DESIGN COOP

THERMALLY MODIFIED WOOD (THERMO- WOOD) EDUCATIONAL CONTENT

1 WHAT IS THERMALLY MODIFIED WOOD?

Thermally modified wood is natural timber that has been subjected to a controlled high-temperature process (typically between 180°C and 212°C) using heat and steam. This process alters the wood's cellular structure without any chemical additives, enhancing its durability, dimensional stability, and resistance to biological decay. While maintaining its natural appearance, the wood gains properties that make it ideal for exterior applications.

2 ADVANTAGES OF THERMALLY MODIFIED WOOD

- Enhanced resistance to rot, fungi, and insect damage.
- Lower water absorption and improved dimensional stability.
- 100% natural and chemical-free: safe for both the environment and human health.
- Better thermal insulation performance.
- Warm, rich, and uniform color achieved through thermal treatment.
- Greater resistance to warping, cupping, and cracking over time.

3 COMPETING PRODUCTS IN THE MARKET

- Pressure-treated wood (chemically treated).
- Composite decking (wood-plastic composites).
- PVC or synthetic cladding and decking materials.
- Exotic hardwoods (e.g., Ipe, Teak).
- Kiln-dried wood.

4 KEY DIFFERENCES COMPARED TO COMPETITORS

- **CHEMICAL-FREE:** DC Design Coop thermally modified wood is 100% natural and offers safer use for both people and the environment.
- **SUSTAINABLE:** Sourced from renewable forests and fully recyclable at the end of its life cycle.
- Retains the authentic texture and aesthetic of natural wood, unlike the artificial appearance of composites.
- Easier to process with standard woodworking tools compared to dense tropical hardwoods.
- Superior color uniformity and visual appeal over pressure-treated or kiln-dried lumber.
- Lower maintenance requirements than untreated or kiln-dried wood, maintaining performance without ongoing chemical treatments.

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5 WHY CHOOSE THERMALLY MODIFIED WOOD?

Thermally modified wood is the perfect choice for those seeking a balance of natural beauty, strength, and sustainability. It aligns with environmentally responsible construction while delivering long-term outdoor performance. Ideal for decking, cladding, pergolas, and exterior structures, it appeals to architects, contractors, and homeowners focused on green building standards. Combining natural charm with advanced durability, it ensures aesthetic and practical value.

6 MAINTENANCE GUIDE AND PERIODIC CARE

- After installation, apply a UV-protective oil or wood preservative to the surface.
- To maintain color and protection, reapply maintenance oil every 3–5 years.
- If natural greying is acceptable, the maintenance cycle can be extended to 5–8 years.

7 COMPARISON WITH KILN-DRIED PRODUCTS

DC Design Coop thermally modified wood extends maintenance intervals by 2 to 2.5 times compared to kiln-dried timber. It also reduces the need for additional chemical treatments beyond surface protection.

8 WHY DC DESIGN COOP?

- **SUSTAINABILITY & ENVIRONMENTAL RESPONSIBILITY:** Chemically-free, modified timber sourced from responsibly managed forests.
- **DIVERSE PRODUCT RANGE:** Available in species like Frake, Pine, Ash, Ayous, and Iroko with options for decking, cladding, pergolas, and specialty profiles.
- **TECHNICAL SUPPORT:** Provides design assistance, technical consulting, project-based drawings, and pricing for architects, contractors, and distributors.
- **PROVEN INTERNATIONAL REFERENCES:** Used in premium projects like hotels, villas, malls, and marinas; compliant with EN, CE, and ISO 14001 standards.
- **NATURAL AESTHETIC & WARMTH:** The “Inspired by wood” philosophy blends the elegance of timber with modern manufacturing precision.
- **LOW MAINTENANCE, HIGH PERFORMANCE:** Delivers a durable, cost-effective, and visually pleasing outdoor solution.
- **SHOWROOM & TRAINING SUPPORT:** Offers showrooms, demo areas, sample kits, and training materials for partners and distributors.

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