

## **Mapping of Natural Stone Types Based on Colour Measurements**

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Colour measurements by reflection are the expression of visual appearance of a variety of rocks used and marketed as decorative Natural Stones (Ornamental Stones). These measurements are obtained automatically by a portable colorimeter providing a set of parameters that are characteristic of each colour.

The colour parameters obtained experimentally in a set of representative slabs of Portuguese natural stones were submitted to Principal Components Analysis (PCA), whose results show a clustered distribution around each colour, similar to the visual appearance identification. According to PCA results, colour standards expressing commercial types of natural stones are established.

Using the colour standards for each ornamental stone type, kringing per type is applying the indicator formalism. Based on this estimation, maps of a large area in the south of Portugal are produced, providing a sound basis for a regional inventory of *in situ* commercial Natural Stone types.