CGC Basecoat Plasters, Finishing Plasters and Lime Products

DESCRIPTION

For the beauty and durability of which plaster is capable, rigid requirements should be followed as to number of coats applied. Three-coat work is mandatory on all metal lath, and on edge-supported gypsum lath used in ceilings; three-coat work is desirable on all gypsum lath; two-coat work is acceptable on gypsum lath when properly supported and on masonry plaster bases.

In preparing for plastering, consideration should be given to the selection of materials not only for compatability but for the quality of the structure to be plastered.

Basecoat plasters provide a plastic working material which will conform to most designs and help achieve the ultimate in durable walls and ceilings. They can be applied either by hand or machine methods, on gypsum or metal lath, gypsum or clay tile, concrete or cinder blocks, or other approved plaster bases.

Finish plasters serve as a leveling coat over the basecoat to provide a durable surface with the required resistance to abrasion. Some finishes are used as a base for decoration while others provide the final finished surface themselves.

Lime, when used alone as a finish plaster, does not set, is subject to shrinkage when drying and lacks a hard finish. Gauging plaster is blended into the lime putty in the proper proportions to provide controlled set, early hardness and strength, and to prevent shrinkage cracks.

PRODUCT DATA

RED TOP Two Purpose Plaster is a gypsum basecoat requiring the addition of an aggregate, to be used on approved plaster bases. When used with perlite aggregate and machine applied, vertical lift should not exceed 30 ft. (9 m) and hose length 150 ft. (45 m). Complies with CSA Standard A82.22M.

RED TOP STRUCTO-LITE Gypsum Plaster is a mill-mixed perlite aggregate gypsum plaster which requires the addition of only water at the job site.

STRUCTO-LITE weighs less than half as much as sanded base-coat plaster; and provides three times the insulation of sanded plaster. For this reason STRUCTO-LITE is not recommended for use with radiant heated panels. Complies with CSA Standard A82.22M.

LIMITATIONS: (1) STRUCTO-LITE is not recommended for use over metal lath when a smooth trowel lime finish is to be used. It may be sand float finished, or used as a base for acoustical plasters or tile. **(2)** Not recommended for machine application when vertical lift is over 30 ft. (9 m) or when pumped through hoses in excess of 150 ft. (45 m).

GAUGING PLASTER — These quick and slow set gauging plasters comply with CSA Standard A82.22M and are easily blended with lime putty for smooth-trowel or sand-float finishes. High-strength surfaces resist abrasion, impact and cracking. Made to rigid specifications for consistent performance, uniform results. Designed for all types of construction where the important properties of plaster — hardness, high strength, durability and versatility — are required. Generally light gray in colour. Available in two types: Hammer Plaster of Paris — Quick Set (30-40 min.) and Red Top Gauging — Slow Set (50-75 min.)

ADVANTAGES

Types for all systems. CGC Basecoat Plasters are designed to provide a durable, compatible base for finish-coat plasters in a variety of systems. Specialized types suit standard and veneer finishes as well as super-hard surfaces for high-abuse areas.

Fire protection. Gypsum plaster, properly proportioned with approved aggregates, and used with specified plaster bases, provides excellent fire protection.

Sound isolation. As used in various systems, gypsum plaster offers sound transmission loss characteristics suitable for most requirements. Sanded basecoat plasters provide the optimum results.

Control of Set. RED TOP Gypsum Plasters are formulated for use with market aggregates, climatic conditions, and job conditions. The quicker a gypsum plaster sets, the stronger the basecoat.

All components from one source. All components for most plaster systems are available from one reliable source — Canadian Gypsum Co. — and are designed to work together. Controlled quality for top performance, ready availability and expert technical assistance are part of the package.

LIMITATIONS

1. Where sound isolation is the prime consideration, sand aggregate only should be used.

2. Over interior monolithic concrete, a high-quality plaster bonding agent must be applied before plastering.

3. Gypsum plasters should not be used where they will come in contact with water or excessive moisture. They may be applied to exterior soffits that are protected from direct exposure to rain and moisture, and have suitable drips and casings provided along edges.

4. Plaster application on masonry or concrete walls, or ceilings that have been coated with bituminous compounds or other waterproofing agents, is not recommended. Exterior walls should be furred and lathed prior to plastering to prevent seepage and condensation.

5. Basecoat plasters must not die or stop against a hollow metal door frame return. Provision must be made to dampen the trim return vibration by grouting, and by the use of special anchors. The grout must be raked out to allow lath and plaster to be inserted into the frame.

6. Under no circumstances should RED TOP Two Purpose Plaster be applied directly to monolithic concrete without a bonding agent.

7. A smooth trowel finish should not be used over light-weight aggregated gypsum basecoat applied over metal lath. A sand float finish is recommended.

8. Where the gypsum basecoat is STRUCTO-LITE or contains lightweight aggregate (perlite or vermiculite) and a smooth trowel finish is used, the finish coat should be RED TOP Gauging Plaster and lime with the addition of 1/2 ft^3 of perlite fines or 50 lb. of white silica sand per 100 lb. of gauging plaster (3 dm^3 perlite or 5 kg. sand per 10 kg. gauging).

9. Gypsum or lime base finishes, should not be used directly over a portland cement basecoat or over concrete block or other masonry surfaces.

STORAGE AND DELIVERY

Warehousing — Always store plaster in dry, well ventilated warehouse. Rotate stocks by shipping oldest material first. RED TOP plasters are formulated for use during the same season shipment is made from the plant.

Delivering — Protect plaster bags from moisture, both in transit and stocking on jobs. Wet bags cause trouble.

JOB PRECAUTIONS

1. In cold weather, the temperature of the building shall be maintained in the uniform range above 10°C 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.

2. Ventilation shall be provided to properly dry conventional 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.

3. If glazed sash are not in place and the building is subjected to hot, dry winds or temperature differentials from day to night of 10°C or more, openings shall be screened with cheesecloth or similar material.

4. Proper protection shall be provided during plastering for finished door and window frames and other designated areas which do not receive a plaster finish.

Basecoat Aggregate Proportioning

			aggregate per 55 lb (25 kg) bag of plaster			
			damp loose sand (1)			perlite or vermiculite (2)
plasterbase	No. of coats (3)	type of coat	volume	mass	number of No. 2 shovels	volume
gypsum lath	2	scratch double back	1.4 ft³ (39 dm³)	132 lb. (60 kg)	8	1.1 ft³ (31 dm³)
gypsum or metal lath (4)	3	scratch	1.1 ft³ (31 dm³)	110 lb (50 kg)	6½	1.1 ft³ (31 dm³)
		brown	1.7 ft³ (47 dm³)	165 lb (75 kg)	10	1.1 ft³ (31 dm³)
unit masonry	2 or 3	all coats	1.7 ft³ (47 dm³)	165 lb (75 kg)	10	1.7 ft³ (47 dm³)
monolithic concrete	2 or 3	all coats	1.4 ft³ (39 dm³)	132 lb (60 kg)	8	1.1 ft³ (31 dm³)

(1) One No. 2 shovel of damp loose sand may be considered the equivalent of 16 lb (7.5 kg) mass and 0.17 ft (4.7 dm) volume.
(2) For perlite or vermiculite aggregate, see limitation (a), in Part 2.5.
(3) The number of coats indicated includes the finish coat.
(4) Three coat work must be used over metal lath.

Approximate Coverage — Basecoat Plaster

	coverage per 55 lb (25 kg) bag (1)		
type of plaster	gypsum lath	metal lath	unit masonry
RED TOP Two Purpose (sand aggregate)	108 to 122 ft² 10.1 to 11.3 m³	56 to 65 ft² 5.2 to 6.0 m²	86 to 96 ft² 8.1 to 9.0 m²
STRUCTO-LITE (premixed)	74 to 80 ft² 6.9 to 7.4 m²		59 to 65 ft² 5.5 to 6.0 m²

(1) Based on following thicknesses, including finish coat.
1/2" (13 mm) on gypsum lath
5/8" (16 mm) on metal lath (from face)
5/8" (16 mm) on unit masonry

APPLICATION (Basecoat)

Two-coat application: Over gypsum lath and masonry, apply base (first) coat with sufficient material and pressure to form good bond to base and to cover well, and then double back to bring plaster out to grounds. Straighten to a true surface with rod and darby without use of additional water and leave rough to receive finish coat which is the second coat.

Three-coat application: Apply scratch (first) coat with sufficient material and pressure to form good full keys on metal lath, and good bond on other bases, and then cross-rake. Apply brown (second) coat after scratch (first) coat has set firm and hard. Bring out to grounds and straighten to a true surface with rod and darby without use of additional water. Leave rough to receive finish coat which is the third coat.

Special Applications:

Monolithic concrete to which a plaster bonding agent is to be applied shall be free of dirt, dust, grease, wax, oil or other unsound surface conditions. Laitance, efflorescence and parting compounds shall be chemically removed. Apply plaster bonding agent to concrete surface in a continuous film according to manufacturer's directions. Apply basecoat plaster by firmly grinding a thin coat into the bonding agent. Immediately double back to a completed thickness leaving a level surface ready to finish plaster application.

CGC Basecoat Plasters can be applied by using either hand or machine methods on gypsum or metal lath; clay tile, concrete or cinder blocks, or other approved plaster bases.

Strength — There are significant differences in the strengths of gypsum basecoat plasters (see technical data). The strength of gypsum basecoat plaster is dependent on five factors.

a. Water-Plaster Ratio — The water required to produce a plastic mix depends on the amount and type of aggregate. Excess water reduces strength.

b. Aggregate Proportion and Size — Correct proportions with gypsum plaster and balanced gradation of particle size (see CSA A82.57-M for standards) are needed to obtain desired strength.

c. Control of Set — CGC Gypsum Plasters are formulated for use with market aggregates, climatic conditions, and job conditions. The quicker a gypsum plaster sets, the stronger the basecoat.

d. Time of Application — Plasters should be applied within one hour after mixing to assure desired strength and proper bond.

e. Ventilation and drying are important adjuncts to producing a strong basecoat once the gypsum plaster has set. Not only must the plaster be dried, but the moisture must be removed from the building.

APPLICATION (Finish Coat)

Finish Coat Plasters

The finish serves as a levelling coat and provides a smooth surface for decoration. The most common finish over a gypsum basecoat plaster is a smooth trowelled gauged lime-putty. The gauging plaster imparts early hardness and strength, and minimizes the shrinkage characteristic of the lime.

Gauged Lime Putty — for a standard smooth-trowelled finish, gauge in the proportion of 22 lb (10 kg) gauging plaster to 44 lb (20 kg) dry lime (equivalent to 1 part gauging to 3 parts lime putty by volume). Where basecoat contains lightweight aggregate, add 1/2 ft³ of perlite fines or 50 lb. of silica sand per 100 lb of gauging (3 dm³ perlite or 5 kg sand per 10 kg gauging). Coverage is approximately 97 to 107 ft² per 44 lb. bag of lime at 1/16" thickness (9 to 10 m² per 20 kgs of lime at 1.5 mm thickness).

Application Data — CGC Finish Coat Plasters

description	finish texture	physical properties	proportioned by dry weight gauging to lime	comments	ft²/ton	m²/tonne
Gypsum Gauged Lime Putty	Trowel Smooth	Standard	1:2	For normal use, over lightweight aggregate basecoat add 1/2 cu. ft. of Perlite fines or 50 lbs. of No. 1 silica sand per 100 lbs. gauging	481-552	440-505
Gypsum Gauging Lime Putty and Sand	Trowel Smooth	Standard	22 lbs. (10 kg) Gauging 44 lbs. (20 kg) Lime 176 lbs. (80 kg) Sand	For normal use over any basecoat	252-301	230-275

Trowel Finish Coats: Scratch plaster in thoroughly and immediately double back to fill out to a smooth dense surface for decoration, free of surface blemishes and irregularities. Apply finish coat as thin as possible, preferably 1/16" (1.5 mm) to not more than 1/8" (3 mm) maximum thickness.

Gypsum Sand Float Finish: This finish shall be mixed in the proportion of 1 part gypsum basecoat plaster to not more than 2 parts of sand by mass. Scratch sand float finish in thoroughly with a trowel to an even surface and then float (use 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.

Limitations

a. A smooth trowel finish should not be used over lightweight aggregate gypsum basecoat applied over metal lath. A sand float finish is recommended.

b. Where the gypsum basecoat is STRUCTO-LITE or contains lightweight aggregate (perlite or vermiculite) and a smooth trowel finish is used, the finish coat should be RED TOP Gauging Plaster and lime with the addition of 1/2 ft³ of perlite fines or 50 lb of white silica sand per 100 lb of gauging plaster (3 dm³ perlite or 5 kg sand per 10 kg gauging).

c. Gypsum or lime base finishes should not be used directly over a Portland Cement basecoat or over concrete block or other masonry surfaces.

CGC HYDRATED LIME PRODUCTS

PRODUCT DATA

FINISHING LIME:

The purpose of finishing lime is to provide plasticity and bulk to the finish coat. Lime, however, does not set, is subject to considerable shrinkage when drying, and will not produce a hard finish when used alone. For these reasons it is mixed with gypsum gauging plaster to provide hardness and resistance to shrinkage.

There are two types of CGC finish limes: (1) normal (single) hydrated and (2) double hydrated. Each requires different handling for slaking or soaking in order to produce a good finish lime putty.

RED TOP HYDRATED FINISH LIME — Highly plastic, easy working, pure white, RED TOP single hydrated finish lime provides extremely smooth, hard finishes when properly mixed with gauging plaster. For proper results, soak hydrated finishing lime at least 16 hours overnight in box using approx. 4.4. gal. (20 litres) of water per 44 lbs (20 kg) bag of lime. Complies with ASTM C6 Type N.

SNOWDRIFT DOUBLE HYDRATED

FINISHING LIME — A 9% hydrated finishing lime. Does not require soaking, and virtually eliminates the possibility of future expansion within the finish coat because of unhydrated magnesium oxides. Complies with ASTM C206, Type S (not more than 8% unhydrated oxides).

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