

Sorption hysteresis of selected structural wood - based composites

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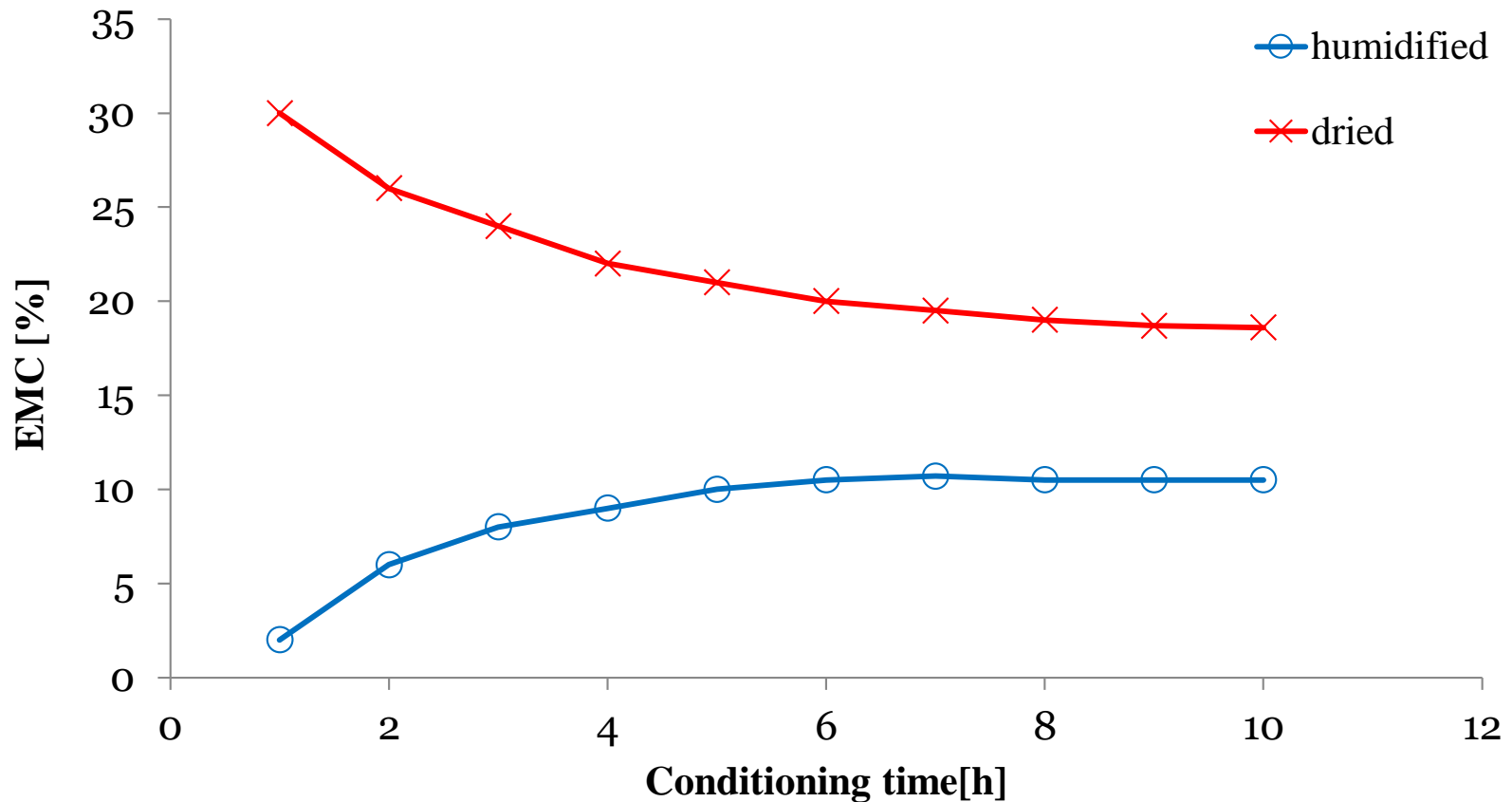


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$$\lambda_w = \lambda_0(1 + 1,65w) [W / (m * K)]$$

λ_0 – thermal conductivity factor for oven-dry wood at a temperature of 0 °C

w – real wood moisture content [dimensionless]



Aim

The aim of this work was to investigate the equilibrium moisture content of selected wood - based composites, previously exposed to extremely different values of humidity, and then conditioned under the same parameters of air for all testing boards.

Materials and methods

- Thermal insulation wood–based composites
- Construction and building boards (MDF, MFP, particleboard)

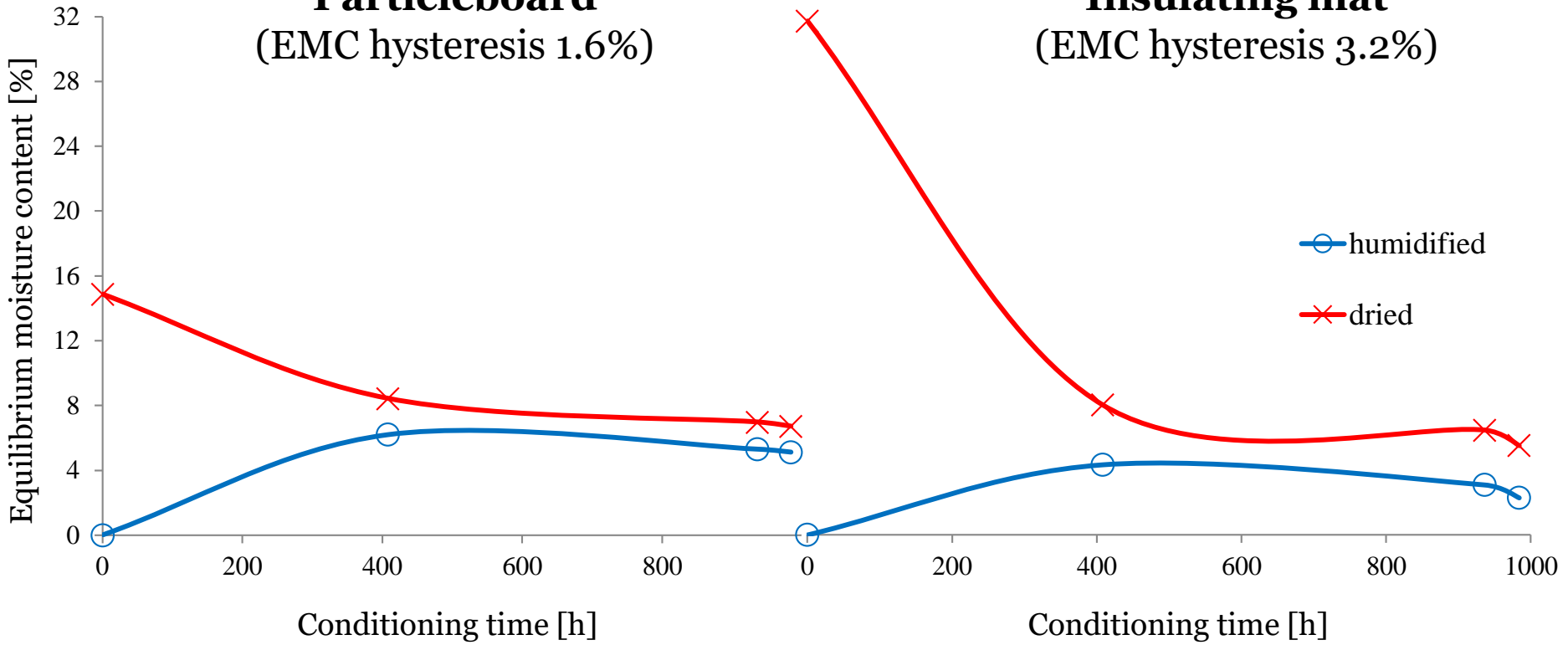
Conditioning parameters

1. prior to testing **dried** at 105 °C to constant weight (0% moisture content);
2. **humidified** in air with a relative humidity about 100% and at 23 °C to constant weight.

Results

Particleboard
(EMC hysteresis 1.6%)

Insulating mat
(EMC hysteresis 3.2%)



Equilibrium moisture content

Thank you for your attention

A decorative graphic consisting of a solid teal horizontal bar that spans the width of the slide. Below this bar, on the right side, there are three thin, parallel horizontal lines in a lighter teal color, which appear to be part of a larger graphic element that is partially cut off by the right edge of the slide.