

Type DNS, DNL and DNX 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 (non-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
Water vapour permeability		EN 13986, table 9	μ , damp μ , dry	30 50
Formaldehyde reduction		EN 13896, suppl. B	Class	E1

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

Expanded polystyrene rigid foam with graphite additive (EPS lambda)	Symbol	Test method	Unit	Value
Gross density	ρ_a	1602	kg/m ³	18
Thermal conductivity	λ_D	279	W/mK	0.030
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)
Specific thermal capacity	c		Wh/(kg·K)	0.39
Water vapour diffusion resistance factor	μ	12086		30
Tensile strength, vertical to panel board	σ_{mt}	1607	kPa	≥80
Top application limit temperature, non-weight-bearing			°C	75
Cell content				Air

Extruded polystyrene rigid foam (XPS)	Symbol	Test method	Unit	Value
Gross density	ρ_a	SN EN 1602	kg/m ³	>30
Thermal conductivity	λ_D	SN EN 279		≤60 mm 0.033
			W/mK	≥80 mm 0.035
Fire behaviour classification in acc. with EN		SN EN 13501-1		E
Fire behaviour group		VKF		RF3 (cr)
Specific thermal capacity	c		Wh/(kg·K)	0.39
Water vapour diffusion resistance factor	μ	SN EN 12086		250–80
Water absorption through diffusion	W_{av}	SN EN 12088	Vol. %	≤5
Resistance against freeze–thaw alternating stress		SN EN 12091	Vol. %	≤1
Compression stress at 10% compression	σ_{10}	SN EN 826	kPa ⁴)	≥200
Creep behaviour under pressure (50 years, compression <2%)	σ_C	SN EN 1606	kPa ⁴)	80
Top application limit temperature, non-weight-bearing		SN EN14706	°C	75
Cell content				Air