

# Charcoal- and Foil-Containing Materials for Radio Electronic Control Systems Protection from Electromagnetic Interferences

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**Abstract :** The paper presents new technique for fabrication of cost effective charcoal- and foil-containing materials, providing electromagnetic radiation energy attenuation. The materials, fabricated according to this technique, compared to the analogs, are characterized by the following three advantages: 1) wide-band property; 2) flexibility property; 3) decreased time expenses, which need for these materials fabrication. The regularities of change of the electromagnetic radiation reflection, transmission and absorption coefficients values of the materials, fabricated according to this technique, have been investigated.

It was done depending on the frequency of electromagnetic radiation interacting with materials. According to the investigation results, it has been established, that the average value of electromagnetic radiation reflection coefficient of the materials, fabricated according to the proposed technique, is -10.0 dB in the frequency range 2.0-17.0 GHz, while the average values of electromagnetic radiation transmission and absorption coefficients are -25.0 dB and 0.8 respectively. Due to these facts such materials are prospective for use in order to protect the radio electronic control systems from electromagnetic interferences (in privacy, to ensure the electromagnetic compatibility of these units).

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