

Stabilization of shielding efficiency of electromagnetic radiation shields based on liquid-containing composite materials

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Abstract: Composite shielding materials based on capillary-porous matrixes impregnated with liquid solutions possessing resistive and dielectric losses for microwave electromagnetic radiation (EMR) are developed. Meeting the objectives the EMR attenuation obtained by the proposed materials can be higher than 40 dB, with the reflection level lower than –10 dB in the frequency range 1...140 GHz. Study of liquid content dynamics upon the surface of non-sealed sample revealed that synthesis of 40...60 mass. % solution results in stabilization of liquid content of capillary-porous matrix at the level not lower than 95 % mass. of initial value.

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