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Examination of plate thickneses using cluster analysis

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Mugla White marble is used as building stone. It has a coarse-grained and white color. Its Moh's hardness is 3, density is 2.71 gr/cm3. Mugla White marble can be perfectly polished and processed. Therefore, the main usage fields of this marble are exterior and interior-decorator and floor. It is very important for these fields to be plate thicknesses and parallelisms. In this study, the block taken as the sample for Mugla White marble was cut as 245 plates. Of these 245 plates, 49 plates were taken as sample. Thickness measurements were performed at eight different points for each sample plate. By using the thickness measurements, similarities of plate thicknesses and parallelisms were examined. Plate similarities were determined by using the cluster analysis from multivariable methods. As a result of this analysis, it was determined very high similarity for 49 plates. According to maximal thicknesses having two different plates, the similarity of the plates was assigned as 82.44 %. Consequently, it was showed that the cluster analysis can be used to determine the similarities or differences of plates in exterior and interior-decorator and floor.