

Area Weight Compensation (layer-thickness and bulk density) for PMD 2450



The microwave transmission measurement of the PMD 2450 allows a non-contact moisture measurement of bulk materials direct on the conveyor belt, but the varying material layer and bulk density are to be compensated.

Indutech offers 3 different compensation methods:

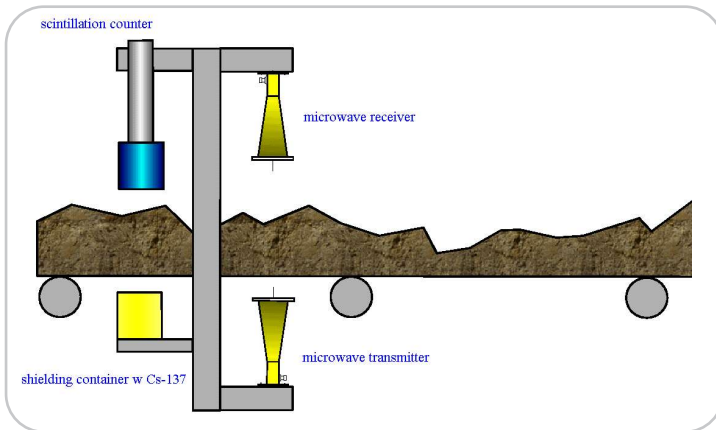


- 1. area weight measurement with an additional gamma-ray transmission line**
compensates for both, bulk density and layer thickness.
- 2. distance measurement with an ultrasonic or optical distance sensor**
compensates for layer thickness (the bulk density is assumed to be constant).
- 3. load measurement with a belt scale**
compensates for both, bulk density and layer thickness, (the cross sectional profile of the material on the belt must be constant).

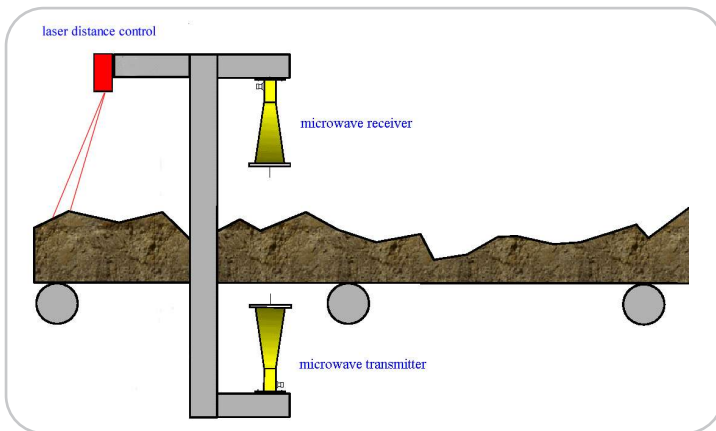


Compensation of Layer-thickness and bulk density

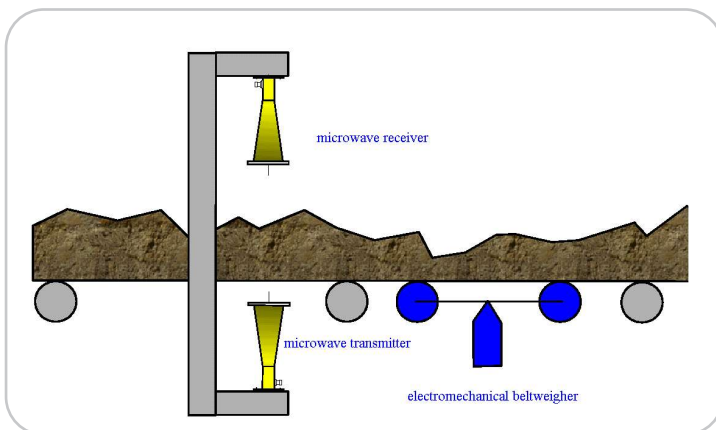
The microwave measurement is influenced by the layer-thickness of the transmitted material layer and the bulk density of the material. Therefore a varying material layer and bulk density must be compensated.



Nuclear compensation with a gamma-ray transmission measurement to compensate for layer thickness and bulk density.



An ultrasonic or laser distance sensor measures the layer thickness. The bulk density is assumed to be constant.



With a belt scale the influence of bulk density and layer thickness can be compensated, if the cross sectional profile of the material on the belt is constant.

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