DESIGN COOP

THERMALLY MODIFIED ASH DATASHEET

1. PRODUCT DESCRIPTION

Thermally modified ash is an environmentally friendly hardwood material produced from Fraxinus species native to North America and Europe. The wood undergoes a specialized thermal treatment process at temperatures between 180°C and 220°C under controlled humidity. No chemicals are used during the process; steam provides protection and enhances the structural properties of the wood. As a result, the wood darkens in color, becomes more dimensionally stable, and gains improved resistance to external factors.

2. GENERAL CHARACTERISTICS

Property	Specification
Wood Name	Ash (Fraxinus spp.)
Origin	North America & Europe
Modification Type	Thermal Modification
Color Before Treatment	Light beige to cream tones
Color After Treatment	Golden brown to dark brown
Density (Before Modification)	670–700 kg/m³
Density (After Modification)	580–620 kg/m³
Durability (Outdoor Use)	Very High
Bending Strength	High
Janka Hardness	4.0–5.5 kN
Workability	Easy to cut and shape
Water Absorption	Low
Dimensional Stability	Very High
Fire Resistance	Class D1
Smoke Emission	Class S1
Flaming Droplets	Class d0

3. THERMAL MODIFICATION PROCESS:

- Temperature range: 180–220°C
- Conducted under controlled humidity
- No chemicals used
- Uniform darkening of color
- Increased resistance to fungal and insect attacks
- Significant improvement in dimensional stability (swelling/shrinkage)
- Enhanced thermal and acoustic insulation properties

DESIGN COOP

THERMALLY MODIFIED
ASH DATASHEET

4. PHYSICAL PROPERTIES

Property	Value
Moisture Content	4% – 7%
Dimensional Variation	2% – 3%
Thermal Expansion	Low
Thermal Conductivity (λ)	0.15 – 0.18 W/m·K
Bending Strength	60 – 80 MPa

5. APPLICATION AREAS

Exterior Applications:

- Façade cladding
- Decking
- Pergolas
- Outdoor furniture

Interior Applications:

- Wall and ceiling panels
- Decorative cladding
- Furniture components

6. WORKABILITY AND ASSEMBLY

- In exterior use, the wood may naturally weather to a silver-grey tone over time
- To preserve the original color, regular application of UV-protective oils is recommended
- Dust and dirt can be removed with a slightly damp cloth

7. ENVIRONMENTAL IMPACT AND SUSTAINABILITY

- The thermal modification process is 100% natural and chemical-free
- Ash can be sourced with FSC or PEFC certification
- Low carbon footprint and long service life
- Steam-based, environmentally responsible production

8. STORAGE AND MAINTENANCE

- Can be cut and shaped using standard woodworking tools
- Use stainless steel fasteners and suitable wood screws
- Store in dry, cool, and shaded conditions away from direct sunlight

Levent 199, Esentepe Mah. Büyükdere Cd. No. 199/6 Şişli / İstanbul / Türkiye
+90 212 570 85 52 / +90 531 614 78 48
www.dcdesigncoop.com.tr / info@dcdesigncoop.com.tr