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## Paper #229194

### GLOBAL HERITAGE STONE: THE EXCELLENCE OF PORTUGUESE ESTREMOZ MARBLES

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Palaeozoic calcitic marbles are found in the Estremoz Anticline, Ossa-Morena Zone (Southern Branch of the European Variscides in Portugal). The 40 km NW-SE structure present outcrops continuity and intense mining activity since the Roman Period (fourth century BC). The structure has a Precambrian core and the younger rocks aged Devonian Period. The marbles occupy an intermediate stratigraphic position in the Cambrian age Volcano Sedimentary Sequence. The Variscan Orogeny performed twice with different intensities under ductile and brittle tension fields. The Alpine Cycle also acts and causes more fracturing of the marbles. These show spatial-temporal continuity of the deformation where a complete Wilson Cycle can be described. The geological features imprint the marbles beautiful aesthetic patterns that are highlighted when used as Dimension Stone (DS).

The marbles exhibit physical properties allowing fabrication of structural and decorative elements. In the Roman period, pieces of art made with Estremoz Marbles were exported abroad and can be found in Museums and Archaeological Sites throughout Europe and North Africa countries.

During the maritime expansion, altars, stairways, columns, statues, etc., were carried as ballast in the holds of ships. At the destination the Portuguese had built monuments which can now be found in South America and Africa countries.

The Modern DS Industry Global Market allows Portuguese Marbles to be present all over the World. Notice that every variety of marble has enough reserves to sustain the mining activity for several hundreds of years.

The Alentejo hallmark whitewashed houses are a landscape that can only have been developed by the availability of marbles to produce quicklime. The marble based built heritage is very rich and is always present. The countryside is marked by intense mining activity living side by side with rural industries, namely wheat fields, groves, orchards and vineyards; therefore the region has unique characteristics allowing the development of integrated industrial tourism routes, promoting sustainable development of industrial, scientific and technological culture opportunities.

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