

Polymer Nanocomposites

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"Cable sheathing materials need to be equipped with the basic requirements of durability, mechanical properties and fire proofing. The halogen fire retardant like inorganic metal hydroxides, phosphorous compounds etc... formulate are gaining prominence being in compliance with eco-friendly materials in order to avoid toxicity concerns. But the efficiency of these compounds are poor and addition of large quantities leads to incompatibility with organic polymer. Thus, intumescent fire retardant systems are being used which consists of acid source, carbonization agent and a blowing agent. Addition of nanosized particles along with these fire retardant in lesser quantities leads to better interfacial addition. The developed non-halogenated fire retardant nanocomposites will be used in cable sheathing applications with improved mechanical, tribological, thermal and fire retardancy behaviour".