

Syntactic foams based on hollow ceramic microspheres and binder of oligomethylsilsesquioxane

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Abstract

There were considered syntactic foams based on hollow ceramic microspheres and organic-silicon binder with ladder structure which is capable to passage on ceramographic condition under the conditions of temperature in the work. The oligomethylsilsesquioxane which is used in this work was construct by hydrolysis of methyltrichlorosilane. As hollow ceramic microspheres was used buoyant smoke emission of feasibility study which are work by corner of Kuznetsky of coal-basin.

In consequence of research was perfect the technology the specimens of syntactic foams by method of direct molding under low-pressure. There were fixed best performance of composition preparation and explored the physicomechanical properties of composition in this work.

It is found that strength showings in compression will attain 6.5 MPa that is far of excess of showings syntactic foam based on traditional organosilicone binders.

There were defined dielectric characteristics of syntactic foam in microwave frequency of wave guide technique in this work. With growth content of filler there has been modulated reduction the values of permittivity which is due to gaseous state in composition. There was to appear the lowering tangent of angle of permittivity because of same cause in this work. It has been suggested that the permissible dimensions of I&I applications of sampling material on radionics and engineering of super high frequency radio region. Research results to permits to solve and environmental target occurs due to problems utilization of smoke emission of the thermoelectric power station which are working by solid propellant.

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