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RESEARCH ON THE USE OF ENVIRONMENTALLY FRIENDLY ADDITIVES IN THE BUILDING INDUSTRY

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Abstract

The use of adhesives for floor covering have been deeply modified for longtime, by formulations of polymer-based products in aqueous dispersion as an alternative to organic solvents. These advances envisaged ways for obtaining nonpolluting products. Developing these adhesives required the parallel development of methods for monitoring and analyzing the emissions over time. This paper shows the results of some research devoted to identify the indoor presence of volatile organic compounds as a result of floor covering with adhesives containing VOCs. For accomplishing this objectives, an “environmental test chamber” was designed. The polymers that are being added to the adhesives are placed on the glass plates inserted into the test chamber. A stream of air is forced through the chamber and all the volatile organic compounds are collected and analyzed by means of gas chromatography. A systematic analysis of the large quantity of results made it possible to establish a bi-logarithmic correlation of emissions vs. time by which the overall emission behaviour for the 24, 48 and 240 hours can be predicted with adequate estimate.

Key words: adhesive, desorption, emissions, monitoring methods, polymers, solvents

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