2nd Global Summit on
RECYCLING AND WASTE MANAGEMENT
July 22-23, 2019 | Tokyo, Japan

Mineralogical engineering of environment: Mineralogical technology of total destruction of asbestos

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This method leads to the destruction of asbestos fibers, and thus eliminates the carcinogenic properties of materials containing asbestos. It involves keeping granulated mass obtained e.g. from powdered asbestos-cement roofing material, mixed with additives in appropriate proportions, at high temperatures. The process is exothermic and is carried out in rotary kilns used in the production of cement. The resulting product is a kind of clinker which does not contain asbestos fibers. The technology examined in laboratory conditions was tested and confirmed in the semi-technical conditions in the Department of Glass and Building Materials in Krakow of the Institute of Ceramics and Building Materials in Warsaw, and it was assessed positively. The product obtained by means of this technology maybe used (marketed) in a number of industries, which reduces the cost of the processing of asbestos and its derivatives into an asbestos-free product. The current handling of asbestos and its derivatives involves removing of the asbestos-cement roofing material and burying it in special dumping grounds. That is not liquidation of asbestos, but its mere removal from one place to another, where it can still enter the environment. The patented technology presented in this article completely eliminates asbestos and its negative impact on the environment, including in particular a possible development of cancer in humans.

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