DIAGNOSTIC EXAMINATION OF SURFACE

PREPAINTED SURFACE:
1. The type of paint product applied. It is best to obtain documentation regarding previous painting work. If no other information available, it is possible to perform a few practical tests: placed in direct contact with flame, a product based on an emulsified organic bonding agent will soften, while mineral-based (lime, silicate, lime-cement) product will not undergo any alteration; another possible test to identify whether the paint or coating is organic is to thoroughly moisten the surface with nitro thinner. If the film softens, you may rule out the possibility of a mineral paint; instead it will be a product based on an organic bonding agent.

TESTING THE ADHERENCE OF OLD PAINTS:
2. On smooth painted surface. Use the cutter to make a series of parallel incisions approximately 2 mm apart. For example, 10-12 incisions that cut through to the support surface. Then make a series of similar incisions perpendicular to the first, to form a grid. Apply adhesive tape to the grid, making sure it adheres firmly, then tear it off. Adherence may be considered sufficient if at least 80% of the paint remains attached. If the detailed portion is much greater, check the back of the film removed by the tape, to make sure that the tape has not removed the surface layer of plaster along with the paint itself. In this case the problem may be that plaster needs to be consolidated or even resurfaced. Repeat the test in various areas.

3. Presence of “chalking”. Chalking is caused by deterioration of the existing paint, and appears as a whitish powder over the surface. This should not be confused with the powder caused by smog or dirt deposits, which are normally grey in colour. Chalking can be determined simply by applying and removing normal transparent adhesive tape or rubbing with a black cloth, or even more simply-often by rubbing a damp finger across the surface. An analysis of the previous types of paints may provide indications helpful in choosing the new paint. If organic paints or wall coatings have been found, you must lean toward a painting system consisting of corresponding products (paints or wall coatings based on acrylic dispersion, vinyl or acrylic-siloxanic). If lime or silicate based mineral finish is necessary, you must remove old paint or use appropriate linking base coats to improve adherence. If the old paints are found to be chalking, this requires treatment with a high-penetration consolidating impregnator, such as insulating agent based on solvent micro-dispersions in water.

OLD OR NEW PLASTER SURFACES:
4. The porosity and degree of absorption of the plaster. When water is poured directly onto the masonry, observe its behaviour: if it rolls along the surface without penetrating the support is not very porous. If instead the water is absorbed quickly, the support is very absorbent. If the water absorption is too high, special care must be taken in isolating the surface using the appropriate bonding agent. Excess absorption by the support surface will cause the paint applied to dry too quickly creating an unsatisfactory appearance due to poor spreading: visible brush marks; excess relief and uneven marks left by the roller; difficulty blending painted areas with those to be painted. Outdoor support surface may even absorb the bonding agent leaving a film with highly reduced resistance due to the lack of bonding agent. For the surfaces with uneven absorption, it is best to apply a consolidating insulating agent in different amounts or dilutions, to even out the absorption of the support and avoid uneven colouring.

5 Alkalinity: If the plaster is new, recently applied or treated with mineral products, we recommend testing its aggressiveness (pH level) which might otherwise affect the integrity of the paint resin or degrade the pigments, altering the colour. Apply a few drops phenolphthalein solution (chemical indicator for pH) directly onto the surface: if it does not change the colour the surface is non-aggressive (suitable for painting). If instead the colour turns red, the support is alkaline and thus aggressive (not suitable for painting without appropriate bonding). Based on the type of support, the danger of surface alkalinity increases in the following order: chalk, lime-based plaster, cement plaster (including pozzolanic), exposed cement. Although surface treatments are available that neutralize alkalinity, the safest solution is to paint plasters only when the support has lost its alkalinity as a result of spontaneous reaction with the carbon dioxide present in the air (carbonation). In the specific of reinforced concrete, it should be pointed out that although its surface must be carbonated in order to be painted, inside it retains a high degree of alkalinity, which is essential in order to avoid corrosion of the metal rebars used for reinforcement. There are types of coatings that have been developed to prevent carbon dioxide from penetrating within and thus preserve this internal alkalinity.

6. Plaster cohesion and consistency: Use a small hammer to test whether the plaster “rings hollow” especially near cracks or crevices. If it does not adhere to the masonry, it must be removed and restored using the appropriate smoothing coats. Plaster that is inconsistent must be completely eliminated.

The above information is given to the best of our knowledge based on laboratory test and practical experience. However, as the paint is often used under condition beyond our control, we cannot guarantee anything but the quality of the paint itself. We reserve the right to change the given data without prior notice.

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