

Performance of External Thermal Insulation Composite Systems (ETICS) with finishing ceramic tiles

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ABSTRACT

External Thermal Insulation Composite Systems (ETICS) are innovative systems; their application improves the buildings' thermal insulation, reduces thermal bridges, protects the walls from temperature variations thus increasing the structure durability. They enable the application of a diversity of finishing materials.

Ceramic tiles finishing, which are very traditional in Portugal, can improve the impact resistance of those systems.

The assessment of ETICS performance and durability is carried out based on "ETAG 004 – Guideline for European Technical Approval of External Thermal Insulation Composite Systems with rendering", that establishes requirements and test methods.

However, systems with ceramic tiles finishing are not covered by ETAG 004. Therefore, it is necessary to adapt test methods and requirements for this type of systems.

This paper presents an assessing methodology for performance of External Thermal Insulation Composite Systems (ETICS) with ceramic tiles finishing and its application to a specific system. An experimental campaign is being carried out and tests of bond strength in ETICS after natural weathering were already performed and are presented. Those tests measure bond strength between base coat and insulation board and between tiles and base coat.

KEYWORDS

Assessment methodology, thermal insulation systems, ETICS, finishing ceramic tiles

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