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ACCEPTED ABSTRACTS

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## Elaboration of new types fire-protective covers based on environmentally-safe fire-extinguishing powders

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The aim of the presented investigation is the development of technology for production of new types, environmentally-safe fire-protective covers on the basis of halogen-free, highly efficient composite fire-extinguishing powders of local mineral raw materials. The technology for production of these materials differs from conventional production. It is simple and is not associated with significant economic costs, which is reflected in materials. Fire-protective covers we made

only by mechanical mixing of binders- Polyurethane resins and fillers- High-dispersed fire-extinguishing powders of our preparation, do not need the addition of expensive, phosphorous and halogen-containing flame retardants. Such fire-extinguishing powders are manufactured by mechanical treatment and blending of local mineral raw materials, which does not require modification with expensive, halogen-containing, organic hydrofobizing additives, what makes the extinguishing powders far cheaper than imported analogues. Here it should be noted, that obtained fire-extinguishing powders similarly of efficient flame retardants, are characterized by high inhibition properties and fire-extinguishing ability. Therefore, such powders we used as fillers, which in composite fire-protective

materials are functioning, in itself, as efficient inert flame retardants. Mentioned fillers, similarly to serial inert flame retardants, don't participate in the process of polymer preparation and in contrast to them are characterized by high-performance properties. Experimental data confirm that the developed fire-protective covers by fire-resistance are qualified as hardly combustible materials and their performance properties are not worse than performance properties of the standard protective materials of common production. Thus, such fire-protective materials are environmentally-safe, very effective and far cheaper than imported analogues. Therefore, they are fulfilling completely requirements posed by normative documentation to the materials used in building processes.

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