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Object: comparison between the photocatalytic efficiency of 100 m² of Lapitec Sintered Stone Bio Care BL tiles and the natural adsorption properties of trees in the NO_x removal

Lapitec Sintered Stone Bio Care BL samples were tested in the photodegradation of NO_x in air. Obtained experimental results were put in correlation with literature data concerning the natural power of trees, in particular their leaves, to adsorb and store pollutant molecules such as CO, SO₂, ozone and NO_x from air. On this topic it is possible to take into account two main papers: the “Executive Summary”, published in 1994, reporting one year data obtained monitoring the air quality of the whole urban and suburban Chicago area [USDA Forest service Gen. Tech. Rep. NE-186 (1994)], and the paper by Wellburn on New Phytologist [139 (1998) 5]. More specifically, the adsorption efficiency of the leaf surface was estimated to be equal to 3,8 μl/dm² h for NO and 22,3 μl/dm² h for NO₂ [New Phytol. 103 (1986) 199].

On this basis, comparing the above reported data with those experimentally obtained in the NO_x photodegradation using Lapitec Sintered Stone Bio Care BL tiles, it is possible to claim that:

100 m² of Lapitec Sintered Stone Bio Care BL tiles degrade an amount of NO_x in 6 h equal to the daily job of about 28 trees, estimated to be the same as 21,9 m² of foliage.

To the best of my knowledge and belief,

Prof.sa Claudia L. Bianchi

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