

## Resumen ponencia 67

### A scientific approach to after-kiln planarity problems in Gres Porcellanato tiles

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#### Abstract

It is industrially well known that, for some type of products, in certain ranges of tile thickness and water absorption, and particularly for large sizes, even if the tiles let out the kiln having a good planarity, in short-medium times (*i.e.* from some minute to three-four days) a warping or leaning of the pieces occur, bringing to convex or concave tiles stored.

If this phenomenon happens on glazed tiles, many explanations, based on the lack of accord of linear expansion coefficients, can be proposed, but those deformations occur the same on unglazed tiles, and previous studies never fully clarified the reasons of this behavior.

By a proper set of tests, and by industrial products study, applying XRD structural analyses, SEM-EDS observations, grain size distribution measures, dilatometry, hot fleximetry etc. a further attempt to have a better understanding was made, bringing to some interesting hypothesis.

Keywords : Gres Porcellanato, planarity, concavity, convexity