Durathermo

THERMO VACUUM SYSTEM (TVS)
ASH



Mechanical Properties, Strength values	Ash, Kiln-dried	Thermally Modified Ash
Modules of elasticity (MOE), flatwise (MPa-N/mm^2) 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

Dimensional Stability 65% Rh 20°C *(Increased Stability)* *(Minimized deformations)* *(Minimized Expansion and Shrinkage)*	Ash, Kiln-dried	Thermally Modified Ash
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 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

Physical Properties, Moisture content	Ash, Kiln-dried	Thermally Modified Ash
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 durabilityto decay)* *(Resins and sugars removed)* *(Low moisture content prevents decay and fungi growth)*	**Ash, Kiln-dried**	**Thermally Modified Ash**
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**	**Thermally Modified Ash**
(Steiner Tunnel Test	-	Class B

Nail and screw holding strength *(screw withdrawal strength)*	**Ash, Kiln-dried**	**Thermally Modified Ash**
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

Brinell Hardness	**Ash, Kiln-dried**	**Thermally Modified Ash**
EN 1534	-	~4.0–4.5 HB

Thermal conductivity, Insulation *(Decreased Thermal Conductivity)*	**Ash, Kiln-dried**	**Thermally Modified Ash**
Heat conductivity W/mK TS EN 12667	1.2	0.099