Abstracts

Feasibility Study of Density-Independent Moisture Measurement with Microwaves

W. Meyer and W.M. Schilz. "Feasibility Study of Density-Independent Moisture Measurement with Microwaves." 1981 Transactions on Microwave Theory and Techniques 29.7 (Jul. 1981 [T-MTT]): 732-739.

A new method of density-independent moisture determination with microwaves operating at one single frequency is developed. It is based on the two-parameter measurement of the complex dielectric constant being composed to a density-independent calibration factor A(psi) which is a function of the moisture content psi. The principle is demonstrated for practical applications of the wool-water system, and a complete error analysis is given. The results confirm the promising prospects of the method which opens up a new class of density-independent moisture meters particularly suited for on-line process control.

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