



WHAT TO EXPECT FROM: EXTERIOR APPLICATION OF PIGMENTED STUCCO

This letter is designed to briefly describe what one may encounter when a colour impregnated Portland cement plaster (stucco) is applied to the exterior of a building.

First and foremost, the quality of the stucco application is dependant primarily on the craftsmanship of the applicator/contractor. A contractor should be selected by observing previous projects that have been completed, by interviewing end purchasers of the finished product and by their general good reputation in the area.

When it comes to stucco application “the lowest price” is **not** “the law”. Stucco is a time and weather sensitive product. Quality contractors will inform the builder/owner of the following things.

1. The scratch (first) coat should be applied at temperatures above 4°C and should not be allowed to drop below freezing during the curing period. We realize that temperatures may vary during application and even drop slightly below the 4°C mark. The most important point is that freezing must not take place within the first 24 hours for proper hydration of the stucco and to reduce porosity. If stucco is allowed to freeze within the first 24 hours of curing the strength and ability to repel moisture is severely reduced.
2. The brown (second) coat may be applied over the scratch coat when it has set sufficiently to prevent slumping or within 24 hours.
3. Temperatures that are too high will cause quick evaporation, which stops the hydration process. Poorly hydrated walls will not achieve proper strength. It is not recommended to apply stucco over 40°C. When temperatures are above 25°C and the relative humidity is below 70%, moist curing must take place. If the temperature is above 25°C and the humidity is above 70%, moist curing is **not** necessary. Moist curing requires misting the walls (not soaking) in the morning and evening for 2 to 7 days for best results. If the owner is not willing to pay the contractor for this service they may do it themselves after proper instruction.
4. Once the scratch and brown coats have been allowed to cure for 7 days the finish coat may be applied. This is where the issue of colour accuracy and consistency come into play. We mention the following site concerns to help one appreciate the relationship between colour results and the elements during application, not as an out for poor craftsmanship.

The pigments used to colour the stucco are naturally occurring oxides. As such they are subject to variation when mined. To minimize these variations on the project, contractors are encouraged to use pigments with the same batch numbers when possible for the entire project. Even then variations may occur due to changing site conditions. Temperature, humidity, sunlight and wind all play a part in achieving the final colour. For example:

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the finish coat may be applied on the bottom half of a 2 story home in the morning at 10°C in the fog and the second story in the afternoon at 18°C in the sun. Using exactly the same amount of water to cement to pigment ratio yet achieving a different colour. High temperature and the fast drying effect of wind will also generally lighten the colour.

Colour variations may also occur where excessive moisture occurs on the wall. This may happen during the 7 day curing period if heavy rain leaks from down spouts, or run-off below windows. These areas will dry darker due to the excess water, which allows slower curing. This is especially noticeable with darker colours.

Another possible colour problem may occur when the contractor is asked to go beyond the darkest colour on the colour chart. These colours are determined by volume of pigment loading. The Building Code will not allow anything beyond 6% pigment loading by volume in Canada. When this is tried the colour often turns out blotchy. The excess pigment also diminishes the strength of the stucco.

The occurrences of colour problems are minimal in comparison to the projects completed. We encourage builder/owners to listen carefully to an experienced plastering tradesman for suggestions for best results. If the builder uses the fraise, "I don't care, just get it done", then either run away or get it in writing.

Colour charts can only be a close approximation of colour when dealing with cementitious products due to the reasons mentioned previously. Certain pigments are more sensitive to colour variation than others, thus greater care must be taken during and after application. Colour chips are formulated under ideal lab conditions and colour charts always mention that variations may occur.

The appeal of using stucco for an exterior cladding has always been it's raw earthy appearance; it's durability and toughness. When someone wants a monolithic appearance with colour consistency they will choose an acrylic stucco finish or a high quality exterior acrylic paint designed to coat stucco. The acrylic stucco finish offers a wider variety of colours to choose from but costs more due to increased labour and material costs.

If further information is required please contact your IMASCO representative.