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Dimensional stability of hardboard

Stabilité dimensionnelle des panneaux durs

This document, which is for information purposes, was drawn up by Working Group 4, *Dimensional stability*, of Technical Committee ISO/TC 89, *Fibre building boards*, and approved by the latter. In view of the usefulness of the information which it contains, the ISO Council has decided to publish it as a reference document.

Dimensional stability of hardboard

1 Hardboard is of interest as a construction material because it possesses great strength over short periods of loading while being moderately priced. However, tests involving long periods of loading show that both strength and strain are very dependent on time. In practice, only 15 % of the strength, as measured by the tests of short loading duration, can be used (Lundgren 1956, 1957, 1958, 1959, 1960). Figures 1 to 3 show the effect of increasing relative humidity of air on modulus of elasticity, bending strength and linear expansion.

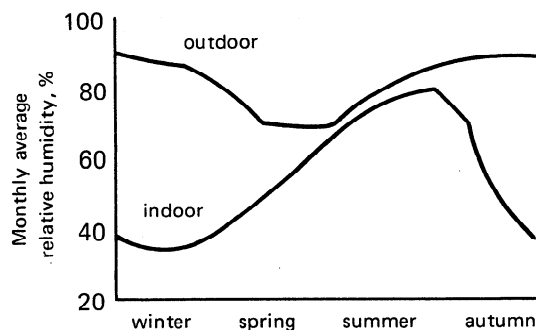


FIGURE 1 – Seasonal variations in relative humidity

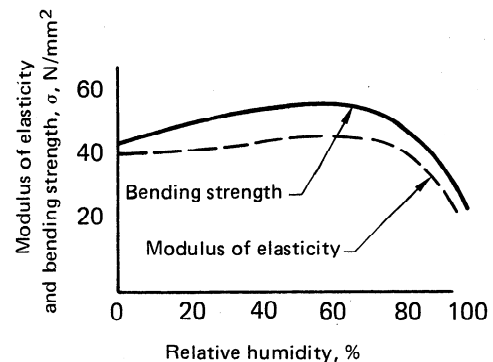


FIGURE 2 – Variation of modulus of elasticity and bending strength with relative humidity

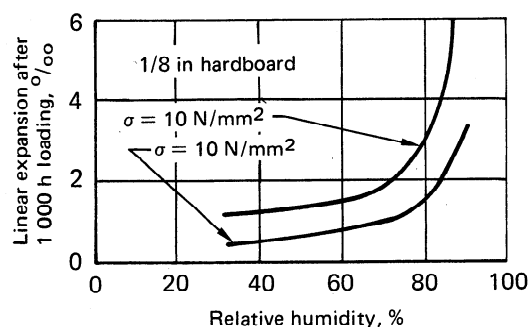


FIGURE 3 – Variation of linear expansion with relative humidity

2 Dimensional stability is defined in terms of the smallest possible changes in

- a) thickness;
- b) width and length;
- c) edge squareness (straightness);
- d) squareness.

All the above points are dealt with in document 89 N 232 E, 1972-12-31, which was prepared by ISO/TC 89/WG 6, "Fibre building boards – Dimensions and tolerances", and in ISO 766, *Fibre building boards – Determination of dimensions of test pieces*.