

## Type SPD thermal insulation boards

Cement-bonded chipboard	Symbol	Test method	Unit	Value
Gross density	$\rho_a$		kg/m <sup>3</sup>	1200
Thermal conductivity	$\lambda_D$	EN 13986, table 11	W/mK	0.230
Fire behaviour		EN 13501-1		A2-s1, d0
Bending strength		0743T027	N/mm <sup>2</sup>	≥9.0
Bending elasticity modulus (non-load-bearing)		0743T027	N/mm <sup>2</sup>	≥4000
Tensile strength		0743T027	N/mm <sup>2</sup>	≥0.5
Tensile strength per cycles		0743T027 0743T026	N/mm <sup>2</sup>	≤0.3
Durability (swelling)		0743T026	%	Max. 1.5
Durability per cycles		0743T026	%	Max. 1.5
Structural properties – strength (elasticity modulus)		0743T027 EN 789/EN 1058	N/mm <sup>2</sup>	≥4500
Sound absorption		EN 13986, table 10	250–500 Hz 1000–2000 Hz	0.10 0.30
Water vapour permeability		EN 13986, table 9	$\mu$ , damp $\mu$ , dry	30 50
Formaldehyde reduction		EN 13896, suppl. B	Class	E1

Thin chipboard	Symbol	Test method	Unit	Value
Classification	E1 P5, approved construction board for load-bearing purposes in damp environments			
Gross density	$\rho_a$		kg/m <sup>3</sup>	~810
Thermal conductivity	$\lambda_D$	EN 13986	W/mK	0.120
Fire behaviour		EN 13986		E
Transverse tensile strength		EN 319	N/mm <sup>2</sup>	≥0.65
Transverse tensile strength after boil test		EN 1087-1	N/mm <sup>2</sup>	≥0.2
Bending strength		EN 310	N/mm <sup>2</sup>	≥20
Bending elasticity modulus		EN 310	N/mm <sup>2</sup>	≥2550
Board moisture		EN 322	%	5–9
Formaldehyde content		EN 120	mg/100 g	E1
Length and width tolerance		EN 324	mm	±2.0
Perpendicularity		EN 324	mm/m	±1.5
Edge straightness tolerance		EN 324	mm/m	≤1.5
Thickness tolerance		EN 324	mm	±0.10
Density limit deviation			%	±10
Water vapour diffusion resistance factor	$\mu$	EN 13986	$\mu$ , damp $\mu$ , dry	15 50
Airborne sound insulation		EN 13986	$R = 13 \times \lg(m_A) + 14$ $m_A$ = board surface density kg/m <sup>2</sup>	
Sound absorption		EN 13986	Frequency range: 250–500 Hz = 0.10 Frequency range: 1000–2000 Hz = 0.25	
Biological durability		EN 13986	Hazard class 1 (without ground contact; dry, 20°C/65% RH)	
PCP content		EN 13986	<5	

Expanded polystyrene rigid foam (EPS)	Symbol	Test method	Unit	Value
Gross density	$\rho_a$	1602	kg/m <sup>3</sup>	15
Thermal conductivity	$\lambda_D$	279	W/(mK)	0.038
Specific thermal capacity	c		Wh/(kg·K)	0.39
Water vapour diffusion resistance factor	$\mu$	12086		40
Fire behaviour classification in acc. with EN		13501-1		E
Fire behaviour classification in acc. with VKF		VKF	BKZ	5.1
Fire behaviour group		VKF		RF2 (cr)
Compression stress at 10% compression	$\sigma_{10}$	826	kPa <sup>3</sup>	≥60
Creep behaviour under pressure (50 years, compression 2%)	$\sigma_c$	1606	kPa <sup>3</sup>	12
Top application limit temperature, non-weight-bearing			°C	75
Cell content				Air

Wood	Symbol	Test method	Unit	Value
Type	Spruce			
Certification	FSC-certified			
Thermal conductivity	$\lambda_D$	SIA V 279	W/mK	0.140