

ORIENTAL STUCCO

FOR EXTERIOR SURFACE

"Stucco" is a word that has been applied to any kind of plastering, interior or exterior; modern building phraseology confines its use to a cementitious exterior material.

Stucco of one kind or another has been used since the earliest days of building construction. Ruins which include stucco work, dating back as far as 3500 B. C., are located in Mediterranean lands. Stucco work of lasting quality was done by the Egyptians, by the Greeks, by the Romans and by Europeans of more recent times.

Types of Stucco

The Romans used a material composed of Roman Cement, which consisted of a mixture of finely ground volcanic rock and slaked lime combined with sand and calcareous material. This material, when successfully applied, proved to have remarkable lasting qualities and the weathering of the centuries has given it a unique style of beauty. It did not, however, possess the uniformity and dependability which characterize the present-day, mill-mixed stucco materials.

Lime Stucco, i. e., a material composed of lime putty, sand or other aggregates and water, and oftentimes the addition of a small percentage of cement, is one of the oldest of stucco materials. Hair fibre was often added to assist in forming the key, and color was also often included in the mixture. Many of the oldest buildings and ruins in both the Old World and the New, are significant evidence of the early use of lime stucco. The use of lime stuccos for both base and finish, however, has not been popular in this country, due very largely, no doubt, to the length of time required for hardening.

Lime stuccos and cement stuccos made

either of natural cement or Portland cement, continued to dominate the stucco field, until the rise in the use of magnesite stuccos within recent years.

The use of magnesite stucco began about the beginning of the present century. The crest of the wave of magnesite popularity was reached about 1922, but by 1925 magnesite competition had virtually ceased to be a factor in the stucco field. Lack of uniformity in the product itself was one very real factor in the failure of magnesite stucco to measure up to the requirements of a satisfactory stucco material. The necessity for the use of magnesium chloride with magnesite, was not only bothersome, but also increased the labor cost, as well as the difficulty in securing proper results. Magnesite jobs weathered poorly, rain tended to soften them and it was not uncommon to find magnesite jobs of a few years in age which could be peeled off with one's thumbnail, after having been subjected to beating rain.

There are today in this country two leading types of stuccos—Portland cement stuccos and Oriental Stucco.

In comparison with Portland cement stuccos, Oriental Stucco has several points of advantage. Portland cement finishes are not as plastic as Oriental Finish, and hence will not cover the same yardage. The low covering capacity of a Portland cement material as compared with other plastic materials is a fact admitted by the Portland Cement Association and reliable manufacturers of Portland cement stuccos. Portland cement finishes are more difficult to texture than Oriental Finish because of the greater amount of Portland cement contained in Portland cement stucco formulas. Oriental Stucco offers superior protection from the weather.

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The combination of Oriental Stucco Base Coat and Oriental Stucco Finish Coat has been proven by experience to be highly satisfactory. Stucco jobs in Europe of essentially the same formula as our own Oriental formula, have stood the test of centuries. Oriental jobs in this country have given satisfaction for twenty years. As to the lime finish coat there are jobs of this nature in this country which have stood since Colonial times, both in the south and in the far west.

Oriental Stucco Base Coat, chiefly of Portland cement, gives a quick-setting material which provides the proper structural strength for the job, gives the proper thickness to the outer wall and serves as a base for the finish coat, which carries the decoration. The finish coat furnishes the decoration, provides the medium for texture work and offers ideal protection to the base coat in particular, and the job in general.

Characteristics of Period Uses of Stucco

(We suggest that the texture sheet at the end of the Oriental Stucco section be consulted in studying this.)

GREEK

The Greeks used stucco to cover the irregular contours of sun-dried brick and fill up the depressions between. They evidently put it on with a board, and then attempted to smooth it to approximate evenness by a series of downward strokes with a paddle. These paddle marks are one of the distinguishing characteristics of Greek stucco surfaces. Whites, light grays and ivories were the colors used most by the Greeks.

ITALIAN

Curved sweeping trowel marks are characteristic of the Italian style, whether noted in buildings that have been standing for

centuries or in modern construction. The second outstanding characteristic of the Italian manner is the artistic use of colors—buffs, pinks, creams and other tints, and white.

SPANISH

The earliest attempt of the Spaniard represents a rough textured effect somewhat between the Greek and the early Italian, done with simple, primitive tools. Evidently in this workmanship the heavy trowel marks were smoothed down by the use of a brush. Later, the Moors brought into Spain their refining influence, and we find that the Spanish style of today is a distinctive combination of coarse textured and colored stucco, set with glazed tile often laid in patterns and relieved by wrought iron grille work. The prevailing colors are yellows and pinks, along with white. While a wide variety of textures is found in Spanish stucco work, the prevailing texture is very rough, the result of surface finishing with a coarse brush or trowel.

ENGLISH

The Englishman worked hurriedly and with coarse materials, and so the irregular sweeping marks of the trowel left in the stucco are the distinguishing features of the early stucco work in this country. A decorative influence was added in the 16th Century by the arrival of Italian artisans, who introduced the art of pargeting, or the addition to plain panels of a rough-cast pebble dash. Soft colors—buffs, tans and grays—are the predominating colors in English stucco work.

FRENCH

The prevailing type in French stucco work is an irregular rough cast, finished with a brush into a semi-smooth texture. The keynote of the French style is harmony, so we find light grays, creams and white predominating to blend with natural color of the building materials which are most commonly used.

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MODERN EUROPEAN

While there is great variety in the stucco finishes being applied in Europe today, perhaps the one in most general favor is the semi-smooth but irregular trowel texture which leaves the markings of the trowel showing plainly. Deep colors are often used to achieve the desired effects, and strong contrasts are frequently obtained by the use of brightly colored brick set at irregular intervals in stucco surfaces. Tile, mosaic, half timbers and bas-relief in stone and plaster also offer pleasing contrasts.

COLONIAL

American Colonial homes with their dignified simplicity used a finer texture than the rough ones of Europe. Whenever the Colonists used stucco, they finished it with a good float, which left an almost smooth surface, resembling a fine stipple. White and occasionally ivory and cream were the colors most often used by Colonial craftsmen.

CALIFORNIA MISSION

When the Spanish entered the southern and southwestern portions of the United States, they naturally brought with them styles of architecture from the home land. The missions of Southern California come to mind instantly as being typical of this type of stucco work. The Indian lads who applied the stucco were unskilled in its application and the material with which they worked was coarse and rough. The result was not the same as that which had been obtained in Spain. The usual method of applying the final coat to the wall was to spatter it on and this produced a uniformly rough cast texture.

For colors, the Spanish had the Spanish-Italian hues in mind but they were limited to the natural earth colors which they could find in their new surroundings. Red, tan buff and yellow shadings, with occasionally white, predominate in the California mission.

MODERN CALIFORNIA

The architecture of Modern California is a blending of many influences—the old Spanish Mission, the Italian, the French and the English. Probably the most widely used texture is a trowel finish which leaves the irregular marks of the trowel plainly showing. Grays, pinks, creams and buffs are the predominating colors; white and yellows also are frequently found.

MODERN AMERICAN

America has borrowed from all nations and periods for its architecture. It is thus only natural that one should find the greatest variety in stucco textures as well as in architectural lines. Most of us think of Colonial as the typical American architecture and it is fair to say that the smooth trowel and float finish textures so characteristic of Colonial, is the most favorite American exterior. While this texture is quite uniform, the markings left by the finishing float or trowel offer a pleasing variety, and accounts largely for its beauty and charm. In color, the stucco exterior of today takes the prevailing tones of the nation from which it is borrowed. In the Spanish type there are the usual reddish tints, pinks, yellows and other deep hues. In the English and French, the more subdued tones predominate, while in the Colonial, white and grays are preferred.

Manufacture

The Oriental Stucco which we have to offer to the trade today, is the result of much research on the part of both the United States Gypsum Company and the former J. B. King Co., who originally introduced the brand to the public. Changes have been made in the product from time to time, to improve its working qualities, with the result that today Oriental Stucco is in a class by itself in the stucco field.

Introduced about 1910, Oriental Stucco Finish has successfully stood the test of nearly twenty years on the job. In 1924,

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when the J. B. King Company was taken into the United States Gypsum Company, all stuccos were in bad repute with the building public, as a result of the failure of many magnesite jobs. To provide opportunity for research work on the product, the management decided to keep Oriental Stucco off the market for the entire year of 1924. It was re-introduced to the trade as a U.S.G. product January 1, 1925, with but little change in the formula. Oriental Stucco Base Coat was also introduced more generally over the entire country for the first time as the proper material over which to apply Oriental Stucco Finish.

Oriental Stucco Base Coat

The use of carefully selected and carefully graded materials and the mixing of these materials under scientifically controlled condition, assures the user a superior base coat material. The basic ingredients in Oriental Base Coat are Portland cement and sand, mixed with lime and certain other ingredients in accurate proportions.

The plasticity of Oriental Stucco Base Coat is greater than that of a job mixed Portland cement base coat, which means economy of time and labor in application as compared with a job mixed stucco.

Oriental Stucco Finish Coat

Oriental Stucco Finish, properly applied, assures a permanent job. Weathering serves to improve its lasting qualities. Color uniformity, texturability, freedom from cracks (other than structural), large covering capacity, economy—all are points of superiority in Oriental Finish Coat as the result of years of research and actual job experiences in arriving at the present formula.

Oriental Stucco Finish is a scientifically mill-controlled mixture of ingredients having hydraulic properties. Lime and white

Portland cement are the basic ingredients in the formula, with pure white Connecticut marble for aggregate and mineral oxide color pigments for the coloring matter. These are mixed in correct proportions under carefully controlled conditions. Designating Oriental Stucco Finish as a material having hydraulic properties associates its identity with the Old World stuccos which have been used for centuries.

At the present time (1928) Oriental Finish is manufactured at New Brighton, N.Y., Gypsum, Ohio, and Sweetwater, Texas, and is stocked at our principal mills and warehouses.

How to Prevent and Remedy Stucco Troubles

LIME BLOOM

Lime bloom is usually caused by too slow drying. It can be prevented by permitting application of stucco finish only during favorable weather conditions, avoiding freezing, damp or rainy days, which would tend to a very slow drying action.

The remedy is a wash with a muriatic acid solution, the strength of which will be determined by the condition of the job. A stiff brush can be used for the acid wash, which should be quickly followed by a thorough wash of clean water to remove entirely all of the acid. Completely removing the acid is most important.

CRACKS

It should first be brought to mind that heavy textures applied and immediately exposed to high winds and fast drying conditions will invariably tend to check-crack somewhat, no matter what stucco is used. The tendency for stucco to check-crack under ordinary conditions, however, can be eliminated through the use of the proper kind of stucco (Oriental Stucco) and the proper application. In dry weather, the

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base coat should be wet down before the finish coat is applied. The Oriental Stucco Finish in use since July, 1927, has a very high factor of safety against check-cracking. Proper application is, as always, essential. Thoroughly scratch into the brown coat an initial thin coat of finish (which we might call the finish scratch coat) and then double back with more finish stucco for working in the texture. In very dry weather it is best to keep the finish coat sprayed for three or four days after application. This point is covered in our regular Oriental Stucco Direction Sheet.

One of two methods is possible to remedy a check-crack stucco job—fill the cracks and then go over the entire surface either with paint (Texolite) or a dash coat of stucco of the same color.

Structural cracks may be due to any one of a variety of causes. Settlement cracks can of course never be blamed to faulty stucco or faulty application practice. The difficulty there arises from a major movement of the structure itself, and what happens to the stucco is merely incidental to the general movement. Certain precautions can, however, be exercised to prevent ordinary structural cracks. Correct application of the wire reinforcing or metal lath is most essential. Proper application methods are pointed out in our Oriental Direction Sheet. For the sake of emphasis, we repeat that wire reinforcing should be lapped and not merely butted. Folding is necessary at corners. Double wire reinforcing is desirable around windows, doors and other openings. Good material, sound construction and proper application are, as always, requisite. If structural cracks occur in the base coat, they will usually show up in the finish coat also.

When structural cracks appear, the remedy is one of three methods:

- (1) Cut out cracks and fill in with more finish coat. This requires skillful workmanship and never gives a perfect job, because the patch always shows to some extent (this is

due to the uneven suction and also to the impossibility of joining the texture exactly).

- (2) Fill cracks and cover the entire area with a dash coat of finish.
- (3) Fill cracks and paint entire surface. We recommend for this purpose the use of Texolite, a stucco paint manufactured by us and peculiarly fitted to the redecorating of stucco jobs.

Elimination of Joinings

Of course, the most satisfactory method of preventing joinings showing, is to stucco the entire surface at one time. The next best expedient is to pay careful consideration to natural breaks, such as the corners of the house, windows and doors, or other openings, peculiarities of architectural design or other places which would tend to make a natural break and which would detract the eye from any joinings which might be necessary. If joinings are absolutely necessary on an unbroken area, the best practice is to carry the finish scratch coat 6 or 8 inches beyond the last bit of texture work. This means that when the work is left for a brief space of time, there will be from 6 to 8 inches of finish scratch coat showing, which does not have texture work over it. On the next area, apply the finish scratch coat, and the texture coat as before and then finish up the texture work by going over the 6 or 8 inches remaining from the previous area. Avoid excessive troweling at joinings.

Weathering

Oriental Stucco, like all exterior surfaces, will show signs of weathering. It will not fade. Laymen are apt at times to confuse weathering, a perfectly natural and inevitable process, with fading. Weathering is

largely a matter of the accumulation of soot and dirt on the surface. It is only natural that this situation should occur to a greater extent in city areas, than in rural regions. This weathering is, however, an advantage rather than a disadvantage. In the first place, it brings about a skin coat of lime carbonate which thoroughly seals the job and protects it from the elements. It is this action which increases the hardness, density and water resisting qualities of Oriental Stucco Finish. (Herein lies a big factor in the superiority of Oriental Stucco over magnesite.) Weathering furthermore enhances the beauty of Oriental Stucco jobs.

Cleaning

When an Oriental Stucco job needs cleaning, soap and water may be used if the job is not too dirty. If this fails to bring about the desired degree of cleanliness, a wash of muriatic acid is suggested. In cases where an acid wash fails to renew the job satisfactorily, we recommend the use of Texolite. Directions for the application of Texolite are given in the Direction Sheet, Form TL-1.

Careful reading of the Oriental Stucco Direction Sheet which is included with this manual, will repay every U.S.G. salesman.

The Sale of Oriental Stucco

Numerous articles have appeared in issues of the "GYPSUMIST" setting forth ways and means which various U.S.G. salesmen have employed in the sale of Oriental Stucco. These articles have been written and incorporated in your magazine for your benefit. There is no "perfect" plan for selling Oriental Stucco. Confidence in your product, plus ingenuity in properly presenting it to your territory mean much more than a sales formula.

Successful results can most frequently be achieved by persistent work with the plastering contractor. Pick out an aggres-

sive and capable plastering contractor in each market in your territory and concentrate your efforts on him. Solicit his aid in recommending Oriental Stucco to his clients. Co-operate with him in building up a demand for stucco work.

Oriental Stucco is a quality product and should be sold as such. Where price is the paramount factor, stress quality first. Our price is in line with the leading competitors in most markets. Where it is not, but business is assured if proper price concessions are made, we suggest that you refer your problem to your District Manager for his consideration.

In certain cases, requests may be made for a guarantee on Oriental Stucco. This will necessitate explanation why we do not give a guarantee on the finished job of Oriental Stucco. We do guarantee the materials which go into the manufacture of Oriental Stucco, i. e., we guarantee that correct materials only are used in making Oriental Stucco; but we do not guarantee the results on a job, because of the complexity of the situation, the fact that we cannot test fully in each individual case the architectural design, the quality of the construction work, the ability of the mechanics who are doing the job, etc. Could we control all of these variables, the matter of giving a guarantee would be a very different proposition.

There are to be sure, a number of stucco manufacturers who do guarantee their material and its results, but in most instances, these guarantees mean little, if anything. We suggest that if you are ever confronted with the problem of giving a guarantee, that you put it up to the individual concerned in this fashion. Stress the standing and reputation of the United States Gypsum Company, and its more than twenty-five years of loyalty to dealers and consumers along with the usual emphasis on quality products. The assurance of quality materials supplied by a reputable company should carry more weight with the trade than a written guarantee of doubtful value given by an irresponsible concern.

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