



CENTRO CERAMICO - BOLOGNA

CENTRO DI RICERCA E SPERIMENTAZIONE
PER L'INDUSTRIA CERAMICA

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VOC **Volatile Organic Compounds Emission** **of ceramic tiles manufactured by** **FLORIM Ceramiche**

As regards ceramic tiles manufactured by FLORIM Ceramiche S.p.A. (brands Floorgres, Rex, Cerim, Casa Dolce Casa, Casamood, Kronos Ceramiche), according to the CREDIT EQ 4.2 "Materials for floors and walls cladding at low emission" of LEED Buildings Certification (Leadership in Energy and Environmental Design),

It is certified that

- a) Ceramic tiles manufactured by FLORIM Ceramiche S.p.A. are obtained by an industrial process in which the firing phase is oxidant and it is performed at high temperature (ranging from 950°C to 1200°C), depending on the type of product.
The following types are produced:
 - Unglazed porcelain stoneware tiles with water absorption $\leq 0,1\%$ (EN 14411, annex G);
 - Glazed porcelain stoneware tiles with water absorption $\leq 0,5\%$ (EN 14411, annex G);
 - White body double-fired glazed tiles with water absorption $> 10\%$ (EN 14411, annex L).
- b) During firing, in the presence of oxygen, any organic compounds in the ceramic product become oxidised (combustion), with consequent emission of combustion gases. This process can be considered completed in a temperature range of 450°C÷500°C. Above this temperatures, no organic compounds can be present in the fired material.
- c) It can be concluded that, after firing at these temperatures, **ceramic tiles manufactured by FLORIM Ceramiche S.p.A.:**
 - **are completely without VOC;**
 - **won't give off VOC during their use, in any operating conditions.**

Prof. Eng. Giorgio Timellini
Director

