



# UNIVERSITÀ DEGLI STUDI DI MILANO

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Laboratorio di Processi e Impianti chimici per la Chimica Industriale

Test Report N. GF/2.2015

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## Test: testing of degradation of **NO<sub>x</sub>** in air on **Calacatta Active™** **300x150 cm**

Milan 22/09/2015

Date of receipt	10/09/2015
Analysis start date	14/09/2015
Analysis end date	21/09/2015
Material	Ceramic Materials
Product	Ceramic slabs in porcelain gres
Sample	<b>Calacatta Active 300x150 cm</b>
Test information	<ul style="list-style-type: none"><li>• Test of photodegradation of NO<sub>x</sub> in air.</li><li>• Tested sample: collected and cut in a 2x20 cm sample from an original slab, intact in all its parts, randomly chosen from a production batch.</li><li>• Pre-treatment methods: in accordance with ISO 22197-1, the sample was UV-A irradiated for 6 hours and then immersion in deionized water for 2 hours.</li><li>• Light source: UV-A Jelosil 500, intensity 2.0 mW/cm<sup>2</sup>.</li><li>• Exposure time: 6 h.</li><li>• Initial concentration of NO<sub>x</sub>: 1000 ± 100 ppb in synthetic air.</li><li>• Type of reactor: for research purposes. Results published in international scientific journals <sup>1,2,3,4</sup>.</li><li>• Analytical method: chemiluminescence (SERINUS 40).</li><li>• Reproducibility: the measurement was</li></ul>

<sup>1</sup> J. Phys. Chem. C 111 (2007) 13222

<sup>2</sup> Nanoscale Research Letters 4 (2009) p.97

<sup>3</sup> Cement and Concrete Composites, 36 (2013) 116-120

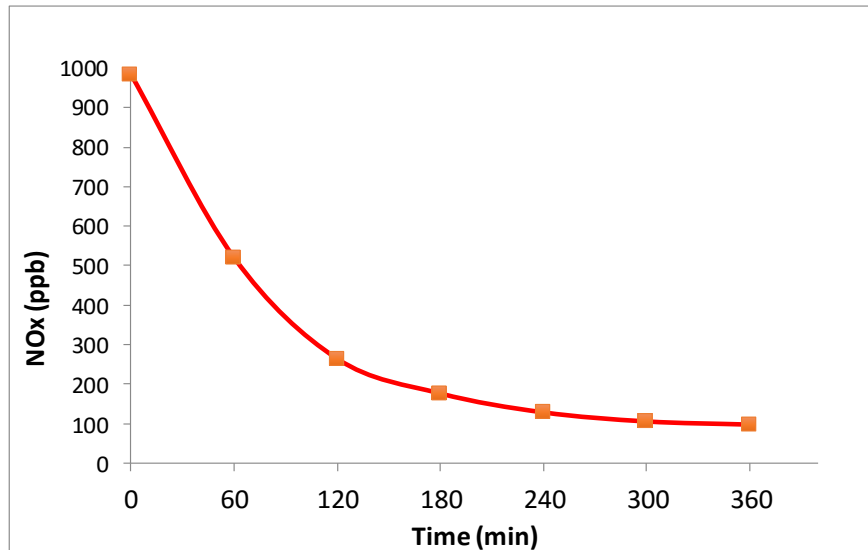
<sup>4</sup> Chemical Eng J, 261, (2015) 76-82



repeated on no. 5 samples, cut and randomly chosen from # 5 different slabs.

## Results

The performance towards the degradation of NO<sub>x</sub> for the material under test is here reported.



## Conclusions

The slab of porcelain grès **Calacatta Active™ 300x150 cm** appears to be **very active in the photocatalytic degradation of NO<sub>x</sub> in air**. In reference to the experimental data obtained after 6 hours of testing, the percentage of degradation of NO<sub>x</sub> is equal to **90.0%**.

The Scientific Director

Prof. Claudia Letizia Bianchi