
Title of project: Colour change of different wood surfaces due to reactions with glues and during service life with and without indoor sun radiation

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The discolouration of the wood surfaces after curing the glues were tested. The different wood species showed different colour changes. All investigated colour properties (L^* , a^* , b^*) changed considerably by the hardwoods. Measurable, but not pronounced colour changes could be observed by the softwood. The highest colour changes could be observed by Robinia wood, which is rich in extractives. Very probably chemical reactions between the extractives (robinetins, tannin) and the glue's components led to the severe discolouration

The colour change after 1 year storage at indoor conditions was investigated. The total colour changes (ΔE) were calculated as well. We found that excluding the sun irradiation (storage on dark place) resulted in lower ΔE compared to the open storage. Pronounced colour changes after one year storage on dark place could be observed by Robinia only, and only for 2 of the 6 applied glues. Under open indoor storage conditions Robinia, Spruce, Pine and Beech showed considerable colour changes, while the glued oak, birch and ash samples could keep a stable colour, thus no further remarkable colour changes occurred after 1 year storage with indoor sunlight irradiation.

Further interesting results were found on the effect of the applicator's material on the colour change.

