Judging Stucco Installations

As natural, hand-applied products, stucco finishes cannot be expected to achieve perfection. This technical paper represents the viewpoints of multiple stucco industry associations, covering manufacturers, applicators, consultants, and technical experts, to offer guidance to industry professionals when evaluating plaster finishes.

Distance
Stand 10’ from the building to evaluate plaster texture, flatness, cracking, and other appearance issues.

Lighting
Keep in mind that light cast parallel to the wall or at a small angle relative to the wall (“critical light”) can make minor texture and flatness issues look significant. Light from overhead can make lights and at dawn and dusk can cause this type of light to bias an inspection. Revisit these areas at different times of day, with and without lights turned on, to judge plaster execution. No plaster installation can be expected to look perfect under critical light conditions.

Panel Size
Any discrepancy may appear more significant on larger plaster panels, relative to how they may appear on smaller plaster panels. Thus, plaster with large panels should be expected to show more imperfections.

Quantitative Standards of Flatness
A plaster surface should be straight and true to within 1/4” in 10’ in the field of the plastered surface (do not check over an accessory). With this flatness criteria, normal lighting, and proper viewing distance, the “eye-catching” concerns should be minimal.

Hardness
Cement plaster gains compressive strength over a period of approximately 28 days. Early evaluations of hardness should consider the time since application. Final hardness (after 28 days) should be sufficient to withstand abrasion and penetration from a key or nail without causing the plaster to turn to powder or delaminate.

Protection from Moisture
Horizontal surfaces (stucco surface facing upward) must be sloped and sealed. A waterproof membrane should be installed under the plaster.

Color
Perhaps the most subjective area to judge. Extreme care must be taken in evaluating color to control for all sources of perceived color variation, keeping in mind that the following influence how people perceive color:

- Smooth texture: Smooth finishes appear darker than rough surfaces.
- Light: Source affects perceived color, as the same surface may take on a different appearance under fluorescent, incandescent, and daylight light sources. Be sure to evaluate the color under the light source that the plaster will eventually be subjected to.
- Colors of surrounding objects: Reflected light from landscaping and other materials on a building can have a significant effect on the perceived color of the plaster.

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• Weather: Plaster exposed to moisture and sunlight can change over time. Keep this in mind when evaluating samples that have been subjected to different environments against field plaster installations. Also, rain and cold conditions can cause efflorescence, a buildup of white salts on the surface of plaster. This can cause a viewer to incorrectly perceive the color to be lighter than the underlying plaster actually is.

• Physiological differences: Approximately one person in 25 has some form of color blindness. Plaster products should be carefully tinted and blended by the manufacturer, and samples should be kept for later evaluation. If the manufacturer has produced materials that match closely at the time of shipment, then the environmental considerations in the bulleted list above should not allow a plaster installation to be judged out of specification.

**Cracking**
See the Plaster Council’s Technical Bulletin 4 entitled “Crack Policy.”

**Texture**
Texture should be relatively consistent throughout the job. Care should be taken to apply the stucco in a way that leaves minimal noticeable texture differences, but inspection should consider the size of the panels and the hand-tooled nature of stucco finishes.

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