Mechanical Properties, Strength values	Ash, Kiln-dried	Ash, Thermowood
Modules of elasticity (MOE), flatwise (MPa-N/mm²) DIN EN 408, TS 2478	19.226	12.480 - 14.000
Modules of rupture (MOR), flatwise (MPa) DIN EN 408, TS 2474	131,8	56.6 – 85.7
Impact bending strength (IBS), flatwise (MPa) TS 2477	-	-
Compressive strength (CS), (MPa) TS 2595	-	-

Dimensional Stability 65%Rh 20°C *(Increased Stability) (Minimized deformations) (Minimized Expansion and Shrinkage)*	Ash, Kiln-dried	Ash, Thermowood
Maximum swelling ratio, tangential (SW-T) (%) DIN 52184 , TS 4083, 4084	10,3	5,3
Maximum swelling ratio, radial (SW-R) (%) TS 4083, 4084	5,8	2,9
Maximum swelling ratio, longitudinal (SW-L) (%) TS 4083, 4084	-	-
Maximum shrinkage ratio, tangential (Sh-T) (%) TS 4083, 4084	7,1	4,6
Maximum shrinkage ratio, radial (Sh-R) (%) TS 4083, 4084	3,9	2,03
Maximum shrinkage ratio, longitudinal (Sh-L) (%) TS 4083, 4084	-	-

Physical Properties, Moisture content	**Ash, Kiln-dried**	**Ash, Thermowood**
Equilibrium moisture content at 20/65 (%) EN 13183-1	10.1 (9-11)	4.2 (4-6)
Raw density at 20/65 (kg/m^3) DIN 52182	677-738	595-629

Biological durability against wood-decaying basidiomycetes *(Increased durability to decay)* *(Resins and sugars removed)* *(Low moisture content prevents decay and fungi growth)*	**Ash, Kiln-dried**	**Ash, Thermowood**
Median mass loss with Coniophora puteana DSM 3085 (n = 30) (%) CEN/TS 15083-1	-	0,1
Median mass loss with Coriolus versicolor CTB 863A (n = 30) CEN/TS 15083-1	-	0,1
Preliminary durability Classification Median mass loss (< 5 %)	-	1 *"very durable"*

Surface burning characteristics of buildings material- Fire resistance. *(Improved fire-resistance)*	**Ash, Kiln-dried**	**Ash, Thermowood**
a. Flame Spread Index (FSI) ASTM E84-16	-	a. 40 Class B or II
b. For British fire resistance EN 13501	-	b. Class D
Smoke developed Index (SDI) ASTM E84-16	-	200 Class B or II
By using fire retardancy liquids	-	OK

Nail and screw holding strength *(screw withdrawal strength)*	**Ash, Kiln-dried**	**Ash, Thermowood**
a. Stainless steel or galvanised screws and plastic clips are recommended. Hidden and face fixing systems EN 1383, NEN 6562 **b.** Steel material standard 10088-3	-	Class A2
Surface contaminations from fixation elements	-	Not delicate

Glueing	**Ash, Kiln-dried**	**Ash, Thermowood**
Fingerjoints Laminations Panel production	-	MUF, Polyuretane

Brinell Hardness	**Ash, Kiln-dried**	**Ash, Thermowood**
	-	30.5 N/mm^2

Emissions	**Ash, Kiln-dried**	**Ash, Thermowood**
The emissions are not harmful in fresh air.	-	OK
The smell of thermowood products may disappear within a few days but with the surface treatment or rain it may raise up again.	-	Short Time

Thermal conductivity, Insulation *(Decreased Thermal Conductivity)*	**Ash, Kiln-dried**	**Ash, Thermowood**
Heat conductivity W/mK TS EN 12667	1,2	0,099

Colour	**Ash, Kiln-dried**	**Ash, Thermowood**
Colour of the wood changes (Ash colour is dark brown)	-	OK
Oil and water based coatings	-	OK

Environment *(100 % naturel)* *(recycleable)* *(from renewable forests)*	**Ash, Kiln-dried**	**Ash, Thermowood**
FSC certified	-	OK
100 % naturel	OK	OK
100 % recyclable and biodegradable	OK	OK
Low processing energy demand	OK	OK
Sustainable development and a low carbon future	OK	OK

Healty and safety	**Ash, Kiln-dried**	**Ash, Thermowood**
Definitely naturel and harmless. Free of chemicals.	OK	OK
Completely healthy.	OK	OK
Improving the stability and durability of wood without using any persistent toxic chemicals	OK	OK

Freeze-heat shock treatments	**Ash, Kiln-dried**	**Ash, Thermowood**
1 Cycle: Freezing stage: 3 days -40°C as frozen wood and then Heating stage: 30 min 200°C in furnace as thermal shock effects. Novawood R&D test spects and ASTM-D 143-94 standards.	-	OK-5 cycle *(surfacequlity)* *(no cracks)* *(no color change).*