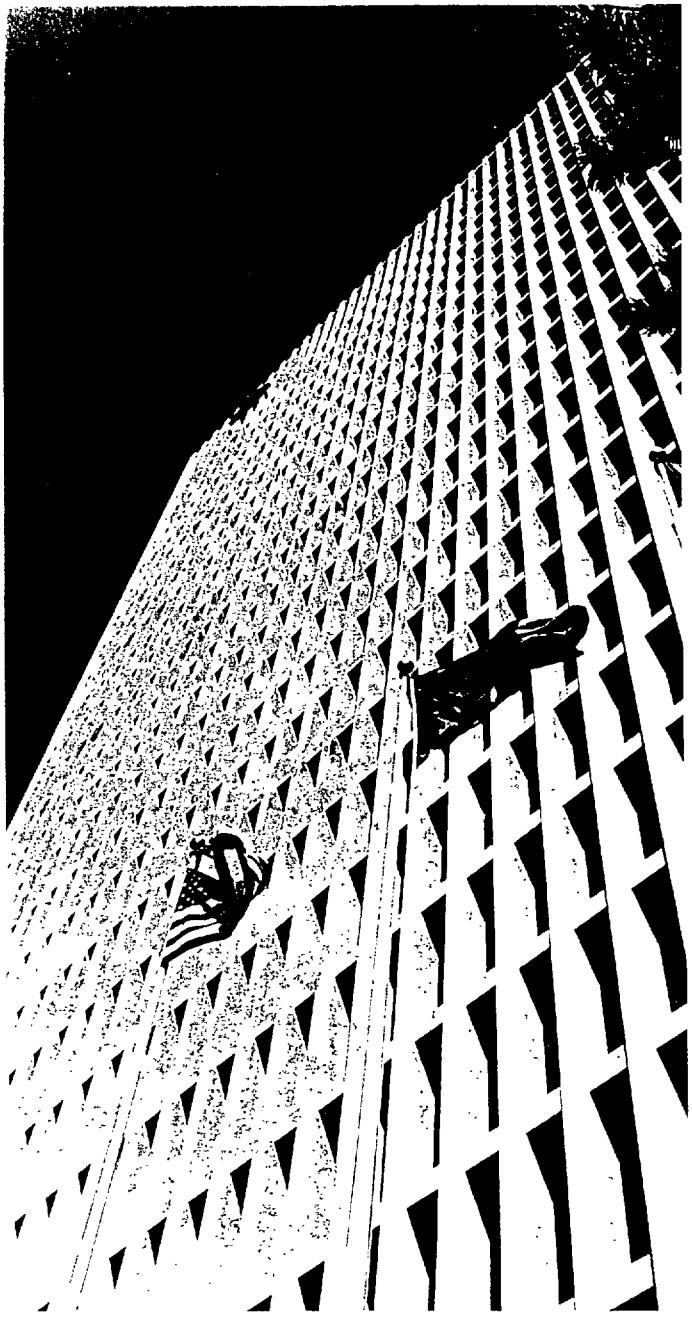
1972

lath & plaster

for wall and ceiling systems

Georgia-Pacific Corporation 9 FINISHES Lath and Plaster
January, 1972







Georgia-Pacific Corporation 9 FINISHES Lath and Plaster
January, 1972

SGP 0026880

GYPSUM PLASTER

G-P laths and plasters, although always consistently a superior product, have one unique and important additive which makes them very much in demand. This is the addition of uniform length, high strength glass filament fibers. The fiber glass content of G-P fibered plasters and laths is an important factor to consider in specifying lath and plaster construction.

Fast Machine Application

Literally miles of glass fibers (19.75 miles per bag of fibered plaster) offer greater resilience and bonding properties that resolve many job difficulties. Glass fiber reinforcement provides greater speed in application which in turn results in better economy.

G-P plasters, designed for machine application, give greater construction economies and added design possibilities. Glass fibered plaster may be used when fibered plaster is specified. Due to the plasticity and richness of these plasters they will not clog the mixer, hose or nozzle. Even the glass fibers go through.

DENS-COTE Veneer Systems

Dens-Cote (one coat) system is designed for use whenever a strong durable finish with maximum speed and minimum material is desired. One application of only 3/32" minimum thickness Dens-Cote Smooth Finish (or Textured Finish) over Dens-Cote Gypsum base, is all that is needed to give lasting strength and beauty to any construction.

Dens-Cote System (two coat). This system is designed for those who prefer the conventional type finishes but desire modern speed and minimum material. The specially designed Dens-Cote Plaster, stronger than conventional sanded plasters, base shall be applied 1/8" thick over Dens-Cote Base to achieve the best results. As in the one coat system, the Dens-Cote Base Plaster can also be used over porous masonry block with excellent results.

After the first coat of Dens-Cote Base Plaster has set, finish with lime putty and gauging for a conventional smooth finish, or use any sand float textured finish. For a hard durable smooth finish, use Dens-Cote Smooth Finish.

Description	Uses	Features
Neat gypsum plaster (Unfibered, Fibered, and Extra Fibered) Basecoat plasters bond securely to any standard plaster base including gypsum lath, metal lath and masonry units. Neat gypsum plasters require addition of aggregate and water.	1. UNFIBERED: is used for scratch coat on solid surfaces and for the brown (second) coat on any backing. 2. FIBERED: is recommended to provide greater wet cohesion and to minimize droppings with open type lath. 3. EXTRA FIBERED: is used for greater wet cohesion over metal lath as may be specified.	DURABILITY: Applied according to specifications it provides uniformly strong, stable walls and ceilings. PLASTICITY: Special scientifically controlled process maintains plasticity and easy workability. FIRE RESISTANT: Gypsum's natural incombustibility offers superior fire protection.
Lite-mix plaster (Unfibered, Fibered, Masonry Mix) Basecoat plaster that is 50% lighter than Gypsum and sand plaster. Fibered mix contains glass fibers for added strength. Requires addition of water only.	1. UNFIBERED: is used for scratch coat on solid surfaces and for the brown (second coat on any backing.) 2. FIBERED: is recommended to provide greater wet cohesion and to minimize droppings with open type lath. 3. MASONRY MIX: Available for application on masonry bases.	FIRE RESISTANT: Perlite aggregate provides higher fire resistance than sanded plasters. MIXES SMOOTHLY: Has no tendency to clog mixer or to block the nozzle of the plaster gun. HIGH INSULATION VALUE: Provides greater insulation than sanded gypsum plaster.
Wood fibered gypsum plaster Non-staining shredded wood fiber additive provides good working properties when used without aggregate. (Limited Availability)	Intended for use without aggregate as scratch and brown coat, but may be mixed with one part of sand. For scratch coat over high suction masonry it is recommended that one part of sand be used.	ECONOMY: Can be applied quickly and easily. STRENGTH: Has 3 times greater compressive and tensile strength than sanded plaster; up to 2½ times greater resistance to lateral impact and 50% greater surface hardness.
Gauging plaster Specially ground gypsums designed to blend with lime putty.	Mixed with lime to provide base for final wall and ceiling decoration. Usually over a gypsum plaster basecoat, 1/16" to 1/8" thick. Available in "Slow Set" or "Quick Set."	WHITE COAT FINISH: Satin Spar Gauging Plasters are very white and when properly mixed with lime putty they provide glossy smooth, flawless, surface of uniformly excellent, satin-like finish.
Finishing limes Produced from ground quicklime by adding an exact amount of water which chemically converts the quicklime to calcium and magnesium hydroxides. Completely aerated to prevent lumping in the bag.	Precision ground to produce the correct fineness for maximum plasticity and workability. To be mixed with gypsum gauging or Keene's cement for lime putty white coat.	Supplies a white durable finish that preserves and beautifies interior walls and ceiling. Makes walls less brittle, less subject to cracks.
Keene's cement A high strength, "dead-burnt" white gypsum gauging plaster. Provides stronger, harder surface when substituted for gauging plaster in a lime mix. Less lime, harder finish. Available regular and Fast Set.	Because of denser, harder surface has higher resistance to abrasion and water absorption it is highly suitable for kitchens, bathrooms, hospitals, and any area where wear and moisture resistance are important.	LOW WATER ABSORPTION: Because of high density, has low absorption. VARIOUS FINISHES: Mixed with varying portion of lime, gives standard, medium hard or extra hard finishes.

 For rated fire resistive construction use G-P Bestwall gypsum products with G-P Paneling. See "Georgia-Pacific Guide to Products for Interior Paneling."

SGP 0026881

QUICK SELECTOR CHART
For Georgia-Pacific Plaster Products

NAME	USES	COVERAGE (sq. yds per ton)	THICKNESS
NEAT			
Unfibered	Scratch coat on solid surfaces. Brown coat on any surface.	(sanded 2:1) Gypsum Lath: 190-220 Metal Lath: 100-130 Gypsum Tile: 210-240 Clay Tile: 165-200	½" ½" ⅜" ½" ⅜"
Fibered	Scratch and brown coat on all surfaces except monolithic concrete.	(same as above)	(same as above)
Extra Fibered	Scratch coat on metal lath but may be used over all bases except monolithic concrete.	(same as above)	(same as above)
LITE-MIX Unfibered, Fibered	Where lightweight desired. Ready mixed, add water only. Faster, easier application.	Gypsum Lath: 135-150 Metal Lath: 75-90	½" ⅜"
Masonry Mix	For use over high suction masonry base.	Gypsum Tile: 135-150 Clay Tile: 110-125	½" ⅜"
WOOD FIBERED	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" ⅜" ½" ⅜"
SATIN SPAR GAUGING (White)	Mixed with lime for use over gypsum basecoat. Great workability, hard, smooth white surface. Available in quick set or slow set.	1600 (3:1) Mixed 3 parts lime putty to 1 part gauging (Min.)	⅛"
G-P GAUGING	Mixed with lime for use over gypsum basecoat. Selected quality rock, light gray color. Gives hard, smooth surface. Available in quick or slow set.	1600 (3:1) Mixed 3 parts lime putty to 1 part gauging (Min.)	⅛"
KEENE'S CEMENT	Mixed with lime. Gives strong, dense surface with resistance to abrasion and water. Two sets regular and fast finish.	(4:1 Mix) 550	⅛"
MOLDING	Made from rock over 98% pure. Gives hard, strong molds and coats with low expansion. Mixed with lime and water for ornamental features.		
DENS-COTE SMOOTH FINISH	Mixed with water only. For thin coat application to Dens-Cote Gypsum Base.	Up to 400	1/32" Minimum
DENS-COTE TEXTURE FINISH	Same application as Smooth Finish. Mill mixed texture material, texture with float as desired.	Up to 400	1/32" Minimum
DENS-COTE BASE PLASTER	First coat in two coat veneer plaster system. Finish may be Smooth Finish or Lime Putty mixed with gauging.	Up to 400	1/32" Minimum
	Dens-Cote Smooth or Textured finish may be applied to masonry Block in two coat application. Base coat minimum thickness of ⅛" or enough to straighten wall. Finish coat may be smooth or textured as desired.		
FINISHING LIME			
SMOOTH FINISHING (Normal Hydrated) **BUILDERS** (Autoclaved)	(Ohio Dolomite) Mixed with gauging, molding plaster or Keene's Cement to give plasticity, whiteness and bulk.	Up to 750	⅛"

LIME PRODUCTS
G-P Smooth Finish Lime

A normal hydrated lime that must be soaked approximately 16 hours and then blended in proper proportions (one gallon of gauging plaster to every three gallons of lime putty) with gypsum gauging plaster which provides initial set and strength avoiding shrinking cracks.

G-P Builders Lime

This finishing lime is made from the same quicklime as G-P Smooth Finishing Lime, but is hydrated in a steel Autoclave (pressure vessel). Water is injected and after the quicklime satisfies its chemical thirst for water, the lime is removed from the Autoclave chamber as dry hydrate and undergoes aeration to remove any possible uncombined moisture.

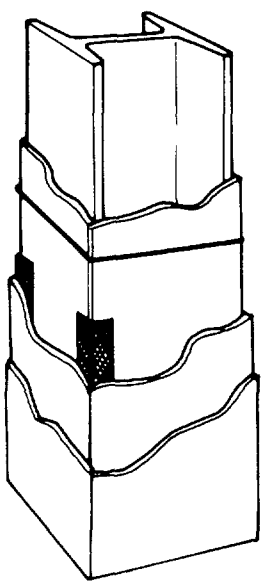
This lime has less than 8% of unhydrated oxides and prevents "lime pops." Builders Lime need only be mixed with water to a putty consistency and can be used without soaking. G-P Builders Lime has more workability and plasticity than other finishing lime.

G-P Mason's Lime

This is normal hydrated lime made from quicklime and—except for its coarser quality and shorter aeration process—the manufacture, hydration and milling are approximately the same as for G-P Finishing Limes. G-P Mason's Lime should be soaked at least 12 hours in putty form before use in mortar . . . it should not be used as finishing plaster because the finish will not be up to standard and "pops" may occur.

G-P Speedy Mason's Lime

This is the original Type "S" Special hydrated lime, a quick mix lime that need not be soaked in putty form before use. Produced by a continuous pressure on Autoclave system. G-P Speedy Mason's Lime differs from Autoclaved Finishing Lime only in the coarser quality of the quicklime used. Efflorescence is minimized because the lime is free of soluble salts.



Beam fireproofing

Fireproofing of beams and columns is accomplished by abutting ⅜" G-P Type "X" Lath around the perimeter of the beam or column and plastering the thickness required for desired fire resistance rating.

The Type "X" lath is held by tying double strands of the wire around the lath and spaced 16" o.c. corner heads 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 four hours. A four hour column rating requires two layers of ½" thick gypsum lath.

GYPSUM LATH

Type and Size	Uses	Description
Plain lath Consists of core of gypsum rock reinforced with glass fibers sandwiched between two layers of special paper covering. This is standard basic construction for all G-P Lath. SIZE: 16"x48", 16"x96", 3/8" or 1/2" thick (16 1/5"x48" West Coast only)	The standard gypsum plaster base for nail, staple or clip application to wood or steel framing.	The exposed layer is porous and absorbent, permitting water in the plaster to penetrate the surface. As plaster sets, gypsum crystals pierce the paper surface forming mechanical key on the lath thus assuring maximum bond. Lath paper has water resistant inner plies which prevent the water in the plaster from soaking through it and thus minimizes sagging of the lath and plaster. The layer against the core is porous and absorbent so as to bond the core as the plaster sets.
Long-length lath The same structure as Plain Lath except in dimensions SIZE: Available in 1/2" or 1" thicknesses—24" x floor to ceiling lengths (12' maximum)	This construction material is especially designed 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.	Long Length Lath comes in lengths up to 12', providing for wall assemblies in floor to ceiling heights. Ideal for solid plaster partitions. Since there is less lathing in job—there is a saving in construction costs. Glass fiber reinforced for added strength • Fast and economical to erect. **Application:** Both plain and Long-Length Lath may be applied by nailing to wood and nailing-type steel framing, and to wood framing by staples. They can be easily attached to metal sections and furring, and to wood with lath clips. Resilient type clips reduce cracking and lessen sound transmission.
Pinholath Plain Lath construction surface perforated with 1/16" dia. holes. Space 3/8" o.c. diagonally. SIZE: 16"x48", 16"x96", 3/8" or 1/2" thick (16 1/5"x48" West Coast only)	Specially designed for machine applied plasters. Fast, high, even water absorption speeds plaster application by holding plaster in place during rodding and darbying. When attached to ceilings by clips, three coat work is required. The Scratch Coat should be dry before applying Brown Coat if high humidity condition exists. When Perimeter Clips are used on ceilings, Butt and Center Clips should be used.	G-P PINHOLATH is plain lath surface-perforated in manufacturing with pin holes no larger than 1/16" in diameter, spaced 3/8" o.c. diagonally. Specially designed for machine applied plasters. Its unique feature permits rapid suction of water from plaster mix to achieve perfect plaster consistency speeding plaster application. There is no plaster slide, no backtracking, no costly delays. Plaster stays in place during rodding and darbying which can be done sooner when using PINHOLATH. Full base coat coverage is obtainable in one operation.
Type "x" lath Plain lath construction. SIZE: 16" x 48", 3/8" or 1/2" thick (16 1/5" x 48" West Coast only) Available also: pinholed and insulating.	Applications identical to Plain Lath. A wood stud partition faced with Type "X" lath and full thickness of plaster specified has one-hour fire rating.	G-P Type "X" Lath is plain lath with a special core formulation that provides necessary fire ratings for various constructions. **Application:** Type "X" Lath may be applied by nailing to wood and nailing-type steel framing, and to wood framing by staples. It can be easily attached to metal sections and furring, and to wood with lath clips. Resilient type clips reduce cracking and lessen sound transmission. Printed face identifies Type "X" Lath.
Insulating lath Plain lath with aluminum foil laminated on back. SIZE: 16"x48", 3/8" or 1/2" thick. Rounded Edges	Designed primarily for application to exterior walls and top floor ceiling. Back side must face a minimum air space of 3/4" to develop reflective insulation value.	Constructed exactly as PLAIN LATH this lath has aluminum foil laminated to the back. This foil reflects up to 90% of radiant heat and acts as an efficient vapor barrier. Designed primarily for application to exterior walls and top floor ceilings. When installed the aluminum reflective surface must face a minimum air space of 3/4" to develop reflective insulation value.
Dens-cote gypsum base A 4' wide, long-length, tapered edged, plain lath construction. It has a highly absorbent lath type face paper with surface pin holed. SIZE: 4' x 8', 10' and 12'; 1/2" thick (3/8" and 5/8", 1/2" and 5/8" Type X Firestop on order)	Specially designed for reception of Dens-Cote Smooth and Texture Finish and other thin coat plasters.	G-P Dens-Cote Gypsum Base is a 1/2" and 5/8" thick, 4' wide, tapered edge, gypsum board product, specifically designed to receive Dens-Cote Plasters. It has a highly absorbent lath type face paper with the surface pinholed. Available in lengths up to 12', is shipped twin mounted. Large sheets decrease number of joints, giving greater strength and crack resistance to wall and ceiling surfaces. The Dens-Cote System is designed for fast erection and early occupancy; produces a wall with a strong, hard monolithic finish. Combines economy of installation with virtually unlimited decorative possibilities.

 For rated fire resistive construction use G-P gypsum products with G-P Paneling. See "Georgia-Pacific Guide to Products for Interior Paneling."

SGP 0026883

Technical data—Fire ratings & sound transmission values for gypsum lath & plaster wall systems

FIRE RATING	STC	PARTITIONS THICKNESS	PLASTER THICKNESS*	WEIGHT LBS. PER SQ. FT.	TYPE BASE	PLASTER MIX**
2" x 4" WOOD STUDS 16" ON CENTER						
1 Hour	40	5⅜"	½"	15	⅜" G-P Plain Gypsum Lath	Gypsum-Sand 1:2
1 Hour	–	5⅜"	½"	12	⅜" G-P Plain Gypsum Lath	Gypsum-Perlite 1:2
45 Min.	40	5⅜"	½"	14.7	⅜" Plain Gypsum Lath	Gypsum-Sand 1:2, 1:2
1 Hour	–	5⅜"	½"	–	⅜" Plain Gypsum Lath	Gypsum-Wood Fiber
1 Hour	–	5⅜"	½"	–	⅜" Type "X" Gypsum Lath	Gypsum-Sand 1:2, 1:2
1½ Hour	–	5⅜"	½"	–	⅜" Type "X" Gypsum Lath	Gypsum-Perlite 1:2, 1:2
1 Hour	40	5⅜"	¾"	–	Metal Lath 3.4 D. M.	Gypsum-Sand 1:2, 1:3
2 Hours	41	5⅜"	¾"	–	Metal Lath 3.4 D. M.	Gypsum-Wood Fiber
1 Hour	40	5⅜"	¾"	–	Metal Lath 3.4 D. M.	Gypsum-Perlite 1:2, 1:2
1 Hour	40	5⅜"	¾"	–	Metal Lath 3.4 D. M.	Gypsum-Vermiculite 1:2
1 Hour	35	4¾"	3/32"	7.7	One layer ½" G-P Firestop Dens-Cote base, both sides	Dens-Cote smooth finish
2 Hours	41	6"	3/32"	13.8	Two layers ⅝" G-P Firestop Dens-Cote base, both sides	Dens-Cote smooth finish
SOLID PARTITIONS						
1 Hour	34	2"	¾"	16.5	½" Long Length Gypsum Lath	Gypsum-Sand 1:1, 1:2
1½ Hour	–	2"	¾"	–	½" Long Length Gypsum Lath	Gypsum-Perlite 1:2
2 Hours	37	2"	¾"	10.9	½" Long Length Gypsum Lath	Gypsum-Perlite or Vermiculite 1:2, 1:2
1 Hour	36	2"	1"	18.1	Metal Lath	Gypsum-Sand 1:2, 1:2
1 Hour	33	1½"	¾"	7.4	Metal Lath	Gypsum-Perlite 1:2
2 Hours	34	2½"	1¼"	–	Metal Lath	Gypsum-Perlite or Vermiculite 1:2, 1:2
METAL STUD						
1 Hour	44	5⅜"	½"	14	⅜" G-P Pinholath, 3⅝" Stud	Gypsum-Sand 1:2
1 Hour	–	5⅜"	½"	10	⅜" G-P Pinholath, 3⅝" Stud	Gypsum-Perlite 1:2
1 Hour	35	5⅜"	½"	16	⅜" Plain Gypsum Lath, 3⅝" Stud	Gypsum-Perlite 1:2
1 Hour	–	5⅜"	½"	16-21	⅜" Pinholath, 3⅝" Stud	Gypsum-Sand 1:2
1 Hour	35	5⅜"	½"	16-21	⅜" Type "X" Gypsum Lath 3⅝" Stud	Gypsum-Sand 1:2, 1:2
1 Hour	41	5⅜"	¾"	21	Metal Lath, 3⅝" Stud	Gypsum-Sand 1:2, 1:3
1 Hour	45	5⅛"	½"	11.8	⅜" Gypsum Lath type X attached with clips each side of 2½" steel stud	Gypsum-Sand 1:2
2 Hours	–	3⅞"	¾"	15	⅜" Type "X" Gypsum Lath 1⅝" Stud	Gypsum-Perlite 1:2, 1:2
1 Hour	38-40	3 1/16"	3/32"	7.0	One layer ⅝" Dens-Cote base, both sides, 1⅝" metal stud	Dens-Cote smooth finish
2 Hours	48-50	4 11/16"	3/32"	9.8	Two layers ½" Firestop Dens-Cote base, both sides–2½" metal stud	Dens-Cote smooth finish
2 Hours	49	6 5/16"	3/32"	12.8	Two Layers ⅝" Firestop Dens-Cote Gypsum Base, Both sides–3⅝" metal stud	Dens-Cote smooth finish
COLUMNS (STEEL)						
1 Hour	–	–	½"	–	⅜" Type "X" Gypsum Lath	Gypsum-Sand 1:2½
2 Hours	–	–	1⅜"	–	⅜" Type "X" Gypsum Lath	Gypsum-Sand 1:2, 1:3
2 Hours	–	–	1"	–	⅜" Type "X" Gypsum Lath	Gypsum-Perlite 1:2½
3 Hours	–	–	1⅜"	–	⅜" Type "X" Gypsum Lath	Gypsum-Perlite 1:2, 1:3
4 Hours	–		1½"	–	2 Layers ½" Plain Gypsum Lath	Gypsum-Perlite 1:2, 1:3
1 Hour	–		⅝"	–	Metal Lath	Gypsum-Sand 1:2, 1:3
4 Hours	–		1¾"	–	Metal Lath	Gypsum-Perlite 1:2, 1:3

*Face of Lath to Face of Finished Surface

**1 Part of Gypsum Plaster (100 Lbs.) to Cu. Ft. Aggregate

Technical data—Fire ratings & sound transmission values for gypsum lath & plaster ceiling & floor assemblies.

CONSTRUCTION	FIRE RATING	STC	THICKNESS*	WEIGHT LBS. PER SQ. FT.	TYPE BASE	PLASTER MIX**
WOOD JOISTS AND FLOOR						
	1 Hour	–	5/8"	–	3/8" G-P Pinholath	Gypsum-Perlite 1:2
	1 Hour	–	1/2"	–	*3/8" G-P Pinholath	Gypsum-Sand 1:2
	1 Hour	–	1/2"	–	*3/8" Type X Gypsum Lath	Gypsum-Sand 1:2
	45 min.	40	1/2"	12.5	3/8" Type "X" Gypsum Lath	Gypsum-Sand 1:2
	1 Hour	–	1/2"	–	3/8" Type "X" Gypsum Lath	Gypsum-Perlite 1:2
	1 Hour	34	5/8"	17.5	Metal Lath	Gypsum-Sand 1:2, 1:3
	1 1/2 Hour	–	1/2"	–	Metal Lath	Gypsum-Perlite 1:2, 1:2
Assembly #1	1 Hour	–	3/32"	13.9	1/2" Firestop Dens-Cote Base, one layer nailed	Dens-Cote Smooth or textured finish
Assembly #2	1 Hour	44	3/32"	13.0	1/2" Firestop Dens-Cote Base, one layer on resilient channel	Dens-Cote Smooth or textured finish
Assembly #3	2 Hours	–	3/32"	16.9	5/8" Firestop Dens-Cote Base, two layers with resilient channel 24" o.c. between layers	Dens-Cote Smooth or textured finish
STEEL JOISTS (2" Floor Slab)						
Furring Channels						
16" o.c.	1 Hour	–	5/8"	–	3/8" Type "X" Gypsum Lath (Clips)	Gypsum-Perlite 1:2
16" o.c.	1 Hour	–	5/8"	–	3/8" Type "X" Gypsum Lath (Clips)	Gypsum-Vermiculite 1:2, 1:2
16" o.c.	1 1/2 Hour	–	1"	–	3/8" Type "X" Gypsum Lath (Clips)	Gypsum-Perlite 1:2, 1:2
16" o.c.	–	–	1/2"	–	3/8" Type "X" Gypsum Lath (Clips)	Gypsum-Perlite 1:2
12" o.c.	3 Hours	–	11/16"	–	3/8" Type "X" Gypsum Lath (Clips)	Gypsum-Perlite 1:2, 1:2
16" o.c.	3 Hours	–	9/16"	–	3/8" Type "X" Gypsum Lath Plus 1" Mesh	Gypsum-Perlite 1:2
12" o.c.	4 Hours	–	1"	–	3/8" Type "X" Gypsum Lath (Clips) Plus 1" Mesh	Gypsum-Perlite 1:2, 1:3
	2 Hours	–	3/4"	–	Metal Lath	Gypsum-Sand 1:2, 1:3
	3 Hours	–	13/16"	–	Metal Lath	Gypsum-Perlite 1:2, 1:2
	4 Hours	–	1"	–	Metal Lath	Gypsum-Vermiculite 1:2, 1:2
STEEL FLOORS 2 TO 2 1/2" CONCRETE FLOOR WITH SUSPENDED CEILINGS						
12" o.c.	3 Hours	–	1/2" on ceilings	–	3/8" Type "X" Gypsum Lath Plus Clips and Wire Reinforcing	Gypsum-Perlite 1:2
	4 Hours	–	1"	–	Metal Lath	Gypsum-Perlite 1:2, 1:3
	4 Hours	–	7/8"	–	Metal Lath	Gypsum Wood Fiber
Assembly #1 2 1/2" Concrete floor over metal lath over steel bar joists 24" o.c.	2 Hours	–	3/32"	39.4	1/2" Firestop Dens-Cote Base, one layer screwed metal furring 24" o.c.	Dens-Cote Smooth finish
Assembly #2 2" Concrete floor on joists 24" o.c.	2 Hours	–	3/32"	37.3	5/8" Firestop Dens-Cote Base, one layer screwed metal furring 24" o.c.	Dens-Cote Smooth finish

*Face of Lath to Face of Finished Surface **1 Part of Gypsum Plaster (100 Lbs.) to Cu. Ft. Aggregate

NOTE: All tables are summaries only, based on tests at Underwriters' Laboratories, National Bureau of Standards, University of California, Ohio State University, Geiger and Hamme, Riverbank Laboratories and/or Ohio Research corporation sponsored by the G-P Gypsum Division, Gypsum Association, Metal Lath Association, Perlite Institute, Vermiculite Institute or others. The fire rating, weight and sound characteristics are based on a combination of specific details as tested and published.

More complete Listings and Details are available.

INCONSISTENCIES IN TEST RESULTS ARE DUE TO TESTS OVER A PERIOD OF MANY YEARS AND VARIATIONS IN LABORATORY FACILITIES.

All of the test results have been obtained under laboratory testing conditions where controlled environment reduces variables to a minimum. In the field, such laboratory conditions are not always met, since many other variables are introduced. Laboratory results may exceed results of field tests, but the laboratory tests under controlled conditions are the only logical way to compare the performance of different assemblies. The Gypsum Division of the G-P Corporation makes no warranty that the performance of assemblies in the field will have a performance equal to or better than that developed in the test.

NOTE: Floor and Ceiling assemblies (Incombustible), Bestwall Firestop Dens-Cote Base, may be direct attached or suspended.

 For rated fire resistive construction use G-P gypsum products with G-P Paneling. See "Georgia-Pacific Guide to Products for Interior Paneling."

DENS*-COTE base

WOOD FRAMING

1. Horizontal Application—Apply Dens-Cote base horizontally to framing so that ends fall on framing members. Nail with GWB-54 nails or equal, meeting ASTM C-514 having approximately ¼" heads. Length of nail shall be that which will provide at least ¾" penetration into studs. Space nails on both edge and intermediate supports 7" o.c. (maximum) on ceilings and 8" o.c. (maximum) on sidewalls keeping ⅜" from edges of base. Stagger end joints on opposite sides of partition.

METAL FRAMING

1. Horizontal Application—Set G-P 25 gauge metal studs spaced 24" o.c. into G-P floor and ceiling track. Apply Dens-Cote Base (½" or ⅝") using 1" self-tapping sheet metal screws and a power driven screw driver. Space screws vertically 12" o.c. (max.) on edge keeping ⅜" (min.) from the edge. Stagger end joints on opposite sides of partition.

DENS-COTE* OVER MONOLITHIC CONCRETE

To insure an adequate bond, a bonding agent conforming to ASTM C-631-68T should be applied in accordance with manufacturers' specifications, prior to the application of Dens-Cote Plaster.

DENS-COTE* OVER MASONRY BLOCK

Apply in two coats. Trowel first coat on sufficiently to straighten wall, but do not trowel smooth. After first coat sets, trowel on second coat.

DENS*-COAT one coat system

Georgia-Pacific Dens-Cote one coat System fulfills its reputation as a system that provides quality walls for either residential or commercial constructions. The Dens-Cote one coat System is used whenever a strong durable finish with maximum speed and minimum material is desired. One application of only 3/32" minimum Dens-Cote Smooth Finish (or Textured Finish) over Dens-Cote gypsum base is all that is needed to give lasting strength and beauty to any construction. Although Dens-Cote Smooth Finish (or Textured Finish) is designed to be used over Dens-Cote Gypsum Base, it works equally as well over porous masonry block.

APPLICATION—Add one bag (80 lb.) of Dens-Cote Smooth Finish* to 3½ gal. of water with the mixer turning. Bring the mix to the desired consistency with additional water. A good working consistency will require approximately 4 gal. of water per bag (80 lb.).

Mix until the material is lump free. Do not overmix.

Dens-Cote Smooth Finish* normally has 1¼ to 1½ hour setting time, so do not mix more than can be applied and finished in that length of time.

Use 2½" wide glass fiber mesh to reinforce all flat joints and angles or conventional paper wallboard tape. Use 1" x 1" minimum-perforated metal corner beads. Corner beads should be set to regulate plaster thickness at ⅛" maximum.

The mesh must be embedded with Dens-Cote Smooth Finish* before the over-all application begins. If wallboard tape is used, use G-P Ready Mix Joint Compound or G-P Speed-Set Compound. At the same time, fill all metal corner beads. These areas may be allowed to set before the overall application is commenced. Trowel the first coat tightly over the entire wall or ceiling surface. This application should be uniform about 1/16" thick.

As soon as the first coat has taken up (5-10 minutes), double back with a leveling coat, the total thickness applied should be 3/32" thick minimum.

The final troweling must be completed before the set takes place.

Maintain a temperature of at least 55° F. in the working area 24 hours before, during and after application.

In hot weather reduce drafts and ventilation.

Plan the work so that it proceeds in an orderly fashion from one end of the surface to the other. This will promote a progressively uniform takeup.

DENS*-COTE two coat system

G-P Dens-Cote two coat System is for those who prefer the conventional finishes but desire modern speed and minimum material.

APPLICATION—Mixing and taping instructions are the same as outlined for the one coat system.

Trowel a layer of Dens-Cote Base Plaster over the joint area.

Trowel the Dens-Cote Base Plaster tightly over the entire wall or ceiling surface. This application should be uniform —about ⅛" thick.

As soon as Dens-Cote Base Plaster has taken up sufficiently, straighten wall but do not trowel smooth. Leave rough so that finish coat will key properly.

Apply finish coat as soon as possible after base coat has set.

Finish with lime putty and gauging for a conventional smooth finish, or use any sand float textured finish.

If a hard durable smooth finish is desired use Dens-Cote Smooth Finish.

*Finish coat may be smooth or textured as desired.

FOR BEST RESULTS

1. Maintain a temperature of at least 55° F. 24 hrs. before, during and after application.
2. In hot weather reduce drafts and ventilation by covering door and window openings.

DENS-COTE* SYSTEM PRECAUTIONS

1. Use only clean potable water with Dens-Cote Plasters.
2. Keep mixing equipment and tools clean at all times.
3. Do not mix retarders, accelerators, or any other ingredient with Dens-Cote Base Plasters.
4. Keep Dens-Cote Plaster from freezing until it is set and dry.
5. **Use ONLY G-P Dens-Cote Base with the Dens-Cote System.**
6. Do not attempt to retemper Dens-Cote Base Plasters.

Plan the work so that it proceeds in an orderly fashion from one end of the surface to the other. This will promote a progressively uniform takeup.

DENS*-COTE radiant heat plaster

DENS-COTE BASE

1. Horizontal Application—Apply ½" Dens-Cote base at right angles to framing so that ends fall on framing members. Nail with GWB-54 nails or equal, meeting ASTM C-514 having approximately ¼" heads. Length of nail should be that which will provide at least ¾" penetration into studs. Space nails on both edge and intermediate supports 7" o.c. (maximum) on ceilings. May also be applied over resilient channels.

NOTE: Firestop Dens-Cote Base shall be applied where fire ratings are needed.

APPLICATION OF JOINT REINFORCEMENT

Use 2½" wide glass fiber mesh or conventional paper wallboard tape and G-P Speed-Set Compound or Ready-Mix Joint Compound to reinforce all flat joints and angles. The mesh may be stapled to the Dens-Cote Base. This assures positive keying of the Dens-Cote Radiant Heat Plaster to the mesh.

SGP 0026886

Install cables and thermostats and make proper connections after joints are taped.

Cables must be stapled tautly at a minimum of 2" apart. Use cables rated at 2.75 watts per lineal foot at 240 volts.

FOR BEST RESULTS

1. Maintain a temperature of at least 55° F. in the working area 24 hrs. before, during and after application of Dens-Cote plaster.

2. In hot dry weather, reduce drafts and ventilation by covering door and window openings.

3. Plan the work so that it proceeds in an orderly fashion from one end of the surface to the other. This will promote a progressively uniform takeup.

CAUTION

1. Use only clean drinkable water.

2. Keep mixing equipment and tools clean at all times.

3. Do not mix retarders, accelerators, or any other ingredients with Dens-Cote Radiant Heat Plaster.

4. Keep Dens-Cote Plaster from freezing until it is set and dry.

5. **Use ONLY G-P Dens-Cote* Base for Dens-Cote Radiant Heat Plaster Application.**

6. Do not attempt to retemper Dens-Cote.

STORE IN A DRY PLACE

APPLICATION OVER RADIANT HEATING CABLE

1. Trowel the first coat tightly over the ceiling using just enough Dens-Cote to fill in to the thickness of the Radiant Heat Cables.

2. After first coat has thoroughly set apply a leveling coat to cover the cables by at least 1/8". (Total thickness approximately 1/4").

3. When the surface has become firm it may be troweled smooth or floated and textured as desired.

4. The Radiant Heated Ceiling may be painted after it is completely dry.

CAUTION: Do not use the Radiant Heat system to dry the plaster or decoration used on the ceiling. When using the system for the first time, turn thermostat to room temperature and raise temperature 5 degrees each day until desired maximum operating temperature is reached.

Specifications

1. Use G-P Dens-Cote Gypsum Base 1/2" or 5/8" thick by 4" wide with tapered edges and 8', 10' or 12' long. Apply 1/2" Dens-Cote Gypsum Base with ring shank nails 8" o.c. for side walls and 7" o.c. for ceilings, to framing members spaced a maximum of 24" o.c. For fire resistive ratings and other special installations 1/2" and 5/8" Firestop Dens-Cote base is available. For these installations use a fastener, with a 3/4" to 7/8" penetration in wood framing members or fastener required for rating.

2. Use 2 1/2" wide glass fiber mesh or paper wallboard tape to reinforce all flat joints and angles. Use 1" x 1" perforated metal beads for corners. For best results apply the mesh by embedding it with Dens-Cote Smooth Finish. This is accomplished by troweling a layer of Dens-Cote Smooth Finish over the joint area and pressing the glass fiber mesh into the Dens-Cote with a trowel. The mesh may be first stapled to the Dens-Cote Gypsum Base, if desired. In any case, the mesh must be embedded with Dens-Cote before the over-all application begins. Use G-P Triple Duty of Speed-Set Compound to embed paper tape. At the same time, fill all metal corner beads. These areas may be allowed to set before the over-all application is commenced. Corner beads designed for thin coat applications (not regular wallboard corner bead) should be set to regulate plaster thickness at 3/32" minimum. Nail or screw corner bead to framing member.

3. Trowel the first coat tightly over the entire wall or ceiling surface. This application should be uniform and about 1/16" thick.

4. As soon as the first coat has taken up (5-10 mins.), double back with a leveling coat, which will bring the total thickness applied to a minimum of 3/32".

5. †After the second coat has taken up (15-20 mins.), begin final troweling, use water if required. The final troweling must be completed before the set takes place, as evidenced by darkening of the surface.

6. Make joinings at angles. Ceilings should be done first, then sidewalls.

7. Coverage of Dens-Cote Smooth Finish is 14-16 square yards (3/32" thick) per 80 lb. bag.

Base Plaster

1. Trowel the Dens-Cote Base Plaster tightly over the entire wall or ceiling surface. This application should be uniform—about 1/8" thick.

2. As soon as Dens-Cote Base Plaster has taken up sufficiently, straighten wall but do not trowel smooth. Leave rough so that finish coat will key properly.

3. Apply finish coat as soon as possible after base coat has set.

4. Finish with lime putty and gauging for a conventional smooth finish, or use any sand float textured finish.

5. If a hard durable smooth finish is desired use Dens-Cote Smooth Finish.

FOR BEST RESULTS

1. Maintain a temperature of at least 55° F. in the working area 24 hours before, during and after application.

2. In hot weather reduce drafts and ventilation by covering door and window openings.

3. Plan the work so that it proceeds in an orderly fashion from one end of the surface to the other. This will promote a progressively uniform takeup.

*A specially formulated product, designated Dens-Cote Texture Finish, is recommended where swirl, sand finish, or other textured surfaces are desired. The same application procedure described for the smooth finishes should be followed with the exception of the final coat. For the texture application, the take up on the final coat will be somewhat dependent on the type of texture desired. In general, the finer the texture desired, the longer the take up time. In no case should the Dens-Cote be textured after it has commenced to set. Texturing may be accomplished with a float, brush, sponge or other suitable tools.

GYPSUM SALES OFFICES

ATLANTA
P.O. Box 13505, Station K
Atlanta, Georgia 30324

CHICAGO
P.O. Box 309
10450 Waveland Ave.
Franklin Park, Illinois 60131

DALLAS
1800 John Connally Drive
Carrollton, Texas 75006

DETROIT
126 E Hudson St.
Royal Oak, Michigan 48068

KANSAS CITY
1445 Taney Ave.
North Kansas City, Mo. 64116

LOS ANGELES
14750 Nelson Ave.
City of Industry, California 91744

SEATTLE
P.O. Box 286
12815 NE 178th St.
Woodinville, Wash. 98072

WASHINGTON, D.C.
8121 Ardmore-Ardwick Road
Landover, Maryland 20785

WILMINGTON
Wilmington Marine Terminal
P.O. Box 310
Wilmington, Delaware 19899

Lithographed in U.S.A. on G-P Kalamazoo 70 lb. Coronet enamel

GeorgiaPacific

Gypsum Division

900 S.W. Fifth Avenue Portland Oregon 97204

SGP 0026887

 For rated fire resistive construction use G-P gypsum products with G-P Paneling. See "Georgia-Pacific Guide to Products for Interior Paneling."

GEORGIA-PACIFIC

RAPID PLASTER

SPECIFICATIONS FOR G-P/BESTWALL RAPID PLASTER SYSTEM—WOOD STUDS

MATERIALS

Gypsum Lath — G-P/Bestwall's ⅜" x 16" x 48" (16⅓" x 48 West Coast) Type X gypsum lath or ½" x 16" x 48" Type X Special Core gypsum lath meets the requirements of ASTM Designation C-37-66 and Federal Specification SSL30c. The lath may be regular or insulating.

Gypsum Plaster — G-P/Bestwall's Special X Rapid Plaster meets all the requirements of ASTM C-28-63, except that the setting time when mixed with one part by weight of Standard Ottawa Sand shall be not more than three hours when tested in accordance with ASTM Procedure C-472. When tested for compressive strength with one part by weight of Standard Ottawa Sand in accordance with ASTM C-472, the compressive strength shall be not less than 1800 psi.

Plastering Sand — The plastering sand shall meet all the requirements of ASTM Designation C-35.

Gauging Plaster — G-P/Bestwall gauging plaster shall meet all the requirements of ASTM Designation C-28.

Finishing Lime — G-P/Bestwall finishing lime shall meet all the requirements of ASTM C-206-49 or C-6, whichever is used.

Metal Trim — Corner beads, casing beads and other metal trim shall be no lighter than .015 U.S. gauge steel, zinc coated, with a minimum one inch perforated flanges.

Cornerite — Cornerite shall be formed of metal lath or welded or woven galvanized wire fabric weighing not less than 1.7 lbs. per square yard with minimum outstanding legs of one inch, or 2" glass fiber tape may be used.

Stripping — Stripping shall be any of the materials specified for cornerite and shall be a minimum of 2" wide.

APPLICATION

Gypsum Lath Application — The lath shall be applied horizontally using 4-1¼" blued lath nails per stud, per lath, with staggered vertical joints. All nails shall be driven so that heads are recessed slightly below the surface of the face paper, but without breaking the paper. Minimum gauge and weight of metal trim shall be as set forth in this specification and application is to be only over wood framing.

Plaster Application — The Special X Rapid Plaster shall be mixed with not more than one part by weight of plastering sand (six No. 2 shovels per 100 lbs.), and shall be applied with sufficient pressure to form good bond on the gypsum lath to a thickness of not less than ⅛". This basecoat shall be allowed to set prior to application of the finish coat.
The finish coat shall be applied to a thickness of not less than 1/16 inch in accordance with ASA A42.1. Finish coat may be smooth trowelled, floated or textured.

Note: The basecoat plaster is designed for hand application, but may be machine applied.

Precautions:

(1) Openings should be screened until plaster is completely set to prevent dryout and plaster should not be applied if the area to be plastered is below 55°F.

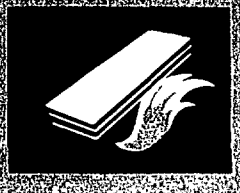
(2) Basecoat shall be left rough to assure adequate bond to the finish coat.

ONE HOUR FIRE RESISTANCE PROVEN BY TEST CONDUCTED JOINTLY BY THE C.P.L.I.A. AND THE GYPSUM ASSOCIATION, MAY 25, 1967, USING ½" TYPE X LATH

AIA FILE NUMBER
21-A-2

RECOMMENDED SPECIFICATIONS

Gypsum Plastering



GYPSUM ASSOCIATION

GEORGIA-PACIFIC
GYPSUM DIVISION

AIA FILE NUMBER
21-A-2

SGP 0026889

FOREWORD

This specification incorporates portions of American Standards Association's Standard Specifications for Gypsum Plastering A42.1-1955 and has been published with the permission of the sponsors, The American Institute of Architects and American Society for Testing and Materials. This specification varies in format and organization from that in A42.1 to conform to the current recommendations of the Gypsum Association. Important areas of change revolve around proportioning of plaster to aggregate and the use of fines in trowel finishes.

1. Extent of Work: All plastering shall be done in accordance with the procedure as herein specified. This specification includes all labor, materials, services, equipment and scaffolding necessary to complete the project in accordance with the drawings and specifications.

2. Work not Included: The following items are not intended to be a part of these recommendations:

   (a) Spray-on fireproofing

   (b) Spray applied decorative finishes

   (c) Wood furring and wood grounds

3. General Requirements

   (a) A uniform temperature of not less than 55° F. shall be maintained in the building for a period of seven days prior to the application of the plaster, during the plastering operation and after plastering, as required, until the plaster is dry. When temporary heat is required, proper measures shall be taken to insure that the heat is evenly distributed into all plaster areas. Deflection or protective screens shall be used to prevent concentrated or uneven distribution of heat on plaster areas near the heat source. Where required, heat shall be furnished by (insert name of the party who is to furnish the temporary heat here).

   (b) Ventilation shall be provided for drying the plaster during and after the application. Windows shall be kept open (cracked about 2 in.) at top and bottom to provide air circulation. Where natural ventilation is absent, temporary air distribution systems or air conditioning units shall be used.

   (c) Where lath and plaster ceilings are located under roof constructions, the space thus enclosed either with or without a vapor barrier and/or insulation, shall be permanently ventilated in accordance with accepted engineering practice. The space above the ceiling shall be vented so that the ratio of the total net free ventilating area to the area of the ceiling shall be not less than 1/150. Location of the vents shall provide positive ventilation.

   (d) Areas, such as doors, windows, etc., shall be properly closed in to prevent drafts.

   (e) Scaffolding shall be constructed and maintained in strict conformity with applicable laws and ordinances and in such a manner as not to interfere with or obstruct the work of others.

   (f) The work shall be properly coordinated with the work of other trades.

   (g) All products shall be delivered in their original packages, containers or bundles bearing the name of the manufacturer and the brand.

   (h) The plaster and all other cementitious materials shall be kept dry until ready for use and shall be kept off the ground, under cover and away from damp walls or surfaces.

   (i) Metal products shall be protected against rusting.

All materials shall conform to the latest edition of the following specifications:

1. Basecoat Plasters
   (a) Gypsum Neat Plaster, ASTM C28
   (b) Gypsum Ready-Mixed Plaster, ASTM C28
   (c) Gypsum Wood-Fibered Plaster, ASTM C28
   (d) Gypsum Bond Plaster, ASTM C28
2. Gypsum Gauging Plaster, ASTM C28
3. Gypsum Molding Plaster, ASTM C59
4. Keene's Cement, ASTM C61
5. Lime for Finish Plasters
   (a) Normal Finishing Hydrated Lime (Type N), ASTM C6 (for plaster finishes where plaster is not in contact with poured concrete or concrete unit masonry)
   (b) Special Finishing Hydrated Lime (Type S), ASTM C206
   (c) Quicklime for Structural Purposes, ASTM C5
6. Basecoat Plaster Aggregates
   (a) Sand, ASTM C35
   (b) Perlite, ASTM C35
   (c) Vermiculite, ASTM C35

Characteristics, properties or performance of materials or systems herein described are based on data obtained under controlled test conditions. The Gypsum Association makes no warranties or other representations as to their characteristics, properties or performance under any variation from such conditions in actual construction. Test condition details will be furnished by the Gypsum Association on request.

SGP 0026890

7. Aggregates for Finish Coats

Aggregates for use in gypsum lime putty trowel finish, such as silica sand, perlite, etc., shall be graded within the following limits:

SIEVE SIZE	PERCENTAGE RETAINED ON SIEVE			
	Perlite by Volume		Sand by Weight	
	Maximum	Minimum	Maximum	Minimum
No. 20 (841 micron)	0	—	0	—
No. 30 (595 micron)	10	0	10	0
No. 100 (149 micron)	100	40	100	40
No. 200 (74 micron)	100	70	100	70

8. Water

Water shall be clean, fresh, suitable for domestic consumption and free from such mineral or organic substances that would affect the set of the plaster. Water used to clean tools, that contains salt or alum, or other soluble salts, or from stagnant pools or wells shall not be used.

1. Proportions of sand, perlite or vermiculite to 100 lb. of gypsum neat plaster shall not exceed the following:

PLASTER BASE	SAND		PERLITE OR VERMICULITE (Cu. ft.)
	By Volume (Cu. ft.)	By Weight (Lb.)	
	Damp & Loose	Damp & Loose	
OVER GYPSUM LATH			
Two Coat Work			
Basecoat	2½	250	2
Three Coat Work			
Scratch Coat	2	200	2
Brown Coat	3	300	2*
or			
Scratch and Brown Coats	2½	250	—
OVER METAL LATH			
Three Coat Work			
Scratch Coat	2	200	2
Brown Coat	3	300	2*
or			
Scratch and Brown Coats	2½	250	—
OVER UNIT MASONRY			
Two Coat Work			
Basecoat	3	300	3
Three Coat Work			
Scratch Coat	3	300	3
Brown Coat	3	300	3

*Where the plaster is 1 in. or more in total thickness, the proportions for the brown coat may be increased to 3 cu. ft.

Note 1.

The proportions in the preceding table are applicable for both hand and machine application of plaster. See manufacturer's instructions for application of machine applied plaster.

Note 2.

Use of an accurate device such as a measuring box or container to measure quantities is highly recommended. Where such a device is not available, six No. 2 shovels of damp, loose sand may be considered as the approximate equivalent of 1 cu. ft. or 100 lb.

2. Gypsum Wood-Fibered Plaster

(a) Gypsum wood-fibered plaster shall normally be used without the addition of aggregate.

(b) Over masonry bases or over lath as a brown coat, sand, perlite or vermiculite aggregates may be used; the proportions shall not exceed 1 cu. ft. of aggregate per 100 lb. of gypsum wood-fibered plaster.

3. Gypsum Ready-Mixed Plaster: The term "ready-mixed" means that aggregate has been incorporated with the gypsum plaster by the manufacturer. It requires the addition of water only for use.

1. Plaster shall be of the following thickness when measured from the face of the plaster base to the face of the finished plaster surface (allowing approximately $\frac{1}{16}$ in. to $\frac{1}{8}$ in. for finish coat).

(a) Metal Lath . . . $\frac{5}{8}$ in. minimum (when measured from the back of the lath, excluding rib-lath, thickness shall be $\frac{3}{4}$ in. minimum).

(b) Gypsum Lath . . . $\frac{1}{2}$ in. minimum.

(c) Unit Masonry . . . $\frac{5}{8}$ in. minimum (except gypsum tile, $\frac{1}{2}$ in. minimum).

(d) Monolithic Concrete

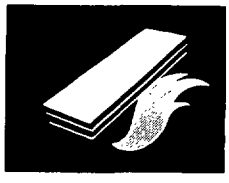
(1) Walls . . . $\frac{5}{8}$ in. maximum.

(2) Ceilings . . . $\frac{3}{8}$ in. maximum.

(3) Where greater thicknesses are required, metal lath shall be firmly attached to the concrete prior to the application of the plaster.

2. Plaster Grounds

(a) Metal grounds, screeds, etc., shall be furnished



and installed by the (lath) (plaster) contractor.

(b) Plaster screeds shall be applied by the plastering contractor.

(c) Wood grounds shall be furnished and installed by others.

E. PREPARATION FOR PLASTERING

1. Surfaces that are to receive plaster shall be carefully inspected before the plaster is applied thereto. Surfaces that are not satisfactory for plastering shall be called to the attention of the general contractor and architect. By proceeding with the plastering operation, the contractor accepts the responsibility that the surfaces were satisfactory to receive the plastering.

2. All metal grounds, corner beads, screeds, picture molds, etc., shall be carefully examined to see that they are straight, plumb, level, square and true to the required angles before the plaster is applied.

3. Plaster shall not be applied to masonry or concrete surfaces that have been coated with a bituminous compound or other waterproofing agents.

4. Masonry surfaces exhibiting high suction shall be evenly dampened to provide proper suction prior to plastering. Allow sufficient time for surface suction to equalize.

5. Monolithic Concrete

(a) Monolithic concrete surfaces to receive bond plaster shall be cleaned of all dust, loose particles and other foreign matter. Laitance and efflorescence shall be removed by washing with a ten per cent solution of commercial hydrochloric acid (muriatic acid) and water and then rinsed with clean water to remove all traces of acid. Grease and oil shall be completely removed.

(b) Concrete surfaces shall have sufficient roughness to provide a proper bond. If surfaces are not rough, they shall be hacked or brush-hammered or a dash coat of portland cement grout composed of one part cement to 1½ parts of fine sand mixed to a mushy consistency shall be applied. The portland cement grout shall be forcibly applied to 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.

(c) The use of dressed (smooth) lumber, metal and plywood forms, oiled or greased forms, or vibrated concrete, produces concrete surfaces which are too smooth to receive plaster.

6. Grouting Metal Framing and Bases

(a) Hollow metal bases, metal door frames and metal framed openings, when used for solid partitions, shall be fully grouted prior to lathing. The grout shall be screeded approximately ¼ in. below the top edges of the base so as to form a center groove to permit the lath to extend below the top edge of the base.

(b) Metal door bucks and framed openings in hollow steel stud partitions shall be fully grouted prior to lathing. Where basecoat plaster is flush with metal base, metal frames, etc., plaster shall be cut free from these metal sections before the plaster sets. The finish coat shall be grooved at this junction to prevent chipping.

F. BASECOAT PLASTER MIXING

1. If mixing is done in the building, waterproof protection shall be provided under the mixer, mixing boxes and water barrels. Mixer, mixing box and tools shall be cleaned after mixing each batch. When the mixer is used intermittently, a sufficient amount of water shall be added to clean the mixer after dumping each batch. This water shall be run in the mixer for a few minutes and then dumped. The mixer then will be clean, ready for the next batch. Partially set material shall not be retempered or used. Frozen, caked or lumpy material shall not be used.

2. Hand Mixing

(a) Gypsum Neat Plaster—(Aggregate required) Aggregate and plaster shall be mixed dry to a uniform color at one end of the mixing box, hoed into the water and thoroughly mixed to the proper consistency.

(b) Gypsum Ready-Mixed Plaster — (Aggregate shall not be added) Plaster shall be hoed into the water and thoroughly mixed to the proper consistency.

(c) Gypsum Wood-Fibered Plaster — (Without aggregate) Plaster shall be hoed into the water and thoroughly mixed to the proper consistency.

(d) Gypsum Wood-Fibered Plaster—(With aggregate) Plaster and aggregate shall be mixed dry to a uniform color at one end of the box, hoed into the water and thoroughly mixed to the proper consistency (see section C-2).

3. Mechanical Mixing

With the mixer in operation, the following procedures shall be followed:

(a) Gypsum Neat Plaster

(1) Put in the approximate amount of water.

(2) If sand is used, add approximately half of the amount of sand. If perlite or vermiculite is used, add all of the aggregate.

SGP 0026892

(3) Add all of the plaster.

(4) Add remainder of the sand aggregate.

(5) Mix to proper consistency, adding water if necessary.

(6) Dump the entire batch and use.

(7) Clean the mixer.

(b) Gypsum Ready-Mixed Plaster

(1) Put in the approximate amount of water.

(2) Add the plaster.

(3) Mix to proper consistency, adding water if necessary.

(4) Dump the entire batch and use.

(5) Clean the mixer.

(c) Gypsum Wood-Fibered Plaster—May be used with or without the addition of aggregate. (See section C-2b.)

(1) When aggregate is added, the procedure outlined in section F-3a shall be followed.

(2) When used without aggregate, the procedure in section F-3b shall be followed.

G. BASECOAT PLASTER APPLICATION

1. Three coat plaster application shall be used on the following constructions:

(a) Metal lath, wire lath or paper-backed wire fabric.

(b) ½-in. gypsum lath attached to horizontal supports spaced more than 16 in. o.c.

(c) Gypsum lath on ceilings attached by clips providing edge support only.

(d) ⅜-in. perforated gypsum lath on ceilings.

2. Three Coat Work

(a) Scratch (first) coat shall be applied with sufficient pressure to form good full keys on metal lath, wire lath, or wire fabric and a good bond on gypsum lath or masonry. Sufficient materials shall be used to cover the face of the lath and to allow for scratching or cross raking.

(b) Brown (second) coat shall be applied after the scratch coat has set firm and hard, and shall be brought out to the grounds, straightened to a true surface without the application of water, and cross raked or scratched to receive the finish (third) coat. To insure full plaster thickness, plaster screeds should be applied to the scratch coat prior to the application of the brown coat.

(c) The plaster shall be accelerated, if necessary, to provide a setting time of not more than four hours.

3. Two Coat Work

(a) The base (first) coat shall be applied with sufficient pressure and material to form a good bond on the gypsum lath or masonry and to cover well. Then, before the plaster has set, and without raking its surface, material of the same proportion shall be doubled back to bring the plaster out to the grounds. Straighten to a true surface, without the application of water, and cross rake or scratch to receive the finish coat.

(b) The plaster shall be accelerated, if necessary, to provide a setting time of not more than four hours.

4. Monolithic Concrete

(a) Monolithic concrete walls and columns shall have a scratch coat of bond plaster, followed by a brown coat of gypsum plaster proportioned 100 lb. of gypsum neat plaster to not more than 3 cu. ft. of sand, perlite or vermiculite, troweled into the scratch coat before it has set. The brown coat shall be brought out to the grounds, straightened to a true surface without application of water and be cross raked or scratched to receive the finish coat.

(b) Monolithic concrete ceilings shall have a coat of bond plaster scratched in thoroughly, doubled back and filled out to a true, even surface, without the application of water and be cross raked or scratched to receive the finish coat.

5. Solid Plaster Partition (metal lath—channel studs)

(a) Solid plaster partitions with channel studs shall not be less than 2 in. thick and shall have a scratch, back-up, brown and finish coat.

(b) The scratch coat shall be applied to the lath side with sufficient material and pressure to form good full keys, to cover well, and then scratched to a rough surface. Where temporary bracing of the studs is required, bracing shall be attached to the channel side of the partition and maintained until the back-up coat of plaster has set.

(c) After the scratch coat has set firm and hard on the lath side of the partition, the back-up coat shall be applied to the channel side of the partition in not less than two coats. This coat shall adequately cover the keys of the scratch coat and the remaining coat or coats applied to bring the plaster out to full grounds.

Plaster thickness shall be not less than ½ in. over the unlathed face of the channel studs. It shall then be straightened to a true surface, without the application of water, and cross raked or scratched, to receive the finish coat.

(d) After the back-up coat on the channel side has set, a brown coat shall be applied on the lath side over the scratch coat, brought out to full grounds, straightened to a true surface without the application of water and be cross raked or scratched to receive the finish coat.

(e) Plaster shall extend to the floor except where metal bases are used, in which case the plaster shall extend below the top edge of the metal base to the grout. All spaces between grounds shall be filled. *Hollow metal door bucks shall be filled solid.* (Note: see section E-6.) Wherever possible, plastering shall be commenced at the bottom of partitions.

6. Solid Plaster Partitions (metal lath—studless)

(a) Studless solid partitions (metal lath and plaster) shall be not less than 2 in. in thickness, and the plaster shall be applied in the sequence below and in the same manner as specified for solid partitions with studs. (Note: see section G-5.)

(b) Where rib metal lath is used, temporary bracing shall be attached to the rib side and the scratch coat shall be applied on the flat side first. Where diamond mesh (flat expanded) metal lath is used, the temporary bracing may be attached to either side, and the scratch coat shall be applied to the opposite side.

(c) The sequence of application of brown and back-up coats shall be in accordance with one of the following alternate methods:

(1) The back-up coat shall be applied on the braced side of the metal lath and shall be followed by the brown coat applied over the face of the scratch coat.

(2) The brown coat (second) shall be applied over the face of the scratch coat, then the back-up coat shall be applied on the braced side of the partition.

(d) Plaster shall extend to the floor except where metal bases are used, in which case the plaster shall extend below the top edge of the metal base to the grout. All spaces between grounds shall be filled. *Hollow metal bucks shall be filled solid.* (Note: see section E-6.) Wherever possible, plastering shall be commenced at the bottom of partitions.

7. Solid Plaster Partitions (gypsum lath—studless)

(a) Studless solid partitions (gypsum lath and plaster) shall not be less than 2 in. in thickness and shall have a separate scratch, brown and finish coat on each side.

(b) The scratch coat shall average ⅜ in. in thickness with a minimum thickness of $\frac{3}{16}$ in. at any point and shall be applied first to the side opposite the temporary bracing with sufficient pressure to form a good bond. A ⅜ in. scratch coat shall be immediately applied to the opposite side. These coats shall be scratched or cross raked to form a rough surface.

(c) The brown coat shall be applied to the side opposite the bracing, after the scratch coat has set firm and hard and is partially dry. When this brown coat has set firm and hard and is partially dry, the temporary bracing shall be removed and the brown coat applied to the braced side. The brown coats shall be straightened to a true surface without application of water and cross raked or scratched to receive the finish coat, allowing $\frac{1}{16}$ to ⅛ in. on each side for the finish coat to bring the over-all partition thickness to not less than 2 in.

(d) Plaster shall extend to the floor except where metal bases are used, in which case the plaster shall extend below the top edge of the base to the grout. All spaces between grounds shall be filled. *Hollow metal bucks shall be filled solid.* (Note: see section E-6.) Wherever possible, plastering shall be commenced at the bottom of partitions.

8. Solid Plaster Partitions (multiple thickness gypsum lath)

(a) Studless solid partitions (gypsum lath and plaster, multiple thickness lath) shall be not less than 2 in. in thickness and the combined thickness of the base coats and finish coats on each side shall be not less than ½ in. The thickness of the separate coats and the sequence of plastering on each side shall be in accordance with the proprietary specifications for the system employed.

(b) The scratch coat shall be applied with sufficient pressure to form a good bond and shall be scratched or cross raked to form a rough surface.

(c) The brown coat shall be applied after the scratch coat has set firm and hard and is partially dry. The brown coat shall be straightened to a true surface without application of water, and cross raked or scratched to receive the finish coat, allowing $\frac{1}{16}$ to ⅛ in. on each side for the finish coat to bring the over-all partition thickness to not less than 2 in.

(d) The plaster shall extend to the floor except where metal bases are used, in which case the plaster shall extend below the top edge of the base to the grout. All spaces between grounds shall be filled. *Hollow metal bucks shall be filled solid.* (Note: see section E-6.) Wherever possible, plastering shall be commenced at the bottom of partitions.

SGP 0026894

1. Gypsum-Lime Putty Trowel Finish

   (a) Gypsum-lime putty trowel finish shall be mixed in proportions of one part gauging plaster (calcined gypsum) to not more than three parts of lime putty by volume.

   Note: This proportion is equivalent to 1 - 100 lb. bag of gypsum gauging plaster to not more than:
   4-50 lb. bags of hydrated lime, or
   4.5 cu. ft. of lime putty, or
   34 gal. of lime putty.

   (b) Where the basecoat plaster aggregate is perlite or vermiculite, a gypsum-lime putty trowel finish shall, in addition, contain fine aggregate such as silica sand, perlite or vermiculite in the proportions of not less than ½ cu. ft. nor more than 1 cu. ft. per 100 lb. bag of gypsum gauging plaster used in the finish. This finish, containing aggregate, may also be applied to sanded gypsum basecoat if desired.

2. Prepared Gypsum or Lime Based Trowel Finish

   Note: Additional materials, such as sand, shall be added only in accordance with the manufacturer's instructions.

3. Keene's Cement-Lime Putty Finish

   Keene's cement-lime putty finish may be proportioned to obtain a standard hard, medium hard or extra hard finish as follows:

   (a) A standard hard finish shall be mixed in the proportions of 100 lb. of Keene's cement to 100 lb. of dry hydrated lime.

   Note: This proportion is equivalent to 1 (100 lb.) bag of Keene's cement to:
   200 lb. of lime putty, or
   17½ gal. of lime putty.

   (b) A medium hard finish shall be mixed in the proportions of 100 lb. of Keene's cement to 50 lb. of dry hydrated lime.

   Note: This proportion is equivalent to 1 (100 lb.) bag of Keene's cement to:
   100 lb. of lime putty, or
   8-3/4 gal. of lime putty.

   (c) Extra hard finish shall be mixed in the proportions of 100 lb. Keene's cement to 25 lb. dry hydrated lime.

   Note: This proportion is equivalent to 1 (100 lb.) bag of Keene's cement to:
   50 lb. of lime putty, or
   4½ gal. of lime putty.

   (d) Where the basecoat plaster aggregate is perlite or vermiculite, a gypsum-lime putty trowel finish shall, in addition, contain fine aggregate such as silica sand, perlite or vermiculite in the proportions of not less than ½ cu. ft. nor more than 1 cu. ft. per 100 lb. bag of gypsum gauging plaster used in the finish. This finish, containing aggregate, may also be applied to sanded gypsum basecoat if desired.

4. Gypsum Sand Float Finish

   This finish shall be mixed in the proportions of 1 part of gypsum neat unfibered plaster to not more than 2 parts of sand, by weight.

5. Keene's Cement-Lime Sand Float Finish

   Sand Float Finish-mix 100 lb. of Regular Keene's Cement, 400 lb. of sand (4 to 5 cu. ft.) and 100 lb. of Hydrated Finish Lime (200 lb. or 17½ gal. of lime putty).

6. Vermiculite Finish Coat (for use over vermiculite basecoat only).

   This finish shall be mixed in the proportions of 100 lb. of unfibered gypsum plaster to one (1) cu. ft. of vermiculite finish aggregate.

1. Gypsum Lime Putty Trowel Finish

   Lime to be mixed or soaked in accordance with the manufacturer's directions.

   Mixing on a Mortar Board

   (a) The proper proportion of lime putty, as specified in H-1-a, shall be placed on a mixing board and formed into a ring.

   (b) Proper amounts of water, gauging plaster, and aggregate if used are added to the center of the ring. The gauging plaster shall be soaked until wet.

   (c) Materials are then inter-mixed until all ingredients are well dispersed throughout the lime putty.

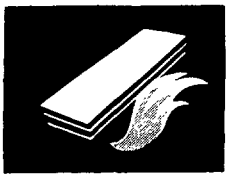
   Mechanical Mixing

   (a) When mechanically mixing gypsum-lime putty finish, the water shall be put in first, then the dry lime (autoclaved) or the lime putty — whichever is used, the aggregate, and then the gauging plaster, and mixed until uniformly blended.

   (b) Dump the entire batch and use. Clean the mixer preparatory to mixing the next batch.

   (c) The mechanical mixer may be a conventional plaster mixer, which has been cleaned carefully so as to remove all adhering material, or a high-speed mechanical mixer designed for this use. A heavy duty ½ in. electrical drill, with a paddle type agitator, in combination with a clean metal drum of suitable size may be used.

GYPSUM ASSOCIATION



2. Prepared Gypsum or Lime Based Trowel Finish

Mixing must be done with the high-speed mixer, or a paddle type, such as described in I-1-c — Mechanical Mixing.

(a) Put all but 1 to 2 quarts of the required mixing water in the mixer.

Note: Starting with an insufficient amount of mixing water will seriously degrade mixing and application performance.

(b) Add the prepared trowel finish and allow to soak for about 1 minute, then mix until thoroughly wetted. If preferred, the plaster may be added with the agitator of the mixer running.

(c) Add additional water, when required, to bring to the desired consistency and mix to a uniform lump-free consistency.

(d) Dump the entire batch and use. Clean the mixer preparatory to mixing the next batch.

J. APPLICATION OF FINISH COATS

1. General

(a) The finish coat shall be applied to a partially dry basecoat or to a thoroughly dry basecoat which has been evenly wetted, brushed or sprayed. The use of excessive water shall be avoided in the application of all types of finish coats.

(b) Where the plaster finish is flush with metal base, door bucks, or metal window frames, etc., the plaster finish shall have a V-groove finish at such intersections.

2. Application

(a) Gypsum-Lime Putty Trowel Finish

(1) Gypsum-lime putty trowel finish shall be scratched in thoroughly, double-backed and filled out to a true, even surface. The thickness shall be 1/16 to 1/8 in. The finish shall be permitted to draw up a few minutes and then it shall be well troweled, with water, to a smooth finish, free from blemishes or irregularities. Continue troweling until finish coat sets.

(b) Prepared Gypsum Trowel Finish

(1) Prepared gypsum trowel finish shall be applied in accordance with the directions of the manufacturer. The thickness shall be 1/16 to 1/8 in. The finish shall be well troweled, with water, to a smooth finish, free from blemishes or irregularities.

(c) Keene's Cement-Lime Putty Trowel Finish

(1) Keene's cement-lime putty trowel finish shall be scratched in thoroughly, double-backed and filled out to a true, even surface. The thickness shall be from 1/16 to 1/8 in. unless the finish coat is to be marked off or jointed, in which case the thickness may be increased as required by the depth of the marking or joint. The finish coat shall be allowed to take up and then well troweled, with water, to a smooth finish, free from blemishes or irregularities. Maintain in a damp condition until set.

(d) Float Finishes

(1) Sand float finishes shall be scratched in thoroughly with a trowel to an even surface and then floated (wood, carpet, cork, rubber, or other type floats, depending upon the texture desired) to a true, even surface, free from slick spots or other blemishes.

(e) Acoustical Plaster and Colored Finishes

(1) These plaster finishes shall be applied in accordance with the printed directions of the manufacturer.

SGP 0026896

APPENDIX

GYPSUM PLASTER [illegible]
AND PLASTIC TILE [illegible]
FINISHED WALLS [illegible]

All work shall be performed in accordance with the requirements of the Gypsum Association's "Recommended Specifications — Gypsum Plastering" and American Standards Association A42.4, "Standard Specifications for Interior Lathing and Furring," except as modified below:

1. Lath and plaster shall be kept a minimum of ¼ in. above the top of the tub or shower receptor. A casing bead or similar plaster stop is recommended.
2. Where the brown coat of plaster is to receive tile, it shall be brought out to the grounds, straightened to a true surface and troweled to a smooth, dense surface. Plaster shall be kept out of the space between the casing bead and the top of the tub or receptor.
3. If a finish coat of plaster is to be applied, materials and application of basecoat plaster and finish coat plaster shall be in conformance with the above mentioned "Recommended Specifications—Gypsum Plastering."
4. When mopped-in-place shower subpans are used, portland cement plaster shall be used for the curb and floor. The curb shall extend at least 1 in. above the base course of tile.
5. Waterproofing of the plaster shall be accomplished by one of the following two methods:

   (a) With the flat edge of a trowel, a full 1/16 in. skim coat of an approved grade of tile adhesive shall be evenly applied to the entire surface to receive the tile. Apply to the bottom edge of lath and plaster and fill the cut-out spaces around pipes, soap dishes, towel bars, etc. Allow to stand well beyond the normal "take-up" time, preferably 24 hours. The recommended adhesives for ceramic tile are those tested and found to comply with Commercial Standard 181-52. Particular attention is called to a list of such adhesives as published by the Tile Contractors' Association of America. All have been tested by an independent laboratory and found to comply with CS 181-52.

   After the skim coat has hardened, so that it cannot be grooved by the notches of the trowel, a bedding coat of the same adhesive is applied in the usual manner. The bedding coat shall extend down over the lip of the tub to form a water dam behind the bottom edge of the tile.

   (b) A waterproof sealer may be used in lieu of the skim coat of tile adhesive. Acceptable sealers shall be only those specifically made for the purpose, and compatible with the tile adhesive, such as certain rubber base sealants. A heavy brush application of sealer is necessary. All edges of cut-outs for pipes, soap dishes, towel bars, etc., must be sealed—and then caulked with waterproof, nonhardening caulking compound. After the sealer coat has thoroughly dried, the bedding adhesive is then troweled on to receive the tile. The bedding coat must be compatible with the sealer. The recommended adhesive for ceramic tile is one complying with CS 181-52.

[illegible]

Gypsum plaster can be satisfactorily used in conjunction with radiant heating installations, either hot water or electric systems. However, certain precautions must be taken to minimize the possibility of such things as cracking due to thermal shock, shadowing under pipes due to unequal rate of drying or calcination of the gypsum plaster due to overheating.

Gypsum lath and metal lath shall be installed in accordance with the requirements of American Standards Association A42.4 "Standard Specifications for Interior Lathing and Furring" and plastering shall be in conformance with the Gypsum Association's "Recommended Specifications—Gypsum Plastering" except as modified below:

1. In systems where the heating elements are embedded in or behind the gypsum plaster, the surface temperature of the plaster shall not exceed 115°F. This condition shall be met by requiring the temperature of the heating element, in contact with the plaster, not to exceed 125°F.
2. Electric heating elements may be securely attached to lath, but hot water coils must be supported by the framing members and not the lath.
3. All inspections and testing of the heating system shall be completed before the application of the gypsum plaster. Do not use the heating system for temporary heating of the building during plastering operations. Portable heaters or ventilating units should be provided.
4. The heating system shall not be used or put into operation until the plaster is thoroughly dry. At this time, the temperature rise in the heating elements shall not exceed 5°F. per 24-hour period until the maximum temperature of 125°F. has been reached.
5. Application of Plaster

   (a) Only sand aggregated plasters shall be used. Perlite and vermiculite have far greater resistance to heat flow and should not be used.

   (b) A minimum of 3/8 in. of gypsum plaster over the heating elements is required. The total plaster thickness shall not be less than ½ in. over gypsum lath and 5/8 in. over metal lath.

   (c) Where more than ½ in. total thickness of plaster is required over the face of gypsum lath, plastering shall be done by the three coat method.

   (d) Where the three coat method is used, the

SGP 0026898

scratch coat shall be thoroughly cross raked and shall dry at least one day before application of the brown coat.

(e) To avoid shadowing under the heating elements, the base coat shall be almost dry before the finish coat application. If the base coat is completely dry, it may be wetted down to reduce suction for the finish coat application.

(f) Decoration of the finish plaster, including sizing or sealing, shall not proceed until the heating system has been test operated for a minimum of 24 hours. The system should then be turned off before and during decorating.

Gypsum plaster may be used on ceilings of open porches, carports, or walkways, on soffits of eaves, or other exterior areas that are protected from direct exposure to water.

MATERIALS AND APPLICATION

Materials and application shall be in strict conformance with the applicable requirements of "Recommended Specifications – Gypsum Plastering," published by the Gypsum Association, and American Standards Association A42.4.

Adequate ventilation shall be provided for the space immediately above such installations. The ratio of the total net free ventilating areas to the area of the ceiling shall be not less than 1/150. Screening shall be not less than 8 mesh per in.

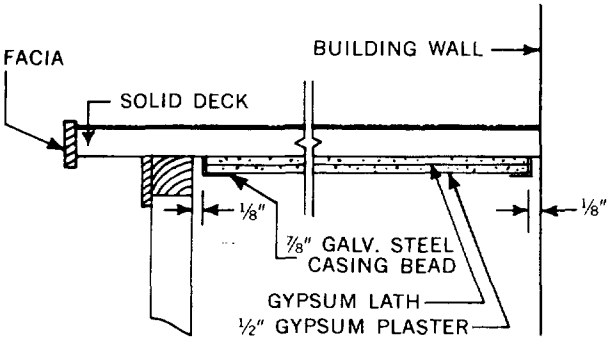
Expansion joints shall be provided at a minimum of 20 lineal ft. or 200 sq. ft. of area.

Where framing is spaced 24 in. o.c., use 1/2 in. gypsum lath and 1 in. No. 66 galvanized casing bead. Where framing is spaced 16 in. o.c., use 3/8 in. gypsum lath and 7/8 in. No. 66 galvanized casing bead. Insulating gypsum lath may be used.

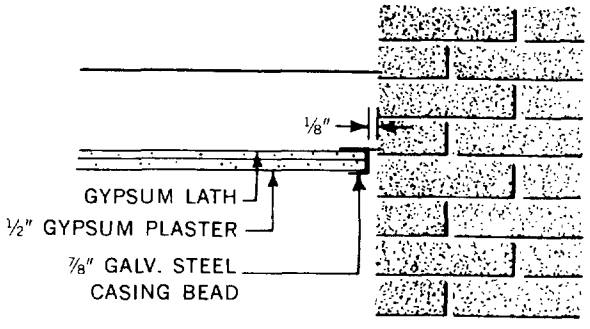
Gypsum basecoat plaster shall be used with sand aggregate only. Application of basecoat and finish coat plaster shall be done only when the temperature during application and set of the plaster is above freezing.

DECORATION

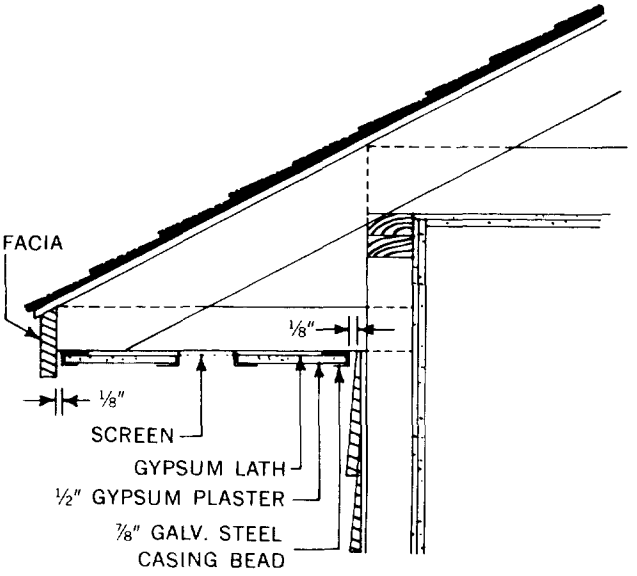
After the plaster is dry, paint with two coats of a good quality exterior paint, such as an acrylic paint.



CAR PORT or PORCH

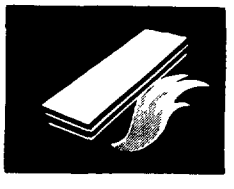


MASONRY WALL



FRAME WALL

GYPSUM ASSOCIATION



GYPSUM ASSOCIATION

201 NORTH WELLS STREET • CHICAGO ILLINOIS 60606

1800 NORTH HIGHLAND AVENUE • HOLLYWOOD, CALIFORNIA 90028



SGP 0026900

Form LP 3 (
Revised 2 (

Printed in U S .