Influence of coating systems on colour stability of artificially exposed heat-treated wood

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Material and methods

Wood samples

~ heat-treated beech, ash (190 and 212 °C) and oak wood (180°C)

Surface finishing

~ commercial wood finishes

Artificial exposure

~ QUV indoor exposure (UVA-351 lamps), 32 days

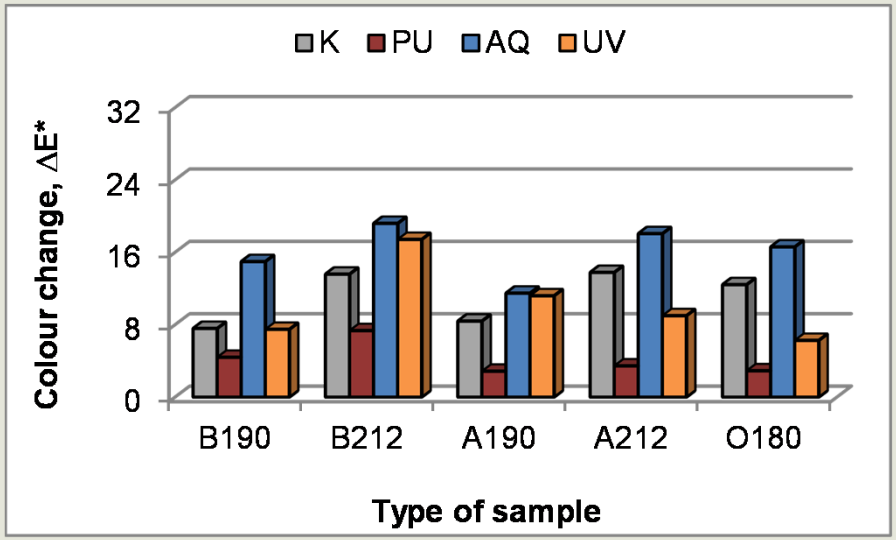
~ QUV outdoor exposure (condensation, water spray and UVA-340 lamps), 28 days

Colour change (ΔE*)

~ CIE L*a*b* colour system

~ spectrophotometer

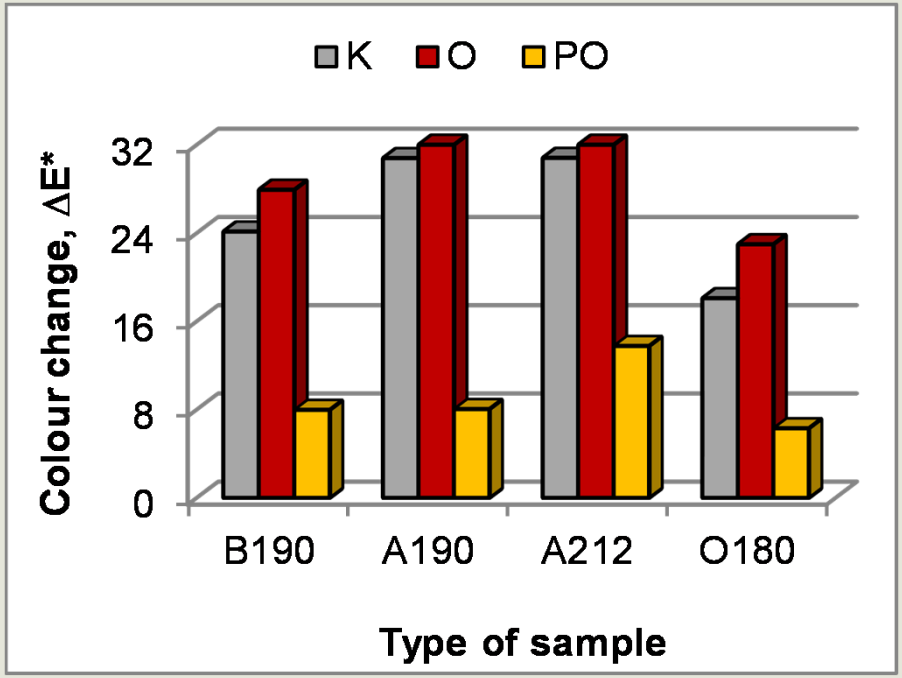
Indoor exposure



~ the biggest discolouration was recorded on the samples finished with water-borne varnish (AQ)

~ the highest colour stability after artificial indoor exposure was recorded on the heat-treated samples finished with polyurethane varnish (PU)

Outdoor exposure



~ the colour changes of heat-treated samples finished with transparent oil were higher than the colour change of unfinished samples

~ maximum colour stability had oak wood regardless of the type of finishing