

## METHOD DESCRIPTION

According prEN1279:6 appendix H following Method should be applied

## PRINCIPLE

The adsorption of water on desiccant releases energy, which can be measured by temperature increase ( $\Delta T$ ) of the mixture. As the amount of temperature increase is related to the absorbed quantity of water, this effect is used for a quick assessment of the remaining water absorption capacity of the desiccant.

## EQUIPMENT

- 1 thermometer graduated in °C
- 2 plastic beaker (150 cc content) (  $\Phi 40$  mm )
- 1 plastic graduated cylinder (50 cc content)
- 1 plastic funnel with a diameter of 11 mm
- 1 plastic cover
- Balance with accuracy of 0,1 g

## METHOD

50 g of the desiccant beads are weighted on the balance in the plastic beaker (150 cc content) and temperature will be measured with a dry thermometer ( $T_{1s}$ ). The desiccant shall be at a temperature preferably  $20 \pm 2^\circ\text{C}$ .

50 cm<sup>3</sup> of water is placed in the plastic beaker ( $\Phi 40$  mm) with a cover holding the plastic funnel.

Temperature ( $T_{1w}$ ) is measured after stirring the thermometer throughout the water. Temperature shall be at a temperature preferably  $20 \pm 2^\circ\text{C}$ .

$T_1$  is calculated as

$$T_1 = (T_{1w} + T_{1s}) / 2$$

The desiccant is added in one complete movement into the water in the beaker with water inside via the provided funnel.

Temperature shall be measured after stirring of the beads/water mixture ten times with the thermometer. Temperature peak ( $T_2$ ) shall be recorded.

NOTE: Special attention is required as the temperature peak must be registered.

The result ( $\Delta T$ ) is calculated in accordance to equation

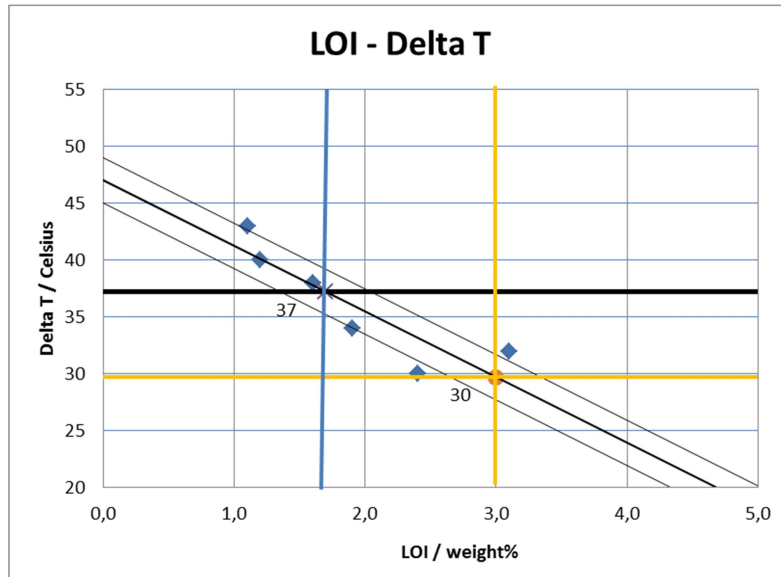
$$\Delta T = T_2 - T_1$$

Remark: The measured  $\Delta T$ -value on fresh material should correspond to the value on the batch report

$\Delta T$  is used in the correlation curves provided by the desiccant supplier to determine the LOI of fresh product as well LOI after installing into the IG unit.

LOI of the fresh product may not be greater than 1,7% (not less than  $\Delta T < 37^\circ\text{C}$ ) according to prEN1279:4 and LOI for desiccants to be used not be greater than 3.0% (not less than  $\Delta T < 30^\circ\text{C}$ ).

In case of a negative result the measurement shall be repeated twice. If two out of the three measurements do not comply with the requirement, the desiccant batch shall be rejected.



**LOI – Delta-T Diagram**

**the critical Delta T values with tolerances for LOI= 1,7% and LOI= 3,0%**

**Please notice:**

The information, specified in this Product Information, is based on careful laboratory tests and prevailing practical experience. The information is not binding, which is also generally true for our practical customer service, given verbally, in writing and by tests, since, on account of the diversity of applications and use, also including possible industrial property rights of third parties, we cannot assume any responsibility. Analysis results and all information regarding state and suitability of our products are only guidelines with no obligation on our part, unless they have been guaranteed expressly in writing. We advise determining the suitability of our products with respect to their suitability for the intended use and application technology by adequate testing. In addition, our General Sales and Delivery Conditions are applicable.

This Method Sheet supersedes all previous editions.