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Czech J. Food Sci.

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Properties of thin metallic films for microwave susceptors

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Thin Al films of varying thickness, i.e. 3 to 30 nm, were deposited onto polyethylene-terephthalate film by evaporation in the vacuum of $3 \times 10 - 3$ Pa. The dependence of DC (direct current) surface resistance on thickness was measured using a four-point method. The surface resistance exhibits the size effect in accordance with the Fuchs-Sondheimer theory. The microwave absorption properties of the prepared films of various metallization thickness were measured in a microwave field at the microwave power of 1.8 mW. The maximum microwave absorption at 2.45 GHz was found to occur in a layer of optical density of about 0.22.

Keywords:

optical density; DC surface resistance; microwave absorption

[fulltext]