

## Technical Leaflet

# EGGER OSB and EGGER DHF material characteristics for the hygrothermal simulation of building components



## Hygrothermal simulation

### Basics

The hygrothermal simulation is a comprehensive calculation model for the coupled thermal and moisture transport in building materials or components. It is based on thermodynamic principles.

### Material Data

#### General

The tests to determine the material characteristics were carried out at the WKI in Braunschweig. The values for sorption moisture at 100% humidity were extrapolated. We provide the data as an overview in pdf-format. If required, a corresponding data set is also available in xml-format.

For calculations in the numerical method, the use of the value of sorption humidity at 100% is practicable.

#### EGGER OSB 3

Material moisture at free water saturation: 44.0 mass-%.

Table 1: Sorption moisture at 20°C

Relative humidity of air	0%	30%	50%	65%	80%	95%	100%
Sorption moisture	0	5,8	7,5	9	13,8	26,2	32

Table 2:  $\mu$ -values as a function of air/material humidity with 600 kg/m<sup>3</sup> raw density

Relative humidity of air	16%	26%	53%	73%
$\mu$ -value	231	227	164	152



**EGGER OSB 4 TOP**

Material moisture at free water saturation: 38.0 mass-%.

Table 3: Sorption moisture at 20°C

Relative humidity of air	0%	30%	50%	65%	80%	95%	100%
Sorption moisture	0	5,2	7,1	8,8	13,2	24,5	28

Table 4:  $\mu$ -values as a function of air/material humidity with 620 kg/m<sup>3</sup> raw density

Relative humidity of air	16%	26%	53%	73%
$\mu$ -value	235	321	98	122

**EGGER DHF**

Material moisture at free water saturation: 43.0 mass-%.

Table 5: Sorption moisture at 20°C

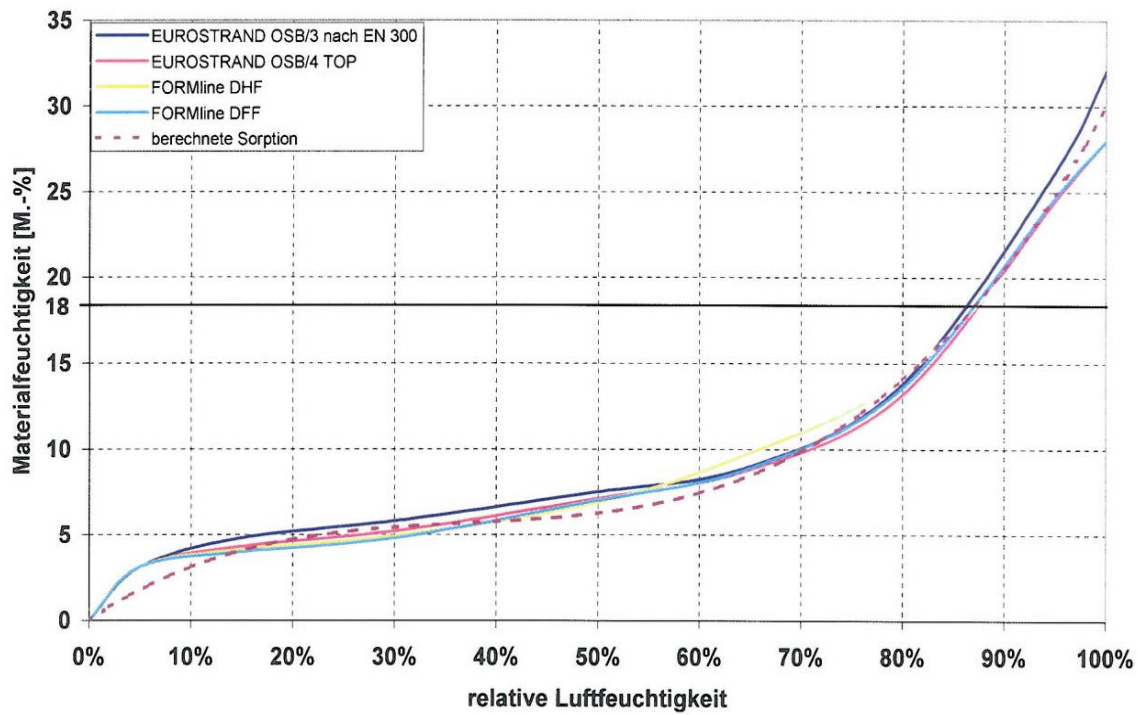
Relative humidity of air	0%	30%	50%	65%	80%	95%	100%
Sorption moisture	0	4,9	6,9	9,8	14,2	23,4	26

Table 6:  $\mu$ -values as a function of air/material humidity with 615 kg/m<sup>3</sup> raw density

Relative humidity of air	16%	26%	53%	73%
$\mu$ -value	14	12	12	12



Diagram: Material moisture as a function of relative humidity



Provisional Listings:

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