

physical properties, mineralogical and chemical composition of rocks vary in high degree. Annual dolomite extraction volume is approximately 2800 thousands m³ in average, clay – only 150 thousands m³ in average. The layers consist of different types of dolomite or clay. It is a possibility to recommend in details extraction methods and technologies according with different rock type characteristics and differences in physical properties in order to lead to create new demanded building materials composed of clay and dolomite.

Detailed investigation and re-estimation of Devonian dolostone and Devonian and Quaternary clay resource qualities point out new aspects of usage of mineral resources in Latvia.

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PHOTOCATALYTIC ACTIVITY OF TiO₂ COATINGS DEPOSITED ONTO POROUS SILICA GLASS FIBRES

G.Meziņskis, M.Slesareva, I.Juhnevica, D.Andersone,
M.Karpe, A.Sutka

Riga Technical University, Institute of Silicate Materials, 14/24 Azenes Street, LV-1048, Riga, Latvia, gundarsm@ktf.rtu.lv

Most studied systems for photocatalytic applications are TiO₂ thin film structures which photocatalytic activity strongly depends on the preparing method and post-deposition treatments [1].

Due to titania physical and chemical stability, cost, non-toxicity, and resistance to corrosion, oxidation reactions on the TiO₂ have found applications in disinfection, photo-catalytic water and air purification.

Efficient photocatalytic reactors having high surface area to allow contact with as large a volume of reactants as possible could be designed using glass fibre materials. TiO₂ films were coated on optical fibers using the dipping method [2], obtained on glass wool substrates by dipping into the suspension prepared by dissolution of just gelled titania sol [3], the catalyst was imposed on a glass fiber filter (Whatman) by dipping it into a TiO₂ (Degussa P25) water suspension [4].

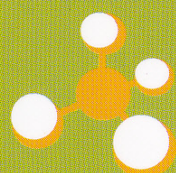
The present study aims to investigate the structure and photocatalytic properties of sol-gel derived TiO₂ coatings in relationship with the different pre-treatment methods of porous high silica glass fibre wool.

X-ray diffraction, Furtje transformation infrared absorption spectroscopy, scanning electron microscopy confirms the formation of the anatase phase in the TiO₂ films. Photocatalytic activity of synthesized coatings is discussed in terms of pre-treatment methods of porous high silica glass fibre wool.

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