4 | **ASSESSMENT OF THE BASE**

INSTALLER LIABILITY. The first essential operation the installer must carry out is to assess the characteristics of the base, and understand if it is suitable for the covering to be applied or if it must be prepared beforehand. All detachment issues that have transpired over the years have been caused by incorrect assessment of the base and incorrect use of the adhesive, especially when installing panel solutions. It is the installer who is held responsible for these detachment problems, in accordance with arts. 1667-1669 of the Italian Civil Code.

murogeopietra must always be applied to solid structures constructed in line with professional building practices. **Surfaces where Geopietra® coverings are to be applied must be strong enough to withstand a covering of approximately 50-70 kg/m² (35-50 kg Geopietra, 5-8 kg Geocoll, 8-13 kg GeoBi); in the case of installation on external thermal insulation the manufacturer must guarantee a capacity of 70 kg/m²**. In particular the adhesive must be able to bond sufficiently to withstand the stresses that are created between the covering and the structure, without it coming off. Contrary to common belief, **the main problem is not the weight of the stones but the thermal expansion between the various materials**, caused by changes in weather, temperature and drying times. The possibility of detachment increases when two surfaces are not bonded together sufficiently.

4.1 MISTAKES TO AVOID

1. Installation in the presence of paint/varnish. No paint, varnish, surface waterproofing treatment or other finish has the mechanical characteristics to support the stone, being designed to support their own weight only and adapt to structural movements. The application of a wall covering, with thermal expansion characteristics incompatible with the base in the presence of such finishes, will cause it to detach over time.

2. Installation on ready-mixed plaster. There are cement-based ready-mixed plasters on the market with good mechanical strength characteristics that support **murogeopietra** after taking the appropriate measures. Several others exist, which are lime-based or similar, that do not support the weight of the wall covering. Before putting a wall covering directly onto plaster, it is advisable to consult the manufacturer and the installer for case-specific guarantees. Check there is no dust or loose material on the base, which is typical with the final stages with ready-mixed plasters (scratch coat).

3. Installation on a standard skim coat. A standard finish with a skim coat of plaster (or fine mortar), which is lime-based, creates a weak, insubstantial surface similar to paint and without the mechanical strength characteristics required to support wall coverings.

4. Installation with adhesive only applied to the base with a toothed spreader and without a double application. Using an installation technique similar to a standard tile technique (especially with the P16 and P12 models), where the adhesive is only spread on the base with a toothed spreader will definitely cause the covering to become detached. Absorption between the **Geopietra®** and the base quickly removes the water from the adhesive, blocking the chemical reaction in progress and hampering adhesion to the base.

5. Adhesive not suitably bonded to the base. Applying the adhesive to the feature only and pressing it on the base with light pressure will not ensure secure bonding. **Geopietra®** requires adhesive to be applied using a wet-on-wet technique, ensuring distribution over the entire surface of the feature, and exerting firm pressure with side movements until any excess adhesive is squeezed out and the bond is secure. (suction effect).

6. Installation with high/low base temperatures that overheat/freeze the adhesive. The bonding and hardening features of adhesives occur via the chemical action triggered by the water in the mix. A lack of water blocks the chemical reaction, compromising the hardening procedure and the possibility of obtaining the mechanical characteristics required. A mix which is too hard and base temperatures that are below zero or over 30°C can ruin an adhesive and its ability to set, resulting in detachment over time.

7. Installation on very absorbent surfaces. The same issues outlined in **number 6** can also transpire with a very absorbent base. The rapid removal of water from the adhesive interrupts the chemical hardening action without the required technical characteristics being obtained.

8. Prior application of primers, bonding agents or sealants. There is a mistaken belief that in the presence of unstable bases any issues can be resolved by using bonding agents or sealants. In practice the opposite is true, as they only work on the surface or to a depth of a few millimetres, and do not strengthen the section which is unstable. Even if they acted more effectively, they would still prevent the passage of vapour, potentially causing problems with condensation or causing the wall covering to detach in more serious cases.

9. Installation on non-waterproofed retaining walls. The infiltration of water can cause marks to form on stone and lead to the formation of saltpetre, ruining the material and causing detachment in more serious cases.