Interlocking Cross-Laminatd Timber (ICLT) for Rural Architecture

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Interlocking Cross Laminated Timber (ICLT) is a prefabricated cross-laminated solid wood wall and roof panel developed through an inter-disciplinary collaboration between university and industry. Similar to Cross-Laminated Timber (CLT) developed in Europe, ICLT is fabricated from 2-5 layers of alternating direction 3" x 6" to 3" x 8" pine stock milled from beetle kill standing dead from the intermountain forests. Unlike other solid wood panel systems, however, ICLT utilizes no fasteners and no adhesives, removing the reliance on volatile organic compound (toxic) adhesives, allowing the panel to be disassembled at end of life to be repurposed in the building material supply chain. Layering gives the panel strength, allowing low-grade wood to be used in a high value structural situation, estimated to last upwards of 100 years. Compared to the 30-50 year life of most light frame construction, ICLT provides a strong outer structure and enclosure that is durable, meeting the needs of a more sustainable building industry, economically and environmentally. ICLT can be built up to nine stories in some cases, efficient in speed of construction, and given the availability of material, potentially affordable for both production home building and large commercial structures eclipsing inferior steel and concrete construction.

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