



## New instruments for determining dimensional characteristics of large format tiles

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The standards for the ceramic tiles certification have been developed for traditional-sized products, when large format ceramic tiles have not reached current market volumes. Consequently, the applicability of these test methods, tuned up to characterise a product according to a standard, in some cases is arduous. It occurs, for example, for measuring the dimensional characteristics (as stated in the standard EN ISO 10545-2) of ceramic tiles having dimensions larger than 60x60 cm. In order to fill the gap between the test methods usually used in the laboratories and the need to certificate these novel products, some techniques, new to the ceramic field, but since long used in other industrial fields, were analysed. At this aim two new instruments, a coordinate measuring machine CMM and a portable three-dimensional measuring arm were used to perform the measurements, comparing the results with those obtained with a data-plucometer, traditionally used to perform the test. The analysis was conducted on tiles having dimensions lower than those usually named as "large format tiles", with the aim to demonstrate the possibility to use these new techniques also for the ceramic purposes. The work done to set up the software used to elaborate the data acquired allowed to perform the test following exactly the abovementioned ISO standard. The experimental campaign conducted has shown a good agreement between the data-plucometer results and the results obtained with the new techniques, confirming the possibility to use these last ones to perform the tests on large size ceramic slabs. Moreover, the work has highlighted some insights to open discussion on normalisation tables.

