

Laser Incising - A Philosophical Shift: From Timber Treatment to Wood Modification

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Poster 8.16 - Laser incising – a Philosophical Shift: From timber Treatment to Wood Modification

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ABSTRACT

Timber incising has been known and investigated for many years, yet remains a very diverse field. Often simplified into three main categories: mechanical incision, laser incision and bioincising, this group of technologies is commonly seen as the domain of timber preservation. To date only mechanical incising has been fully commercialised. Yet laser incision offers essential differences which mark it out as suitable for wood modification and high value products, with great aesthetic appeal and high market value. Wood modification requires near-perfect distribution of the treatment agent. This is achieved in laser incision through careful matching of incision patterns and strategies with the timber species. Building on successful collaborative research, we have demonstrated the technology's application in a full scale (plank length 3m) resin modification process for both softwoods and hardwoods. In this poster we present the concept of laser incision and the reasons it is so well suited to revolutionise all fluid-based wood modification systems (e.g. chemical modifications, resin and polymer modifications) as well as other protective treatments.