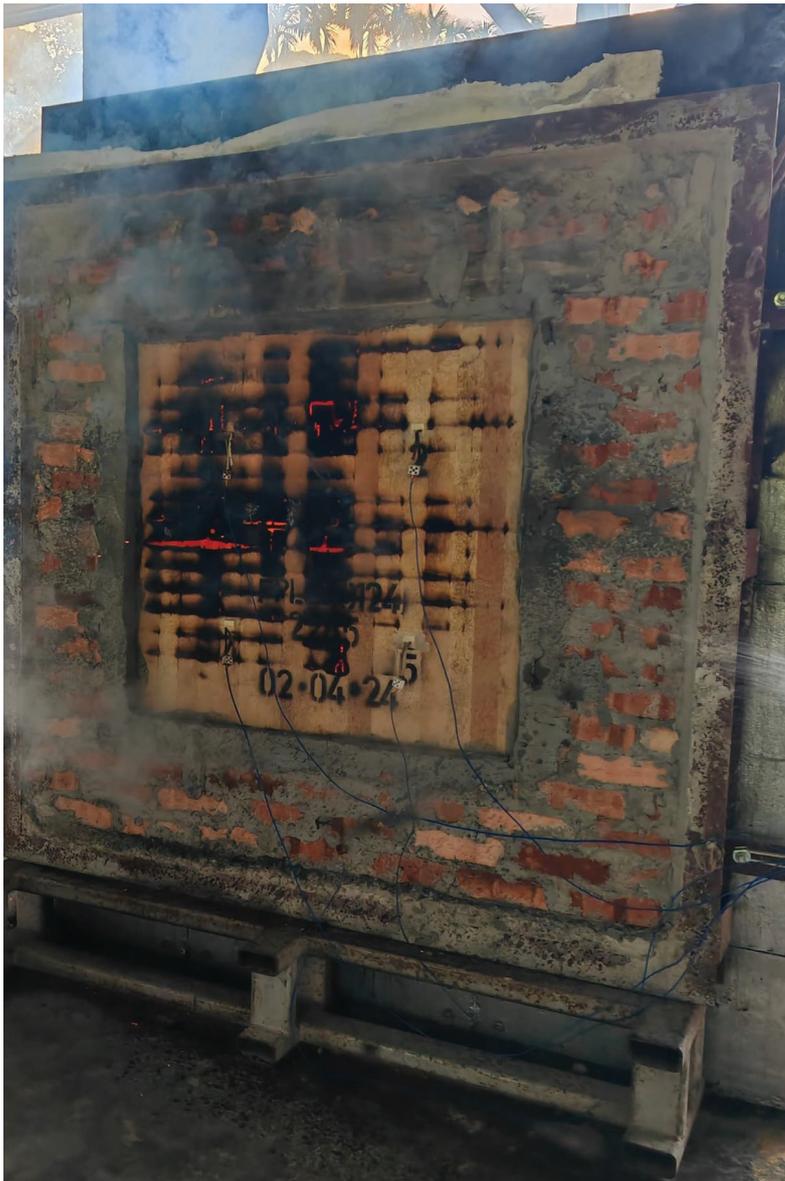


Unlocking the potential of palm wood for engineered doors

In the quest for new sustainable building materials, IOI Palm Wood's OnCore palm wood has emerged as a frontrunner, offering a range of products including Lumber Core, Blockboard, and Three-Layer Panels.



In a fire test, Lumber Core maintained its integrity longer than other materials of the same thickness

Among the various application, palm wood shines particularly bright in the realm of engineered doors, where its inherent fire retardance combines with stability and light weight. This article delves into the potential use of palm wood in engineered doors, partitions, and dry walls, illuminating how it paves the way for safer spaces through enhanced fire retardance.

Sustainability and environmental compliance

Palm wood is produced using oil palm trunks (OPT) discarded after replanting. Utilising palm wood in engineered doors supports environmentally-friendly practices by reducing the demand for traditional wood species that may be less sustainable or harvested from endangered forests. It also mitigates the environmental impact associated with deforestation. By removing the old OPT and sequestering the carbon from this material, one also mitigates the generation of CO₂ and methane from the natural decaying process.

The production methods to produce palm wood does not include the additional of formaldehyde resins; hence, OnCore palm wood is totally free of formaldehyde.

IOI Palm Wood is working with respected verifiers to investigate the environmental circularity of using this

material; it will be publishing a life cycle analysis in the new year.

Enhancing fire retardance: The test results

Rigorous fire retardance tests conducted on palm wood has yielded promising results. In controlled laboratory environments, palm wood has demonstrated resistance to ignition and slow flame spread. Notably, Lumber Core maintained its integrity for a duration in excess of other materials of similar thicknesses. The fire retardance test also showcased the insulation characteristic of Lumber Core.

The test results revealed that engineered doors incorporating palm wood could meet regulatory requirements for fire resistance, whilst reducing overall weight. This enhanced fire retardance is attributed to the

unique composition of palm wood, coupled with treatment processes that further fortify its ability to withstand fire. As a result, buildings equipped with palm wood engineered doors could provide an added layer of protection against the threat of fire.

Strength and durability

Harvested from OPT, palm wood offers strength and rigidity even at very low densities, making it a choice alternative core material for engineered doors. Moreover, its natural grain patterns are unidirectional, free of knots and other defects – this reduces the natural stresses found in traditional timbers, resulting in a stable core structure.

Engineered doors made with palm wood require minimal maintenance due to palm wood's natural resistance to moisture swelling, fungal decay and

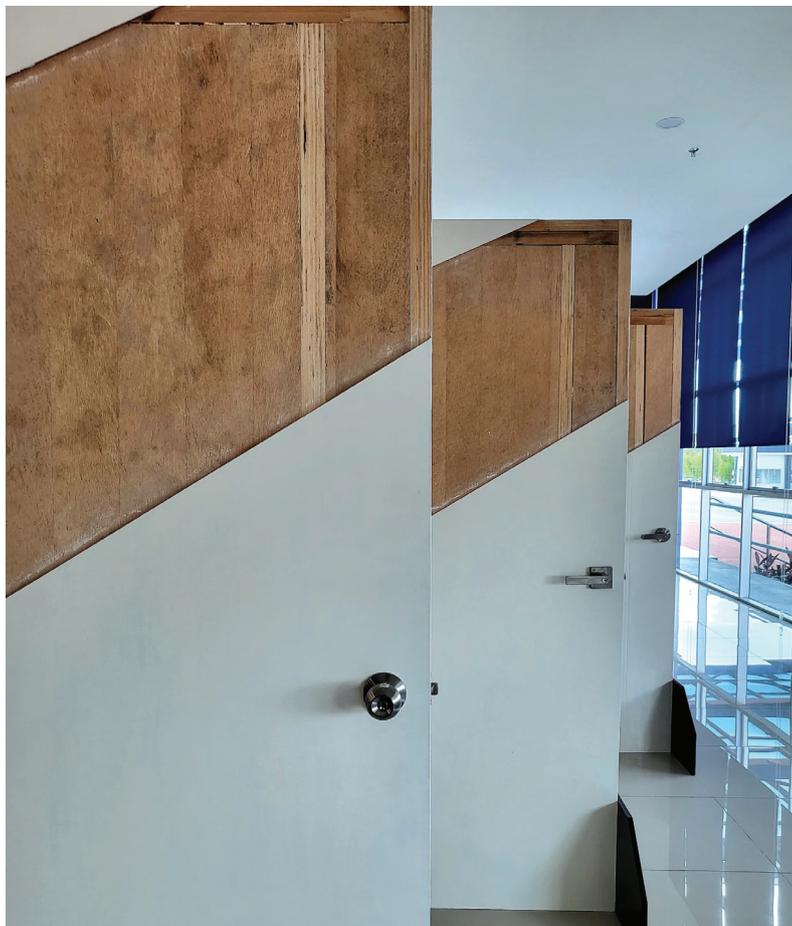
insect infestations. Lumber Core can be pretreated to further enhance its natural properties, resulting in cost savings and convenience for homeowners and property managers over time.

Local economy support

Incorporating palm wood into engineered door, and partition production can support local economies. This reduces the need to import expensive sustainable materials from overseas, while promoting the economic development of domestic industries and empowering communities.

Conclusion

With the demand for sustainable and safer building materials on the rise, palm wood stands poised to play a pivotal role in shaping the future of engineered panels. With its light weight, strength, and enhanced fire retardance, palm wood offers a compelling solution for door makers and constructors alike. By unlocking the full potential of palm wood and embracing its advantages, we can pave the way for a greener, safer and more sustainable built environment. **P**



Palm wood can open news doors for local communities by bolstering domestic industries and economies



Inspiring the next “material revolution” by creating sustainable and high-performance materials from oil palm waste, **Peter Fitch**, together with IOI, have set up IOI Palm Wood to commercialise this untapped potential.