

Type DPS, DPL and DPX thermal insulation boards

Cement-bonded chipboard	Symbol	Test method	Unit	Value
Gross density	ρ_a		kg/m ³	1200
Thermal conductivity	λ_D	EN 13986, table 11	W/mK	0.230
Fire behaviour		EN 13501-1		A2-s1, d0
Bending strength		0743T027	N/mm ²	≥9.0
Bending elasticity modulus (not load-bearing)		0743T027	N/mm ²	≥4000
Tensile strength		0743T027	N/mm ²	≥0.5
Tensile strength per cycles		0743T027 0743T026	N/mm ²	≤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 ²	≥4500
Sound absorption		EN 13986, table 10	250–500 Hz 1000–2000 Hz	0.10 0.30
Steam permeability		EN 13986, table 9	μ, damp μ, dry	30 50
Formaldehyde reduction		EN 13896, supplement B	Class	E1

Expanded rigid polystyrene foam (EPS)	Symbol	Test method	Unit	Value
Gross density	ρ_a	SN EN 1602	kg/m ³	15
Thermal conductivity	λ_D	SIA V 279	W/mK	0.038
Fire behaviour		VKF	BKZ	5.1
Specific thermal capacity	C		Wh/kgK	0.39
Water vapour diffusion resistance factor	μ	SN EN 12086		40
Compression stress at 10% compression	σ_{10}	SN EN 826	kPa	≥60
Creep behaviour under pressure (50 years, compression <2%)	σ_c	SN EN 1606	kPa	≥12
Top application limit temperature, non-weight-bearing			°C	75
Cell content				Air

Expanded rigid polystyrene foam with graphite additive (EPS lambda)	Symbol	Test method	Unit	Value
Gross density	ρ_a		kg/m ³	20
Thermal conductivity	λ_D		W/mK	0.030
Fire behaviour		DIN 4102		B1
Compression stress at 10% compression			kPa	≥100
Compression stress at 2% compression			kPa	≥20–35
Heat distortion temperature, short-term			°C	95
Heat distortion temperature, long-term			°C	80–85
Water absorption after 28 days' underwater storage			Volume per cent	3–4
Water vapour diffusion resistance factor			μ	30–55

Extruded rigid polystyrene foam (XPS)	Symbol	Test method	Unit	Value
Gross density	ρ_a	EN 1602	kg/m ³	33–35
Thermal conductivity, 30–40 mm	λ_D	EN 12667	W/mK	0.033
Thermal conductivity, 50–60 mm	λ_D	EN 12667	W/mK	0.034
Thermal conductivity, 80–120 mm	λ_D	EN 12667	W/mK	0.036
Thermal conductivity, 140–180 mm	λ_D	EN 12667	W/mK	0.038
Fire behaviour		EN 13501-1	Class	E
Compression stress at 10% compression, 30–40 mm	σ_{10}	EN 826	kPa	250
Compression stress at 10% compression, 50–180 mm	σ_{10}	EN 826	kPa	300
Water absorption after long-term submersion		EN 12087	%	0.7
Water absorption with diffusion, 30–40 mm		EN 12088	%	5
Water absorption with diffusion, 50–180 mm		EN 12088	%	3
Resistance with steam diffusion		EN 12086	%	200
Freeze-thaw resistance		EN 12091		FT2