A.I.A. File 21-A

TECHNICAL INFORMATION

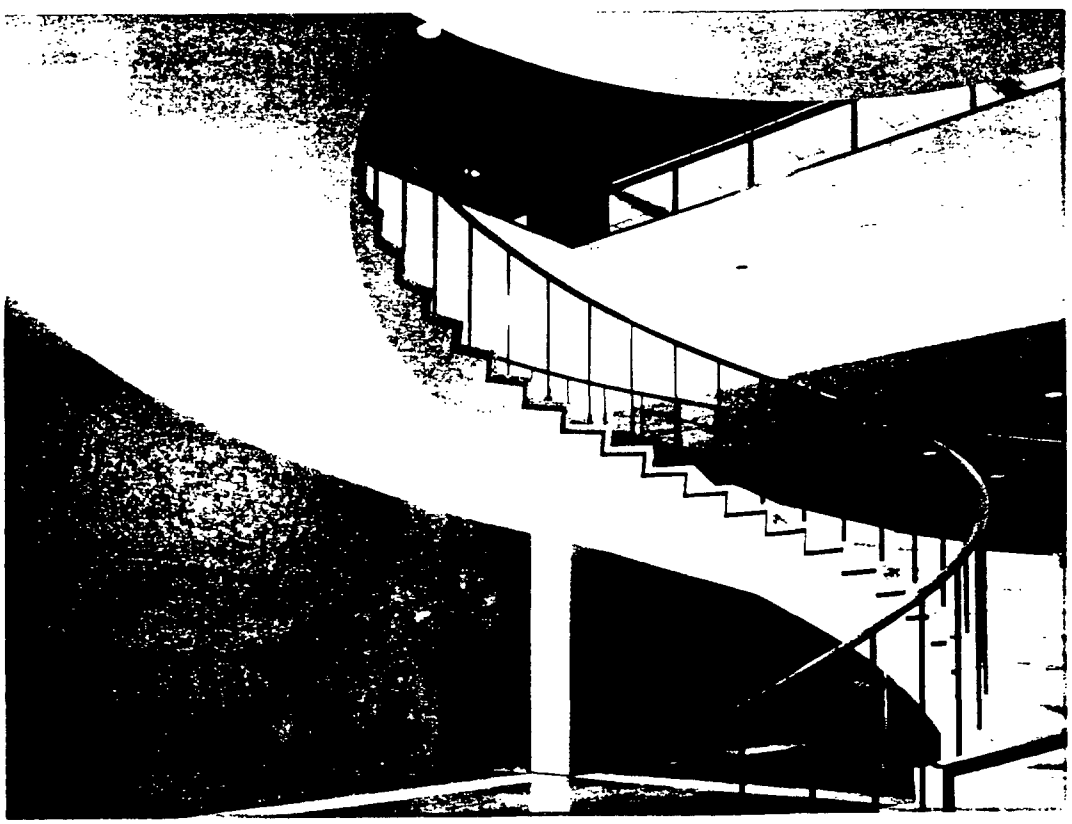
Cement Plaster

PLAINTIFF'S EXHIBIT

USG-1719

USG® GYPSUM PLASTERS

AND FINISHING LIMES



UNITED STATES GYPSUM

1960

A.I.A. File 21-A

CS016 1427

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A. BASECOATS

Correct selection and application of U. S. Gypsum basecoat plasters over a properly prepared standard plaster base such as PYROBAR* gypsum tile, clay tile, concrete masonry units, ROCKLATH* plaster base, metal lath, or monolithic concrete, assures good basecoat plaster adhesion.

USG Gypsum Basecoat Plasters are formulated to set and dry properly under recommended job conditions as covered in the specifications.

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B. FINISHING COATS

Finish coat plaster provides the base for final decoration. It is applied to a thickness of from $\frac{1}{16}$ in. to $\frac{1}{8}$ in., usually over a gypsum plaster basecoat. There are several types of finish coats, each formulated to serve specific requirements and generally classified according to their principal ingredients.

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GYPSUM PLASTERS

DESCRIPTION

The base of all gypsum plasters is gypsum rock or hydrous calcium sulfate which has a water content of about 20% in chemical combination. During manufacture, ¾ of this water is removed. When water is added at the job, the material crystallizes (sets), reverting to its original chemical form.

RED TOP gypsum plasters are specifically formulated to control setting time and other important characteristics. This depends upon the intended method of application, the climatic conditions of the area in which they will be used, and their intended use.

USG basecoat plasters can be applied by using either hand or machine methods, on gypsum and metal lath; gypsum, clay, or concrete tile; concrete or cinder blocks, monolithic concrete; brick, or other approved plaster bases.

FUNCTION AND UTILITY

Plaster has the capability of conforming to any design, and provides the ultimate in durable wall and ceiling surfaces. Since plaster fulfills other important functions in a building as well, selection of the proper basecoat plaster is influenced by the relative importance of several design requirements, including those outlined below.

Location. Gypsum plasters should be selected for use in areas which are not subject to excessive moisture conditions. (See Limitations of Use on pages 4 and 5).

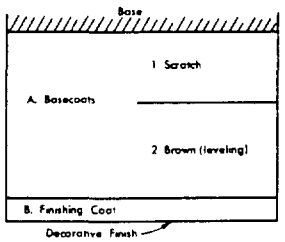
Intended Use. A number of basecoat and finish coat materials specifically designed to withstand maximum abuse are described herein, and should be specified for use when these characteristics are required.

Fire Protection. Gypsum basecoat plasters, properly proportioned with approved aggregates, provide excellent fire protection. (See page 7 for Technical Data on Fire Ratings).

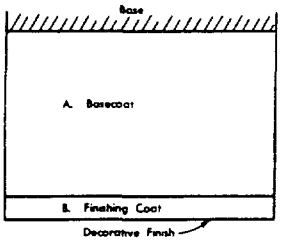
Strength. There are significant differences in strengths of gypsum basecoats. Strength depends upon the type of plaster used, the type and proportion of aggregate used with the plaster, as well as job conditions. (See Technical Data on page 7).

Sound Insulation. Gypsum plasters in combination with specially designed systems, offer sound transmission loss characteristics suitable for most all requirements. Sanded basecoat plasters provide optimum results.

THREE COAT PLASTER



TWO COAT PLASTER



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*T.M. Reg. U.S. Pat. Off.

BASECOAT PLASTERS

PLASTER AGGREGATES For Basecoats

Sand, or either of the lightweight aggregates, perlite and vermiculite, may be used in most applications. All must comply with the requirements of ASTM Designation C-35.

SAND

Sand is most commonly used because of its lower cost and ready availability in most areas. Of all aggregates, it generally provides the greatest strength, hardness, and sound insulation, when correctly proportioned with gypsum cement plaster as shown in the table below.

LIGHTWEIGHT AGGREGATES

Lightweight aggregates, perlite and vermiculite, are often used because of their ease of handling in inclement weather and cold weather, reduced dead load, and excellent fire protection qualities.

However, lightweight aggregate plasters have certain limitations. Their compressive and tensile strengths are generally lower than strengths obtained with equally proportioned sanded plaster. (See Technical Data on page 7.)

Maximum strength of plaster is obtained by not exceeding recommended proportions of lightweight aggregate to gypsum and plastering to full grounds.

A sand float finish is recommended over all lightweight aggregated basecoat plasters.

Gypsum gauged lime putty trowel finish, being hard and brittle, is not compatible with lower strength basecoats and cracking may result. If this finish is desired, it is recommended that 50# of #1 white silica sand or approximately ½ cu. ft. of perlite fines be used per 100 lbs. of gauging plaster. A smooth trowelled surface can be obtained.

Keenes Cement or STRUCTO-GAUGE finishes shall not be used over lightweight aggregated basecoats.

Sand aggregated gypsum plasters offer more favorable sound transmission loss ratings than do lightweight aggregated gypsum plasters.

USE OF AGGREGATES WITH GYPSUM CEMENT PLASTER—Maximum Recommended Proportions

Plastering Base	Number of Coats	Plaster to Sand By Weight	Weight of Plaster to Cubic Foot of Perlite or Vermiculite
Gypsum Lath	Three coats:		
	Scratch coat	1:2	100:2
	Brown coat	1:3	100:3
	Two coats:		
	Basecoat	1:2½	100:2½
Metal Lath	Three coats:		
	Scratch coat	1:2	100:2
	Brown coat	1:3	100:3
Unit Masonry: Gypsum Tile, Clay Tile, Brick, Cement Block	Three coats:		
	Scratch coat	1:3	100:3
	Brown coat	1:3	100:3
	Two coats:		
	Basecoat	1:3	100:3

See information above on light weight aggregates.

BASECOAT PLASTER APPLICATION

HAND APPLICATION METHOD

Plasters are applied by either the two or three coat method. In three coat work, the first (scratch) coat is applied to the base, cross-raked or scratched to provide a rough surface to receive the next coat, and allowed to set and partially dry. The second (brown) coat is applied next, filled out to grounds, levelled to a true plane surface, or to conform to the contours, curves or angles of the design, and left slightly roughened to receive the finish coat. The third (finish) coat is applied when the basecoat has dried sufficiently to receive it. The three coat method is required over metal lath, on certain solid plaster partition systems, on gypsum lath ceiling constructions where edge support clips are used, and is suggested over highly porous masonry surfaces.

In two coat work, the full thickness of the basecoat is applied to the base at one time, either in one or two applications. The levelling and finishing operations are performed in the same manner as in three coat work.

MACHINE APPLICATION METHOD

Machine plasters are manufactured and formulated to withstand the unusual effects common to plastering machine operations such as pressure, agitation, flow through long lengths of hose, and dispersion through the nozzle. They are designed to flow and pump easily and to maintain their excellent plastic working qualities after being sprayed in place. Plasters designed for hand application normally cannot be expected to display this degree of performance when pumped, and conversely, plasters designed for machine application should not be hand applied.

Most USG basecoat plasters made for machine application are supplied without fiber. If fiber is required, they can be supplied with specially processed fibers which will not interfere with plastering machine operation or the flow of plaster through the nozzle.

The same aggregate proportioning and application method recommendations shown herein apply to both hand and machine applied plaster.

Exhaustive tests show that plaster applied by machine generally develops slightly greater strength and hardness than the average figures shown for hand applied plaster, providing that all other factors which affect the strength of plaster are identical. These factors include water usage, setting time, aggregate type and proportioning, drying time and job practices. These advantages can, of course, be nullified by the improper use of excessive water or retarder on the job. Neither of these practices are necessary if good machine operation procedures are followed and the plaster is properly mixed with correct aggregate proportions.

Using proper techniques, the machine method of application often effects economies in plaster construction. This method of application has added to the design possibilities of plastering materials, including greater versatility in the ways in which plaster products can be used. This is particularly true in the fireproofing and acoustical treatment fields.

The following USG Plaster Products are now available for machine application:

RED TOP Cement Plaster for Machine Application (Unfibered)
RED TOP Cement Plaster for Machine Application (Fibered)

RED TOP STRUCTO-LITE Plaster for Machine Application (Regular)
RED TOP STRUCTO-LITE Plaster for Machine Application (Masonry)

BONDCRETE for Machine Application
ORIENTAL Interior Colored Finishing Plaster

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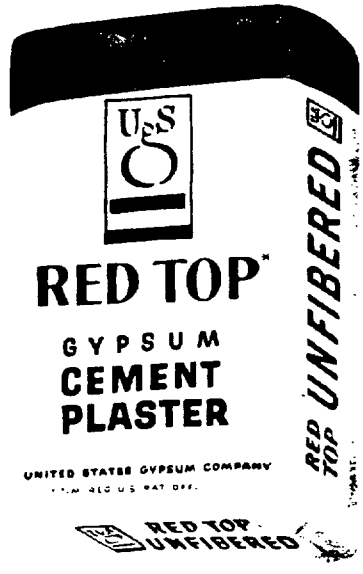
RED TOP CEMENT PLASTER

RED TOP Cement Plaster is a neat gypsum basecoat plaster to which water and an aggregate are added on the job. Complies with ASTM Designation C28 for neat gypsum plaster and Federal Specification SS-P-402, Type N. Used for both first (scratch) and second (brown) coats.



Available in following formulations: Regular—For use with sand aggregate, hand application. LW—For use with lightweight aggregates, hand application. Machine Application—for sand or lightweight aggregates.

Function and Utility

Architects and builders specify RED TOP Cement Plaster:

1. To meet specific published fire ratings as established by local fire codes or insurance rating bureaus;
2. To provide mass for better sound insulation properties;
3. To provide a harder, stronger basecoat;
4. For real economy. The neat gypsum used in RED TOP Cement Plaster is inexpensive. It is mixed with economical aggregate which increases its bulk and its coverage. Highly plastic, it is easily and quickly applied.
5. To take advantage of the several special formulations developed to insure best quality results when used with the various types of aggregates and whether applied by hand or with machine.

RED TOP WOOD FIBER PLASTER

RED TOP Wood Fiber plaster is a gypsum basecoat plaster which contains selected wood fiber, finely shredded. It requires the addition of only water on the job.

RED TOP Wood Fiber Plaster complies with ASTM Designation C28, gypsum wood-fibered plaster, and Federal Specification SS-p-402, Type W.

By comparison with plaster sanded 1:3, RED TOP Wood Fiber plaster has approximately three times greater compressive strength, two and one half times greater impact strength, and 50 per cent greater hardness. Offers far greater resistance to cracking.

RED TOP Wood Fiber Plaster has greater fire resistance than sanded plaster basecoats at equal thickness. See Technical Data on page 7.

It is ready for use—needs only water. Eliminates risk of improper proportioning of plaster and aggregate. Over *unit* masonry, because of excessive suction, *up* to one part of sand *may* be added.

A wood fiber basecoat plaster job costs only 10 to 15 per cent more than the same job done with RED TOP Cement Plaster sanded on site.

Limitations of Use

1. RED TOP Cement Plaster must have aggregate added strictly according to specifications. Use of too much aggregate drastically decreases its strength.

2. Where sound transmission is the prime consideration in partition or ceiling assemblies use *sand* aggregate only, since mass is a controlling factor.

3. BONDCRETE should be used on interior concrete surfaces providing the surface is sufficiently rough to provide a proper bond. Maximum thickness of BONDCRETE and basecoat shall not exceed $^{3}/_{8}$" on ceilings or $^{5}/_{8}$" on walls. If additional thickness is required, self-furring metal lath should be secured to the concrete surfaces. Under no circumstances should RED TOP Cement Plaster or Wood Fiber plaster be applied directly to monolithic concrete.

4. Gypsum Plasters should not be used where in contact with excessive water or moisture conditions. In such instances use portland cement-lime plaster.

Gypsum Plasters may be applied to ceilings or open porches, car-ports, soffits of eaves, walkways, and canopies, but only when these surfaces are horizontal or inclined away from the structure. All such plaster surfaces should be protected from direct exposure to rain and suitable drips and casings provided along edge exposure.

5. Plaster application on masonry walls or concrete,

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*T.M. Reg. U.S. Pat. Off.

RED TOP STRUCTO-LITE* PLASTER

RED TOP STRUCTO-LITE plaster is a high quality basecoat plaster prepared at the mill by a careful proportioning of expanded perlite and gypsum plaster. For use on the job it requires only the addition of water.



STRUCTO-LITE complies with ASTM Designation C28 for gypsum ready-mixed plaster.

Available in several special formulations:

Regular STRUCTO-LITE

Masonry STRUCTO-LITE—for use on high suction unit masonry bases only.

Both products are available for machine application.

The proper proportioning of gypsum cement plaster with a well graded, controlled-density perlite aggregate, and the establishment of a mill-controlled set, help to assure uniform strength in the plaster slab. Because the perlite in STRUCTO-LITE conforms with exacting specifications for density, strength, and gradation, and is thoroughly mixed with the cement plaster at the mill, the plaster coat is of uniform hardness throughout.

STRUCTO-LITE has excellent fire ratings. See Technical Data on page 7.

BONDCRETE* PLASTER

RED TOP BONDCRETE is a gypsum basecoat plaster specially formulated to bond firmly with rough interior monolithic concrete surfaces. It is factory-mixed, and on the job requires only the addition of water to make it ready for use. Complies with ASTM Specification C-28.

BONDCRETE provides a base to receive a brown or leveling coat of RED TOP Cement plaster or Wood Fiber Plaster where three coats are to be used.

If a leveling coat is not required, the finish plaster can be applied directly to the BONDCRETE with excellent results.

BONDCRETE has approximately the same coefficient of expansion as concrete.

BONDCRETE adheres to properly prepared concrete surfaces. For proper conditioning of surfaces, see Specifications, Surface Preparation, page 10. Correct preparation is important.

The low cost of BONDCRETE makes it an economical bonding coat for application directly to rough concrete surfaces.

A specially formulated BONDCRETE for machine application is available.

that have been coated with bituminous compounds, is not recommended.
Because of the possibility of condensation or water seepage, plastering directly to interior side of solid exterior masonry walls above grade or exterior foundation walls below grade is not recommended. In each instance they shall be furred and lathed before plastering. Sub-grade construction should be water-proofed on the exterior side.

6. Radiant heat plaster slabs shall not have surface temperatures exceeding 115° Fahrenheit. Check conductivity of the plaster and aggregate. The thermal conductivity of gypsum-sand plaster is approximately three times that of STRUCTO-LITE.

7. Basecoat plasters must not abut or die against the hollow metal door frame return, unless provision is made to dampen the trim return vibration by grouting, special anchors, or both. Lath and plaster should recess into or behind metal frames or base.

8. Gypsum Plasters designed for Machine Application should be used in plastering machines only. They are not intended for application using hand methods.

9. On remodeling work where a new plaster surface is to be applied over an existing wall or ceiling, the use of self-furring metal lath, with scratch and brown coats of neat wood fiber plaster, will give superior results.

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PORTLAND CEMENT-LIME PLASTER AND EXTERIOR STUCCO BASECOAT

Portland cement-lime plaster is prepared on the job from Portland cement, lime, sand, and water, in the following proportions: For the scratch coat 1 bag of Portland cement, 2 bags of MORTASEAL* lime, 7½ cubic feet of sand, and (over metal lath or stucco mesh) 2 lb fiber. For the brown coat, 1 bag Portland cement, 2 bags MORTASEAL, and 9 cubic feet of sand. It is used for application directly to concrete block, clay tile, or metal lath as a base for ceramic tile, or in areas subject to high-moisture conditions.

It is the basecoat for ORIENTAL* Exterior (colored) finish. It is used for the scratch (first) coat and brown (second) coat over cement block or clay tile, or over sheathing to which STUCCO MESH or self-furring metal lath has been properly applied.

Limitations of Use

1. Each coat requires curing with water after set.

2. Must not be applied directly to smooth, dense surfaces, gypsum lath, or gypsum block. Metal lath must be secured to such surfaces before plaster is applied.

3. Provision is needed for relief of shrinkage in setting and drying at points where ceiling and wall meet, or where beams, columns, and fixtures pass through the plaster. Expansion joints should be provided to avoid excessive continuous areas.

FINISHING COAT PLASTERS

Description

Finish coat plaster provides the base for wall or ceiling decoration. It is usually applied over a gypsum plaster basecoat, and to a thickness of $\frac{1}{16}$ to $\frac{1}{8}$ inch.

Each of the several available types of finish coat has individual characteristics to meet special requirements. These types are generally classified according to the principal cementitious ingredient.

Types

1. Gypsum-gauged-lime, commonly known as "white coat," for a smooth, white trowel finish. It consists of lime properly prepared to a smooth putty and mixed with gypsum gauging plaster. With the addition of sand, it is adaptable for sand float finishes. Structo-gauge is a recent development in gauging plaster which produces high compressive strengths. Lime putty, gauged with Structo-gauge produces economically an extremely hard smooth trowel finish.

For a good white coat, the lime must be highly plastic and properly hydrated. Gauging plaster must be correctly proportioned to lime putty, and ingredients must be thoroughly blended. Careful application and sufficient trowelling during and after set are essential to produce a smooth, glossy surface.

Over lightweight aggregate basecoats, the addition of up to 25# of fine Silica Sand, or up to ½ cu. ft. of perlite fines, per 100# of gauging plaster is recommended, to improve working qualities and to help minimize map-cracking.

2. Keene's Lime: for a hard, smooth, white trowel finish. With the addition of sand, it is adaptable for sand float finishes. Also available mill-mixed and colored under ORIENTAL Interior Finish brand.

3. Gypsum, for trowel (smooth) or sand float prepared finishes.

4. Acoustical Plaster, for sound absorption. Available in SABINITE*, AUDICOTE†, and HI-LITE† types. See page 9.

Dolomitic Lime Hydration

The United States Gypsum Company was the leader in solution of the dolomitic lime hydration problem with the development of IVORY* Double Hydrated finishing lime. This is a "fully" or "pressure" hydrated (less than 8 per cent unhydrated) Ohio dolomitic finishing lime.

ASTM Specification C206 for special finishing lime, and proposed amendments to Federal specifications, cover fully (92 per cent) hydrated limes. The National Lime Association has published its own specifications. This type of finishing lime is required by American Standards Association Specifications for Gypsum Plastering, A42.1-1955.

All high calcium hydrated limes, properly soaked, comply with these requirements, as do high calcium quicklimes, properly slaked.

TECHNICAL DATA—FINISH PLASTERS

	GAUGING PLASTER TO LIME	STRUCTO-GAUGE TO LIME		QUICK TROWELING KEENE'S TO LIME		GYPSUM TROWEL FINISH	GYPSUM FLOAT FINISH	ORIENTAL FINISH
Mix by weight of dry materials:	1:2	1:2 Medium Hard	1:1 Hard	2:1 Medium Hard	4:1 Hard	NEAT	NEAT	NEAT
Color	White	White	White	White	White	White	White or Gray	7 Colors
Finish Texture	Smooth	Smooth	Smooth	Smooth	Smooth	Smooth	Float	Float
Hardness in Kilograms (†)	34	56	108	50	70	55	(‡)	(‡)
Workability	1	1	2	4	7	3	6	5
Cost Factor Labor & Mat'l.	100	125	150	170	180	125	125	160

(†) Kilograms required to force a 10mm ball .01" into plaster face.

(‡) These are hard finishes but the aggregate in the surface does not permit an indication with this test.

*T.M. Reg. U.S. Pat. Off.

FIRE TEST DATA (All tests made at nationally recognized fire testing laboratories)

CONSTRUCTION	PANEL TYPE			RATING
	TYPE BASE	PLASTER & AGGREGATE (H)	THICKNESS	
PARTITIONS				
Wood Frame	⅜" ROCKLATH* Plain	Gypsum-Sand 1:2,	½"	45 Minutes
Wood Frame	⅜" ROCKLATH Plain	Gypsum Wood Fiber	½"	1 Hour
Wood Frame	⅜" Perf. ROCKLATH	Gypsum-Sand 1:2,	½"	1 Hour
Wood Frame	⅜" Perf. ROCKLATH	Gypsum-Perlite 100:2½	½"	1 Hour
Wood Frame	⅜" Perf. ROCKLATH	Gypsum Vermiculite 100:2½	½"	1 Hour
Wood Frame	Metal Lath	Gypsum-Sand 1:2, 1:3	¾"	45 Minutes
Wood Frame	Metal Lath	Gypsum-Sand 1:2, 1:2	¾"	1 Hour
Wood Frame	Metal Lath	Gypsum Wood Fiber	¾"	1½ Hours
Wood Frame	Metal Lath	Gypsum-Vermiculite 100:2½, 100:3½	¾"	1 Hour
3" Hollow PYROBAR*		Gypsum-Sand 1:3	½"	3 Hours
4" Hollow PYROBAR		Gypsum-Sand 1:3	½"	4 Hours
Solid	Metal Lath	Gypsum-Sand 1:2, 1:3	2"	45 Minutes
Solid	Metal Lath	Gypsum-Sand 1:2, 1:2	2"	1 Hour
Solid	Metal Lath	Gypsum-Perlite 100:2, 100:3	2½"	2 Hours
Solid	ROCKLATH	Gypsum-Sand 1:1, 1:2	2"	1 Hour
Solid	ROCKLATH	Gypsum-Perlite 100:2, 100:3	2"	1½ Hours
TRUSSTEEL* Stud	Metal Lath	Gypsum-Sand 1:2, 1:3	¾"	45 Minutes
TRUSSTEEL Stud	Metal Lath	Gypsum-Sand 1:2, 1:2	¾"	1 Hour
TRUSSTEEL Stud	Metal Lath	Gypsum-Sand 1:1, 1:2	¾"	1½ Hours
TRUSSTEEL Stud	Metal Lath	Gypsum Wood Fiber	⅞"	2 Hours
TRUSSTEEL Stud	Metal Lath	Gypsum-Perlite 100:2, 100:3	1"	2 Hours
TRUSSTEEL Stud	⅜" Perf. ROCKLATH BRACE-TITE* Clips	Gypsum-Sand 1:2 or STRUCTO-LITE*	½"	1 Hour
CEILINGS				
Wood Frame	⅜" Perf. ROCKLATH (A)	Gypsum-Sand 1:2	½"	1 Hour
Wood Frame	⅜" Perf. ROCKLATH	Gypsum-Perlite 100:2½	½"	1 Hour
Wood Frame	Metal Lath (B)	Gypsum-Sand 1:2, 1:3	¾"	1 Hour
Wood Frame	Metal Lath	Gypsum Wood Fiber	¾"	1 Hour
Steel Joist (C)	⅜" Perf. ROCKLATH BRACE-TITE Clips Channels 16" o.c.	Gypsum-Perlite 100:2½ or STRUCTO-LITE	⅝"	1 Hour
Steel Joist (C)	Same, plus 14 Ga diagonal wire connecting clips	Gypsum-Perlite 100:2½ or STRUCTO-LITE	½"	2 Hours
Steel Joist (C)	Same, except channels 12" o.c.	Gypsum-Perlite 100:2½ or STRUCTO-LITE	⅝"	3 Hours
Steel Joist (C)	Metal Lath	Gypsum-Sand 1:2, 1:3	¾"	2 Hours
Steel Joist (C)	Metal Lath	Gypsum-Vermiculite 100:2, 100:3	¾"	3 Hours
Steel Joist (C)	Metal Lath	Gypsum Wood Fiber	1"	3 Hours
Steel Joist (C)	Metal Lath	Gypsum-Vermiculite 100:2, 100:3	1"	4 Hours
Cellular Steel Floor	Metal Lath (D)	Gypsum Wood Fiber	1"	4 Hours
Cellular Steel Floor	Metal Lath (E)	Gypsum-Vermiculite 100:2, 100:3	1"	4 Hours
Cellular Steel Floor	Metal Lath (D)	Gypsum-Perlite 100:2, 100:3	1"	4 Hours
Cellular Steel Floor	Metal Lath	Fire Rated STRUCTO-LITE (Type "R")	¾"	3 Hr. (Beam 4 Hr.)
Suspended Channel Ceiling (incombustible constr. above)	Metal Lath	Fire Rated STRUCTO-LITE (Type "R")	1⅛"	3 Hours
COLUMNS				
Steel Section	Metal Lath	Gypsum-Sand 1:2, 1:3	¾"	1 Hour
Steel Section	Metal Lath (F)	Gypsum-Perlite 100:2, 100:3	1"	2 Hours
Steel Section	Metal Lath (F)	Gypsum-Perlite 100:2, 100:3	1⅜"	3 Hours
Steel Section	Metal Lath (F)	Gypsum-Perlite 100:2, 100:3	1¾"	4 Hours
Steel Section	Metal Lath (G)	Fire Rated STRUCTO-LITE (Type "R")	1¾"	4 Hours
Steel Section	PYROBAR*-2" Solid, or 3" Hollow	Gypsum-Sand 1:3	½"	4 Hours
Steel Section	⅜" Perf. ROCKLATH	Gypsum-Sand 1:2½	½"	1 Hour
Steel Section	⅜" Perf. ROCKLATH	Gypsum-Sand 1:2½	⅝"	1½ Hours
Steel Section	⅜" Perf. ROCKLATH	Gypsum-Perlite 100:2½	1"	2 Hours
Steel Section	⅜" Perf. ROCKLATH	Gypsum-Perlite 100:2½	1¾"	3 Hours
Steel Section	2 layers L. L. R. L. Plus 1" 20-ga. mesh	Gypsum-Perlite 100:2, 100:3	1½"	4 Hours

(A) Lath applied with 1⅛", 13 gauge nails, ⅜" head and joints covered with Striplath. 1¾" nails. (B) Lath applied with 1½", 11 gauge, 7/16" head barbed roofing nails, 6" O.C. (C) 2½" reinforced concrete slab on Riblath or 2" precast gypsum tile above. (D) Ceiling 9" or more below floor slab. (E) Ceiling 3" or more below floor slab. (F) Self-furring metal lath wrapped tight to column, or diamond mesh on channel frame not filled solid to column. (G) Lath furred ½" at column corners with channels.

TECHNICAL DATA—BASECOAT PLASTERS (1)

PLASTER	MIX	COMPRESSIVE STRENGTH (PSI-DRY)	WEIGHT (Lb/Cu. Ft. Dry)	CONDUCTIVITY "K"
STRUCTO-LITE (Regular)		900	50	1.74
WOOD FIBER	Neat	2000	77	3.15
CEMENT PLASTER, MIXED WITH:				
Sand	1:1	1800	90	
	1:2	1065	103	5.51
	1:3	650	102	5.60
Perlite	100:2	900	48	1.64
	100:3	550	41	1.31
Vermiculite	100:2	485	48	1.74
	100:3	290	41	1.42

(1) Average Test Results. Figures May Vary Slightly For Products From Individual Mills.

*T. M. Reg. U. S. Pat. Off.

GAUGING PLASTERS

CHAMPION* and STAR* White Gauging Plasters for blending with lime putty to provide initial set and strength. CHAMPION for fast set, STAR for slow set. Ground to blend readily and completely, minimizing risk of check-cracking and crazing. Give strength and hardness to surface finish. Comply with ASTM Designation C28-55 and Federal Specification SS-P-402, Type G.

RED TOP Gauging Available with slow or quick set. Distinguished from White Gauging Plasters by its darker color; otherwise the equal of CHAMPION and STAR in every respect. Complies with same ASTM and federal specifications.

STRUCTO-GAUGE A high strength gypsum gauging plaster for use with lime putty to produce surfaces of extreme hardness and durability. Has excellent mixing qualities, is easily applied, and needs minimum troweling to give a smooth finish. Complies with same ASTM and Federal Specifications with added requirement of compressive strength (neat) of not less than 5000 psi (dry).

FINISHING LIMES

All USG Finishing Limes are manufactured by a revolutionary new gas-fired kiln process. These products exhibit superior working qualities, whiteness and uniformity. Hydrated Finishing Lime (or Finishing Quicklime) is soaked (or slaked) to putty consistency, properly blended with gypsum gauging plaster, and troweled to a smooth, hard finish.

IVORY*. A double hydrated special finishing lime that will not expand measurably in the wall. Requires no soaking to produce smooth, uniform, white, and highly plastic putty. Complies with ASTM Designation C206-49 Types S and Federal Specification SS-L-351, Type F, including the added requirement of not more than 8% unhydrated oxides.

RED TOP and GRAND PRIZE* Normal Ohio dolomitic hydrated finishing limes. Comply with ASTM Designation C6, Type N, and Federal Specification SS-L-351, Type F, but not with specifications limiting unhydrated oxides to not more than 8 per cent.

RED TOP and CHESHIRE* High calcium finishing quicklimes. When properly slaked and aged at least 16 hours, hydration is virtually complete. Comply with ASTM C5 and Federal Specification SS-Q-351, including added requirement of not more than 8% unhydrated oxides (when properly slaked).

KEENE'S CEMENT

RED TOP Keene's cement is a high strength, white gypsum plaster. Keene's lime finish is composed of lime putty blended with keene's cement in proportions required to obtain desired hardness. Complies with ASTM Designation C61-40 and Federal Specification SS-C-161, Type I (Regular) and Type II (Quick Troweling). Regular Keene's sets slowly, requires more troweling and may be used with any proportion of lime.

Quick Troweling Keene's sets faster, requires less troweling and must be used with a minimum of 25 lbs. of dry hydrated lime per 100 lbs. of Keene's cement.

LIMITATIONS OF USE—FINISHES

1. All finishes (except ORIENTAL Exterior) should be used for interior application only, generally over a gypsum basecoat not exposed to water. If exposure to wetting is extreme or continuous use portland cement—lime plaster base-coat and finish.

2. Recommended proportions must be observed. Failure to use sufficient gauging plaster or Kenne's, to blend thoroughly or to trowel adequately, or trowelling too soon before the set takes place may result in check cracking, crazing, lack of hardness and bond failure.

3. The use of smooth trowelled lime or gypsum finishes is not recommended over basecoats in the lower compressive strength range. Use sand float finishes. For smooth putty coat finishes over basecoats containing lightweight aggregates in the higher strength range, the addition of 50# of #1 white Silica Sand or ½ cu. ft. of perlite fines per 100# of gauging plaster is recommended for improved working qualities and to minimize check cracking.

4. Where increased hardness and resistance to abrasion is required use STRUCTO-GAUGE, Keene's Cement or Gypsum Trowel Finish. (See technical data for relative hardness, Page 6). These finishes may be applied over Wood Fiber or Sanded Plaster Basecoats only.

5. Acoustical plasters are designed for use on ceilings and areas not exposed to rough usage.

6. Acoustical plasters are not recommended over radiant heated panel areas due to low thermal conductivities.

7. ORIENTAL Exterior Stucco must be applied over a properly cured Portland cement—lime basecoat, using hand application methods only.

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*T.M. Reg. U.S. Pat. Off.

PREPARED GYPSUM

RED TOP Gypsum Trowel and RED TOP GYPSUM Sand Float. Mill-prepared gypsum finish coat plasters which require only the addition of water. There are no ASTM or Federal Specifications covering this type of plaster.

RED TOP Gypsum Trowel Finish is used where hard, smooth finishes are desired.

RED TOP Gypsum Sand Float Finish is used where a quality float finish is desired.

Strength. Approximately twice the impact strength of ordinary lime-gauging finishes.

Early decoration. May be painted as soon as plaster is set and dry.

Nonalkaline. These finishes contain nothing injurious to paint or other decoration.

COLORED

ORIENTAL Interior Colored Finishing Plaster. A mill prepared, mill colored finish plaster which requires only the addition of water. There are no ASTM or Federal Specifications covering this type of plaster.

Colors: White, with 81% light reflection for float finish; Pewter Gray, 52%; Surf Green, 56%; Desert Rose, 56%; Azure, 58%; Sahara Gold, 63%. This product is to be used on interior surfaces only. It may be floated, textured, or applied by machine, but in no case is it to be trowelled smooth. It provides very great hardness which gives excellent abrasion resistance.

ORIENTAL Exterior. A mill-prepared stucco for exterior use over a portland cement-lime basecoat only; requires only the addition of water.

Colors: Pewter Gray, Eggshell Ivory, Sun Tan, Stone Gray, Copper Rose, Alamo Buff, Mission Cream, Cascade Green, Pueblo Tan, Indian Coral, Rancho Brown, White. Adaptable to any texture. Requires no decoration: mill preparation of color eliminates risk of variation due to job addition. Not designed for smooth trowel finish.

MOULDING PLASTERS

Moulding Plasters are made for specialized work such as casting ornamental enrichments or running cornices. In cast work, moulding plaster is used neat. For running cornice a small amount of lime is added. Moulding plaster is available in white and local grades and in quick or slow set.

CASTING PLASTER

RED TOP Superfine Casting Plaster is similar to RED TOP White Moulding Plaster, but with much finer particle size. Ideal for modeling done directly in plaster. The tiny particles assure smoother castings and excellent detail for fine plaques and art statuary. Requires only the addition of water.

ACOUSTICAL

SABINITE*. A highly efficient acoustical plaster which produces a continuous trowel or float finish of exceptional sound absorbent qualities. Manufactured in four standard colors and white. Requires addition of water only. Incombustible.

HI-LITE*. A highly efficient acoustical plaster with high light reflecting qualities; provides a stipple or stipple perforated finish. Has harder surface than SABINITE; more suitable for side walls above wainscots which require sound conditioning. White only. Over 75% light reflection. Requires addition of water only. Can be applied over either gypsum or Portland cement-lime basecoats. Adaptable for acoustical treatment of areas similar to swimming pool enclosures.

AUDICOTE*. A prepared acoustical plaster requiring only the addition of water. May be applied by machine or by hand over gypsum plaster, portland cement-lime plaster, monolithic concrete surfaces that are clean and free of water-soluble materials or oily film. Made in Satin White (65% light reflection) and Special White (70% light reflection).

*T.M. Reg. U.S. Pat. Off.

Notes to Architect

Select one or more of the following basecoat plasters, aggregates and finish coat plasters as desired or required to meet fire-resistant ratings. Where conductivity of the plaster is a factor, see limitations on Pages 3, 4, and 10.

Where "contact," "furred" or "suspended" lath and plaster ceilings are located under roof deck construction, it is recommended that the space thus established be ventilated. Such ventilation, with or without vapor barrier and insulation, shall be designed in accordance with accepted engineering practice.

I. **Scope.** Unless otherwise specified or shown on the drawings, all walls and ceilings shall be plastered as herein described.

II. **GENERAL PROVISIONS.** In cold weather, the temperature of the building shall be maintained in the uniform range above 55° for an adequate period prior to the application of plaster, while the plastering is being done, and after the plaster is dry. The heat shall be well distributed in all areas, with deflection or protective screens used to prevent concentrated or irregular heat on plaster areas near source. When required, heat shall be furnished by

. . . . . .

Ventilation shall be provided to properly dry the plaster during and subsequent to its application. In glazed buildings, this shall be accomplished by keeping windows open sufficiently to provide air circulation; in enclosed areas lacking normal ventilation, provisions must be made to mechanically remove moisture laden air.

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

III. **GROUNDS.** The minimum thickness of plaster over 16"x48" gypsum lath shall be ½"; over gypsum partition tile brick, clay tile or other masonry, it shall be ⅝" thick; over metal lath, the plaster thickness shall be ⅝" measured from the face of the lath; and ¾" over long length gypsum lath. Solid plaster partitions shall be (2", (2¼", (2½", 3". A greater thickness in grounds may be required for certain fire ratings. See table, page 7, and specify accordingly.

IV. **MATERIALS. Base Coat Plaster** shall be (STRUCTO-LITE), (RED TOP Cement Plaster), (RED TOP Wood Fiber Plaster, (BONDCRETE) as manufactured by the United States Gypsum Company.

Aggregate (for cement plaster), (wood fiber over unit masonry, shall be (sand, (perlite, (vermiculite) meeting the requirements of ASTM Designation C35-54T—"Inorganic Aggregate for use in Interior Plastering."

Aggregate for job mixed sand float finish shall be a graded silica sand all passing a (30 mesh), (20 mesh) screen.

Water shall be clean, fresh and suitable for domestic consumption.

For (Exterior Stucco Base), (Portland Cement-Lime plaster) the **Portland Cement** shall comply with A.S.T.M. Designation C150-47, the **Lime** shall be MORTASEAL as manufactured by the United States Gypsum Company, and the **Sand** shall be clean and sharp and shall meet the requirements of American Standards Association Specifications A42-2.

Finish Coat Plaster shall be:

a. Gypsum gauged lime putty trowel finish made from (IVORY Double Hydrated Lime), (RED TOP Finishing Lime), GRAND PRIZE Finishing Lime), and CHAMPION Gauging Plaster), (STAR Gauging Plaster, (RED TOP Gauging Plaster), as manufactured by the United States Gypsum Company.
b. High strength Gypsum gauged lime putty trowel finish made from (IVORY Double Hydrated Lime), (RED TOP Finish Lime), (GRAND PRIZE Finishing Lime), and (STRUCTO-GAUGE), (RED TOP Quick Trowelling Keene's Cement), as manufactured by the United States Gypsum Company.
c. RED TOP Gypsum Trowel Finish as manufactured by the United States Gypsum Company.
d. RED TOP Gypsum Sand Float Finish as manufactured by the United States Gypsum Company.
e. ORIENTAL Interior Colored Finish as manufactured by the United States Gypsum Company.
f. A job mixed sand float finish made from IVORY Double Hydrated Lime, RED TOP Keene's Cement and silica sand.
g. (SABINITE), (AUDICOTE), (Hi-Lite) Acoustical Plaster as manufactured by the United States Gypsum Company.
h. Ornamental run mouldings made with RED TOP Moulding Plaster and IVORY Double Hydrated Lime, and cast enrichments made with USG Casting Plaster, as required.
i. Exterior finish coat shall be ORIENTAL Exterior Colored finish as manufactured by the United States Gypsum Company.

V. **SURFACE PREPARATION.**

a. Monolithic concrete to which BONDCRETE is to be applied shall be cleaned of all dust, loose particles and other foreign matter. Laitance and efflorescence shall be removed by washing with a 10% solution of commercial muriatic acid and water, and then cleaning with water to remove all traces of acid. Grease and oil shall be completely removed. Concrete surfaces shall have sufficient roughness to provide proper bond. If surfaces are not rough, they shall be hacked or bush-hammered, or dash coated with Portland cement grout composed of one part of cement and one and one-half parts of fine sand mixed to a mushy consistency. This coat shall be kept damp for at least two days immediately following its application and then allowed to dry. Before application of the plaster, the surface shall be evenly dampened if necessary to reduce suction.
b. Unit masonry surfaces that exhibit high suction shall be moderately wetted immediately before plastering.
c. Where RED TOP AUDICOTE acoustical plaster is indicated for application direct to smooth monolithic concrete, low reinforcing bar chair legs shall be galvanized. Bottom ends of high reinforced bar chairs shall be coated with rust inhibitive paint and use of nails or other raw steel against forms or surface of concrete held to a minimum. Where metal is exposed in spite of these precautions, and where AUDICOTE is to be applied directly against corner beads or casing beads, the metal should be treated with one coat of aluminum paint.

VI. **BASE COAT PROPORTIONS.**

a. STRUCTO-LITE shall be regular formula for all lath bases and masonry formula for masonry bases.
b. RED TOP Cement Plaster for the scratch or first coat over all lath bases in three-coat work shall be mixed in proportion of (one part of plaster to not more than two parts of sand by weight), (100 pounds of plaster to two cubic feet of perlite), (100 pounds of plaster to two cubic feet of vermiculite). (NOTE—See exception in Chart on Page 3.)

   RED TOP Cement Plaster for all unit masonry surfaces and for the brown or second coat over lath bases shall be mixed in the proportion of (one part plaster to not more than three parts sand by weight), (100 pounds of plaster to three cubic feet of perlite), (100 pounds of plaster to three cubic feet of vermiculite).

   RED TOP Cement Plaster, when mixed for two-coat work over gypsum lath, shall be mixed in the proportion of (one part of gypsum to not more than 2½ parts of sand by weight, (100 pounds of gypsum to not more than 2½ cubic feet of perlite, (100 pounds of gypsum to not more than 2½ cubic feet of vermiculite).
c. RED TOP Wood Fiber Plaster. For application over all types of lath, shall be mixed with water only.

   For masonry surfaces (except monolithic concrete), the scratch and brown coats of wood fiber plaster may have up to one part of sand by weight added, if needed to counteract excessive suction in the base.
d. BONDCRETE shall be mixed with clean water only.
e. For (Exterior Stucco), (Portland Cement-Lime plaster), the scratch (first coat) shall be mixed in the proportion of one bag of Portland cement; two bags of MORTASEAL (or two cubic feet of lime putty) and seven and one-half cubic feet of sand (approximately 45 No. 2 shovels). For application over stucco mesh or self-furring metal lath, approximately two pounds of fiber or hair shall be added to each mix of the above proportions.

   The brown coat (second coat) shall be mixed in the proportion of one

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bag of Portland cement, two bags of MORTASEAL (or two cubic feet of lime putty) and nine cubic feet of sand (approximately 55 No. 2 shovels).

VII. GROUT. Grout for door frames and metal base shall be (STRUCTO-LITE), (RED TOP Cement Plaster) and not more than (200 pounds sand, 2 cubic feet of perlite) per bag of plaster.

VIII. MIXING OF BASE COATS. For hand mixing, the mixing boxes shall be watertight and thoroughly clean of all set or hardened material. All tools and equipment shall be cleaned after mixing each batch. Do not mix more material than can be used in one hour.

a. STRUCTO-LITE shall be mixed with clean water only and hoed to uniform application consistency.
b. RED TOP Cement Plaster and aggregate shall be mixed dry to a uniform color at one end of the box, hoed into the water at the other end and thoroughly mixed to proper consistency.
c. RED TOP Wood Fiber shall be mixed with clean water only and hoed to uniform application consistency. For application over unit masonry aggregate shall be added and dry mixed prior to adding water.
d. BONDCRETE shall be mixed with clean water only and hoed to uniform application consistency.

For mechanical mixing, the mixer shall be cleaned of all set or hardened material before materials for a new batch are loaded. Each batch shall be mixed separately, not less than 2 minutes or more than 7 minutes, depending on the speed of the mixer. Material that has partially set shall not be retempered or used. Mix no more material than can be used in one hour. Mixers should be equipped with rubbertipped blades to keep partially set material from accumulating in the barrel of the mixer.

a. For STRUCTO-LITE plaster, no aggregate shall be added. Put the approximate amount of water in the mixer and add the STRUCTO-LITE and mix to proper application consistency, adding water if necessary, and dump the entire batch and use.
b. RED TOP Cement Plaster: put the approximate amount of water required in the mixer, then, while the mixer is in continuous operation, add approximately half the amount of aggregate required, add all of the plaster and add the remainder of the aggregate. Mix to proper application consistency, adding water if necessary, and dump the entire batch.
c. For Gypsum Wood Fiber Plaster: add the approximate amount of water required. Then add the plaster and mix to proper application consistency.
d. For BONDCRETE Plaster, add clean water only, then add the plaster and mix to proper application consistency.

IX. GROUTING.

a. All steel door frames in (solid lath and plaster partitions (steel stud partitions) shall be fully grouted prior to lathing, leaving a groove to receive the lath.
b. All 2½" flush metal base for solid lath and plaster partitions and furred exterior walls shall be grouted. Provide a V-Groove to receive (ROCKLATH plaster base) (⅜" Riblath). (Grout after channel studs are erected for channel stud metal lath partitions.)
c. All metal base applied to masonry or stud partitions shall be grouted.

X. BASE COAT APPLICATION.

a. Either hand or machine application methods may be used. For two-coat work over gypsum lath and masonry, the base (first) coat shall be applied with sufficient material and pressure to form a good bond on the gypsum lath or masonry, as the case may be and to cover well, and then be doubled back to bring the plaster out to grounds, straightened to a true surface with rod and darby, and left rough, ready to receive the finish (second) coat.
b. For three-coat work, the scratch (first coat shall be applied with sufficient material and pressure to form good full keys on metal lath, and a good bond on gypsum as the case may be, and to cover well, and then be cross scratched to a rough surface. The brown (second coat shall be applied after the scratch (first) coat has set firm and hard, brought out to grounds and straightened to a true surface with rod and darby and left rough, ready to receive the finish (third) coat.
c. For (2¼") solid gypsum lath and plaster partitions, apply a scratch coat of plaster with a maximum 3-hour set, about ⅜" thick, to each side of the lath. In no case, shall application of scratch coat to second side of lath be delayed longer than the setting time of the scratch coat applied to the first side. Scratch lightly in horizontal direction only.

   After the scratch coats have set firmly and have partially dried (but not less than 16 hours), the brown coat shall be applied to the unbraced side, bringing it out to within ⅛" of ground dimension for finish coat. When brown coat has set firmly (but not less than 3 hours), braces shall be carefully removed from opposite side and brown coat applied to that side in a manner similar to that described for the other brown coat.
d. For (2¼") solid studless metal lath and plaster partitions apply scratch coat and allow it to set and partially dry. Then apply brown coat to side opposite braces, allowing it to set thoroughly before removing temporary braces. Next apply brown coat to previously braced side, bringing it out to sufficient thickness to bring overall partition thickness to grounds when finish coats are applied to both sides.
e. For 2¾" channel stud, metal lath and plaster partitions apply scratch coat on lath side and allow it to set and partially dry. Then apply back-up coat on channel side to full grounds, ⅞" over channels, in not less than two operations and allow to set. Next apply brown coat on lath side bringing it out to sufficient thickness to bring overall partition thickness to grounds when finish coats are applied to both sides.
f. For resilient ROCKLATH ceilings, three coat plaster work shall be used. Apply a full scratch coat, cross rake and allow to set. Then apply brown coat to bring total thickness of plaster to ⅜" over the lath, darby level and leave rough ready for finish coat.
g. For BRACE-TITE system ceilings, apply Gypsum plaster in two or three coats to a thickness of ½". If two-coat method is used, the job setting time of the basecoat plaster shall not exceed three hours. A minimum period of 20 minutes shall be allowed between Scratch coat and double-back applications in two-coat plastering over both plain and perforated ROCKLATH plaster base. Proper heat and ventilation during plastering is mandatory for good two-coat performance.
h. For (exterior wall furring) (hollow partitions) having long length ROCKLATH three-coat plaster work shall be used to a total thickness of ¾" over the lath.
i. For column fireproofing total thickness of plaster over lath face shall be (½", ⅝", (1", (1⅜", (1¾". Apply a full scratch coat, cross rake and allow to set. Then apply brown coat to within ¼" of thickness required and leave level and rough ready for application of finish coat.
j. Where plaster finish is flush with metal bases, door frames, window frames or similar constructions, both the brown coat and the finish coat should be grooved back at the intersection to reduce possibility of chipping of plaster at these points.
k. At windows, doors and other openings all base coat plaster across head of opening and 12 inches down, each side, shall be cut free of frame or grounds with edge of trowel, after stiffening but before setting, to allow for expansion.
l. Scratch coat of (Exterior stucco) (Portland cement—Lime plaster) shall be applied in a full ⅜" coat, with sufficient pressure to form a good bond with masonry surfaces or to force it through and completely embed the metal reinforcement. Cross scratch and, after set, damp cure for not less than 48 hours.

   Brown coat shall be applied over the dampened scratch coat in a full ⅜" coat with sufficient pressure to form a good bond, rodded level and left rough, using a broom if necessary. After set, damp cure for at least 48 hours before applying the finish (third) coat.

   Damp curing of each coat shall be accomplished by applying water in a fine, fog spray. Apply only as much water as is readily absorbed. The frequency of spraying required will depend on the weather exposure, more frequent applications being required during hot, dry and windy weather.

XI. PREPARATION OF LIME PUTTY. IVORY Finishing Lime shall be mixed with clean water only, using approximately 5½ to 6 gallons per bag. The putty may be prepared by overnight soak, or by mixing by hand or machine. Run mixer for sufficient time to get a smooth, thoroughly mixed putty which can be used immediately or run into a box for use as required. When stored in a box after mixing, do not permit putty to get crusty or to dry out. Mixer, tools and equipment must be clean.

XII. PROPORTIONS OF FINISH COATS.

a. Gypsum gauged lime putty finish shall be mixed in the proportions of 100 pounds of gauging plaster to 200 pounds of dry lime (400 pounds, or 34 gallons, of lime putty). Over lightweight aggregate basecoats, add up to ½ part (3 shovels) of fine Silica Sand, or up to ½ cu. ft. of perlite fines, per 100 pounds of gauging plaster.
b. Medium hard STRUCTO-GAUGE-Lime Putty Finish shall be mixed in the proportion of 100 pounds of (Structo-Gauge) to 200 pounds of dry lime (400 pounds, or 34 gallons, of lime putty).
c. Hard STRUCTO-GAUGE-Lime Putty Finish shall be mixed in the porportion of 100 pounds of STRUCTO-GAUGE to 100 pounds of dry lime (200 pounds, or 17 gallons, of lime putty).
d. Medium hard Keene's Cement-Lime Putty Finish shall be mixed in the proportion of 100 pounds of Keene's Cement to 50 pounds of dry line (100 pounds, or 8½ gallons of lime putty).
e. Hard Keene's Cement-Lime Putty Finish shall be mixed in the porportion of 100 pounds of Keene's Cement to 25 pounds of dry lime (50 pounds, or 4¼ gallons of lime putty).
f. Keene's Cement-Sand Float Finish shall be mixed in the proportion of 100 pounds of Keene's Cement to 50 pounds of dry lime and 400 pounds of sand (100 pounds, or 8½ gallons of lime putty) and 4 to 5 cubic feet of sand (27 No. 2 shovels of sand).
g. RED TOP Gypsum Trowel Finish shall be mixed with clean water only to proper application consistency.
h. RED TOP Sand Float Finish shall be mixed with clean water only to proper application consistency.
i. ORIENTAL Interior Colored Finish shall be mixed with clean water only to proper application consistency.
j. ORIENTAL Exterior Colored Finish shall be mixed with clean water only to proper application consistency.

XIII. APPLICATION OF FINISH COATS. Finish coat shall be applied over a partially dry, level and roughened gypsum base coat.

The finish coat shall be scratched in thoroughly and immediately doubled back to fill out to a true, even surface. Thickness should be no more than ⅛". (Except Acoustical Plaster which shall be ½" thick.")

a. Trowel finishes shall be water troweled during and after set to provide a smooth, dense surface for decoration, free of irregularities and blemishes.
b. Float finishes shall be floated with shingle, wood, carpet or rubber float to bring aggregate to the surface and produce a finish free of slick spots, cat faces, and other blemishes. In natural color finishes, use water sparingly while floating. Do not use water while floating colored finishes.
c. Textures shall be applied in such a manner that they will match the sample approved by the architect.
d. SABINITE Acoustical Plaster finish shall be (Trowel) (Float) applied according to manufacturer's directions which are hereby made a part of this specification.
e. HI-LITE Acoustical Plaster finish shall be (stipple-perforated) applied according to manufacturer's directions, which are hereby made a part of this specification.
f. RED TOP AUDICOTE Acoustical Plaster shall be applied using either hand or machine application methods. The finish shall be (Machine Textured) (Floated) (Trowelled) (Stipple-perforated), in accordance with manufacturer's directions which are hereby made a part of this specification.
g. Ornamental plaster shall be executed in accordance with the full-sized details shown on the drawings. Cornices and moldings shall be run full, straight and true with molding plaster, using clean cut metal templets conforming to the profiles shown on the drawings. Lines shall be in alignment, with true intersections, and accurate mitres at corners and angles. Enriched ornamental work which cannot be run in place shall be cast with casting plaster in gelatine molds. The work shall be solidly backed with jute or burlap, shall be properly reinforced with galvanized iron, and shall be securely stuck and wired in place with copper wires not lighter than 16 gauge. All joints shall be carefully made and neatly pointed so as to be invisible. All rough spots shall be eliminated with fine sandpaper, and the entire work left in proper condition, ready for decoration.
h. ORIENTAL Exterior colored finish shall be mixed and applied in strict accordance with the manufacturer's directions. Color and texture to be designated and approved by the architect or his representative.

XIV. PATCHING. Point up around trim and other work. Cut out and patch defective and damaged plaster. Patching of plaster shall match existing work in texture and finish and joinings with plaster previously applied shall finish flush and smooth.

XV. COMPLETION. At the completion of the finish plaster work, clean all plaster from beads, screeds, metal base and metal trim, leaving work ready for decoration by others. Remove all plaster rubbish from the building, leaving floors broom clean. Remove excess material from the job site. Remove all scaffolding, tools and other equipment from the building and job site.

"STRUCTO-LITE," "RED TOP," "BONDCRETE," "PYROBAR," "ROCKLATH," "ORIENTAL," "SABINITE," "IVORY," "GRAND PRIZE," "MORTASEAL," "CHESHIRE," "CHAMPION," "STAR," "BRACE-TITE" "TRUSSTEEL," "HI-LITE," "AUDICOTE" and "USG" are registered trade-marks; "STRUCTO-GAUGE" is a trade-mark owned by United States Gypsum and is used by it to distinguish products of its manufacture.

"STRUCTO-LITE" identifies the particular prepared plaster manufactured only by United States Gypsum.

"RED TOP" identifies the particular plasters and finishes manufactured only by United States Gypsum.

"BONDCRETE" identifies the particular plaster for concrete surfaces manufactured only by United States Gypsum.

"PYROBAR" identifies the particular gypsum partition tile manufactured only by United States Gypsum.

"ROCKLATH" identifies the particular gypsum lath or plaster base manufactured only by United States Gypsum.

"ORIENTAL" identifies the particular colored finishes manufactured only by United States Gypsum.

"SABINITE," "AUDICOTE" and "HI-LITE" identify the particular acoustical plasters manufactured only by the United States Gypsum Company.

"IVORY" and "GRAND PRIZE" identify the particular hydrated lime manufactured only by the United States Gypsum Company.

"CHESHIRE" identifies the particular high calcium finishing lime manufactured only by United States Gypsum.

"MORTASEAL" identifies the particular masonry lime manufactured by United States Gypsum.

"CHAMPION" and "STAR" identify the particular white gauging plasters manufactured only by the United States Gypsum Company.

"STRUCTO-GAUGE" identifies the particular prepared gauging plaster manufactured only by United States Gypsum.

"TRUSSTEEL" identifies the particular truss designed stud manufactured only by the United States Gypsum Company.

"BRACE-TITE" identifies the particular attachment clips manufactured only by the United States Gypsum Company.

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