013

NEW GENERATION FLAME RETARDED POLYMERIC MATERIALS NANOPARTICLES AS SYNERGISTS FOR FIRE RETARDANCY

Ewa Kicko–Walczak , Grażyna Rymarz
The Institute for Engineering of Polymers and Dyes
Toruń /Dep. Gliwice/, POLAND

SUMMARY: The effectiveness of flame retardancy of halogen free flame retardants (FR) as nitric compounds that act with phosphorus or nanoboron in relation to unsaturated polyester resins and glass-reinforced polyester resin laminates is evaluated. The analysis of the fire properties provided proof of effective flame retardancy of the tested products by defining oxygen indices values, with the use of the thermogravimetric methods. An analysis of the combustion process with a cone calorimeter included in the first place nitrogen–phosphorus units and nanoboron-nitric compounds with the observed phenomenon of synergic action of compounds of both atoms. No adverse impact of modification was ascertained on basic strength properties of products.