Technical Data Sheet
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Previous issues of this document are not valid

SYNTHOS XPS PRIME S

Extruded polystyrene

CHARACTERISTICS

Synthos XPS PRIME S is a thermoinsulating material, which has been given a shape of a board in the process of extrusion and direct blowing. The product is manufactured from polystyrene resin, the raw material safe for your human health and approved for use in contact with food.
It is foam of specific small and closed cell structure containing air in its internal structure.
Product does not contain flame retardant.
Product does not contain blowing agents like CFCs (chlorfluorcarbons), HCFCs (hydrochlorfluorcarbons) or HFCs (hydrofluorcarbons).

INTENDED APPLICATIONS OF BUILDING PRODUCT

Thermal insulation for buildings:

- perimeter insulation of walls below ground level
- insulation of floors and floorings
- insulation of strip footings and slab foundations
- insulation of inverted flat-roofs
- insulation of transportation routes and parking lots
- insulation of railways and tramways
- insulation of terraces, loggias and balconies
- insulation of elements of agricultural, utility and livestock buildings
- formwork
- other thermoinsulation application in construction with the accordance to the local regulations and standards

ADVANTAGES OF SYNTHOS XPS PRIME S PRODUCTS

- Excellent thermal conductivity coefficient
- Closed-cell structure
- Very low water absorption
- High compressive strength
- Easy assembling of the boards
- Suitable for complete recycling
- Due to presence of air inside the cells, thermoinsulating properties do not deteriorate in time, moreover they improve while ambient temperature decrease (due to thermal conductivity coefficient value decrease)

TECHNICAL PARAMETERS

1. THERMOINSULATING PROPERTIES

Nominal thickness of board	Unit	Test method	Thermal conductivity coefficient (λ_D) acc. to EN-13164 (10 °C) and thermal resistance (R_D) acc. to EN-13164 (10 °C)											
			PRIME S 30		PRIME S 30 R		PRIME S 30 P		PRIME S 30 PC		PRIME S 50		PRIME S 70	
			λ_D max.	R_D min.	λ_D max.	R_D min.	λ_D max.	R_D min.	λ_D max.	R_D min.	λ_D max.	R_D min.	λ_D max.	R_D min.
d_N = 40 mm	λ_D: W/(m·K) R_D: m²·K/W	EN 13164	0,032	1,25	0,032	1,25	0,033	1,20	0,033	1,20	0,033	1,20	0,033	1,20
d_N = 50 mm			0,032	1,55	0,032	1,55	0,033	1,50	0,033	1,50	0,033	1,50	0,033	1,50
d_N = 60 mm			0,032	1,85	0,032	1,85	0,033	1,80	0,033	1,80	0,034	1,75	0,034	1,75
d_N = 80 mm			0,034	2,35	0,034	2,35	0,035	2,25	0,035	2,25	0,034	2,35	0,034	2,35
d_N = 100 mm			0,034	2,90	0,034	2,90	0,035	2,85	0,035	2,85	0,034	2,90	0,034	2,90
d_N = 120 mm			0,034	3,50	0,034	3,50	0,035	3,40	0,035	3,40	0,034	3,50	(-)	(-)
d_N = 120 mm (TB)			(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	0,033	3,60
d_N = 140 mm (TB)			0,033	4,20	0,034	4,15	0,035	4,00	0,035	4,00	0,033	4,20	0,033	4,20
d_N = 150 mm (TB)			0,033	4,50	0,034	4,45	0,035	4,25	0,035	4,25	0,033	4,50	0,033	4,50
d_N = 160 mm (TB)			0,033	4,80	0,034	4,75	0,035	4,55	0,035	4,55	0,033	4,80	0,033	4,80
d_N = 170 mm (TB)			0,033	5,15	0,034	5,00	0,035	4,85	0,035	4,85	0,033	5,15	0,033	5,15
d_N = 180 mm (TB)			0,033	5,45	0,034	5,30	0,035	5,10	0,035	5,10	0,033	5,45	0,033	5,45
d_N = 190 mm (TB)			0,033	5,75	0,034	5,60	0,035	5,40	0,035	5,40	0,033	5,75	0,033	5,75
d_N = 200 mm (TB)			0,033	6,05	0,034	5,90	0,035	5,70	0,035	5,70	0,033	6,05	0,033	6,05
d_N = 210 mm (TB)			0,033	6,35	0,034	6,20	0,035	6,00	0,035	6,00	0,033	6,35	(-)	(-)
d_N = 220 mm (TB)			0,033	6,65	0,034	6,50	0,035	6,25	0,035	6,25	0,033	6,65	(-)	(-)
d_N = 230 mm (TB)			0,033	6,95	0,034	6,80	0,035	6,55	0,035	6,55	0,033	6,95	(-)	(-)
d_N = 240 mm (TB)			0,033	7,25	0,034	7,10	0,035	6,85	0,035	6,85	0,033	7,25	(-)	(-)
d_N = 250 mm (TB)			0,033	7,55	0,034	7,40	0,035	7,10	0,035	7,10	0,033	7,55	(-)	(-)
d_N = 260 mm (TB)			0,033	7,85	0,034	7,65	0,036	7,20	0,036	7,20	(-)	(-)	(-)	(-)
d_N = 270 mm (TB)			0,033	8,15	0,034	7,95	0,036	7,50	0,036	7,50	(-)	(-)	(-)	(-)
d_N = 280 mm (TB)			0,033	8,45	0,034	8,25	0,036	7,75	0,036	7,75	(-)	(-)	(-)	(-)
d_N = 290 mm (TB)			0,033	8,75	0,034	8,55	0,036	8,00	0,036	8,00	(-)	(-)	(-)	(-)
d_N = 300 mm (TB)			0,033	9,05	0,034	8,85	0,036	8,30	0,036	8,30	(-)	(-)	(-)	(-)

Nominal thickness of board	Test method	PRIME S 30 – max values of thermal conductivity coefficient [W/(m·K)] in various temperatures								
		-60 °C	-40 °C	-20 °C	0 °C	10 °C	20 °C	40 °C	60 °C	70 °C
d_N = 40 mm	EN 14307	0,025	0,027	0,029	0,031	0,032	0,034	0,036	0,039	0,040
d_N = 50 mm		0,025	0,027	0,029	0,031	0,032	0,034	0,036	0,039	0,040
d_N = 60 mm		0,025	0,027	0,029	0,031	0,032	0,034	0,036	0,039	0,040
d_N = 80 mm		0,027	0,028	0,030	0,032	0,034	0,034	0,036	0,039	0,040
d_N = 100 mm		0,027	0,028	0,030	0,032	0,034	0,036	0,039	0,042	0,045
d_N = 120 mm		0,027	0,029	0,031	0,034	0,034	0,037	0,041	0,046	0,049
d_N = 140 mm (TB)		0,026	0,028	0,030	0,032	0,033	0,035	0,038	0,042	0,044
d_N = 150 mm (TB)		0,026	0,028	0,030	0,032	0,033	0,035	0,038	0,042	0,044
d_N = 160 mm (TB)		0,026	0,028	0,030	0,032	0,033	0,035	0,038	0,042	0,044
d_N = 170 mm (TB)		0,026	0,028	0,030	0,032	0,033	0,035	0,038	0,042	0,044
d_N = 180 mm (TB)		0,026	0,028	0,030	0,032	0,033	0,035	0,038	0,042	0,044
d_N = 190 mm (TB)		0,026	0,028	0,030	0,032	0,033	0,035	0,038	0,042	0,044
d_N = 200 mm (TB)		0,026	0,028	0,030	0,032	0,033	0,035	0,038	0,042	0,044
d_N = 210 mm (TB)		0,026	0,028	0,030	0,032	0,033	0,035	0,038	0,042	0,044
d_N = 220 mm (TB)		0,026	0,028	0,030	0,032	0,033	0,035	0,038	0,042	0,044
d_N = 230 mm (TB)		0,026	0,028	0,030	0,032	0,033	0,035	0,038	0,042	0,044
d_N = 240 mm (TB)		0,026	0,028	0,030	0,032	0,033	0,035	0,038	0,042	0,044
d_N = 250 mm (TB)		0,026	0,028	0,030	0,032	0,033	0,035	0,038	0,042	0,044
d_N = 260 mm (TB)		0,026	0,028	0,030	0,032	0,033	0,035	0,038	0,042	0,044
d_N = 270 mm (TB)		0,026	0,028	0,030	0,032	0,033	0,035	0,038	0,042	0,044
d_N = 280 mm (TB)		0,026	0,028	0,030	0,032	0,033	0,035	0,038	0,042	0,044
d_N = 290 mm (TB)		0,026	0,028	0,030	0,032	0,033	0,035	0,038	0,042	0,044
d_N = 300 mm (TB)		0,026	0,028	0,030	0,032	0,033	0,035	0,038	0,042	0,044

Nominal thickness of board	Test method	PRIME S 30 – min values of thermal resistance [$m^2 \cdot K/W$] in various temperatures								
		-60 °C	-40 °C	-20 °C	0 °C	10 °C	20 °C	40 °C	60 °C	70 °C
d_N = 40 mm	EN 14307	1,60	1,45	1,35	1,25	1,25	1,15	1,10	1,00	1,00
d_N = 50 mm		2,00	1,85	1,70	1,60	1,55	1,45	1,35	1,25	1,25
d_N = 60 mm		2,40	2,20	2,05	1,90	1,85	1,75	1,65	1,50	1,50
d_N = 80 mm		2,95	2,85	2,65	2,50	2,35	2,35	2,20	2,05	2,00
d_N = 100 mm		3,70	3,55	3,30	3,00	2,85	2,75	2,55	2,35	2,20
d_N = 120 mm		4,40	4,10	3,85	3,75	3,50	3,20	2,90	2,60	2,40
d_N = 140 mm (TB)		5,35	5,00	4,65	4,35	4,20	4,00	3,65	3,30	3,15
d_N = 150 mm (TB)		5,75	5,35	5,00	4,65	4,50	4,25	3,90	3,55	3,40
d_N = 160 mm (TB)		6,15	5,70	5,30	5,00	4,80	4,55	4,20	3,80	3,60
d_N = 170 mm (TB)		6,50	6,05	5,65	5,30	5,15	4,85	4,45	4,00	3,85
d_N = 180 mm (TB)		6,90	6,40	6,00	5,60	5,45	5,10	4,70	4,25	4,05
d_N = 190 mm (TB)		7,30	6,75	6,30	5,90	5,75	5,40	5,00	4,50	4,30
d_N = 200 mm (TB)		7,65	7,10	6,65	6,25	6,05	5,70	5,25	4,75	4,40
d_N = 210 mm (TB)		8,05	7,50	7,00	6,55	6,35	6,00	5,50	5,00	4,75
d_N = 220 mm (TB)		8,45	7,85	7,30	6,85	6,65	6,25	5,75	5,20	5,00
d_N = 230 mm (TB)		8,80	8,20	7,65	7,15	6,95	6,55	6,05	5,45	5,20
d_N = 240 mm (TB)		9,20	8,55	8,00	7,50	7,25	6,85	6,30	5,70	5,45
d_N = 250 mm (TB)		9,60	8,90	8,30	7,80	7,55	7,10	6,55	5,95	5,65
d_N = 260 mm (TB)		10,00	9,25	8,65	8,10	7,85	7,40	6,80	6,15	5,90
d_N = 270 mm (TB)		10,35	9,60	9,00	8,40	8,15	7,70	7,10	6,40	6,10
d_N = 280 mm (TB)		10,75	10,00	9,30	8,75	8,45	8,00	7,35	6,65	6,35
d_N = 290 mm (TB)		11,15	10,35	9,65	9,05	8,75	8,25	7,60	6,90	6,55
d_N = 300 mm (TB)		11,50	10,70	10,00	9,35	9,05	8,55	7,85	7,10	6,80

Nominal thickness of board	Test method	PRIME S 30 R – max values of thermal conductivity coefficient [W/(m·K)] in various temperatures								
		-60 °C	-40 °C	-20 °C	0 °C	10 °C	20 °C	40 °C	60 °C	70 °C
d_N = 40 mm	EN 14307	0,025	0,027	0,029	0,031	0,032	0,034	0,036	0,039	0,040
d_N = 50 mm		0,025	0,027	0,029	0,031	0,032	0,034	0,036	0,039	0,040
d_N = 60 mm		0,025	0,027	0,029	0,031	0,032	0,034	0,036	0,039	0,040
d_N = 80 mm		0,027	0,028	0,030	0,032	0,034	0,034	0,036	0,039	0,040
d_N = 100 mm		0,027	0,028	0,030	0,032	0,034	0,036	0,039	0,042	0,045
d_N = 120 mm		0,027	0,029	0,031	0,034	0,034	0,037	0,041	0,046	0,049
d_N = 140 mm (TB)		0,027	0,029	0,031	0,033	0,034	0,036	0,039	0,044	0,047
d_N = 150 mm (TB)		0,026	0,028	0,030	0,032	0,033	0,035	0,038	0,042	0,044
d_N = 160 mm (TB)		0,026	0,028	0,030	0,032	0,033	0,035	0,038	0,042	0,044
d_N = 170 mm (TB)		0,026	0,028	0,030	0,032	0,033	0,035	0,038	0,042	0,044
d_N = 180 mm (TB)		0,026	0,028	0,030	0,032	0,033	0,035	0,038	0,042	0,044
d_N = 190 mm (TB)		0,026	0,028	0,030	0,032	0,033	0,035	0,038	0,042	0,044
d_N = 200 mm (TB)		0,026	0,028	0,030	0,032	0,033	0,035	0,038	0,042	0,044
d_N = 210 mm (TB)		0,026	0,028	0,030	0,032	0,033	0,035	0,038	0,042	0,044
d_N = 220 mm (TB)		0,026	0,028	0,030	0,032	0,033	0,035	0,038	0,042	0,044
d_N = 230 mm (TB)		0,026	0,028	0,030	0,032	0,033	0,035	0,038	0,042	0,044
d_N = 240 mm (TB)		0,026	0,028	0,030	0,032	0,033	0,035	0,038	0,042	0,044
d_N = 250 mm (TB)		0,026	0,028	0,030	0,032	0,033	0,035	0,038	0,042	0,044
d_N = 260 mm (TB)		0,026	0,028	0,030	0,032	0,033	0,035	0,038	0,042	0,044
d_N = 270 mm (TB)		0,026	0,028	0,030	0,032	0,033	0,035	0,038	0,042	0,044
d_N = 280 mm (TB)		0,026	0,028	0,030	0,032	0,033	0,035	0,038	0,042	0,044
d_N = 290 mm (TB)		0,026	0,028	0,030	0,032	0,033	0,035	0,038	0,042	0,044
d_N = 300 mm (TB)		0,026	0,028	0,030	0,032	0,033	0,035	0,038	0,042	0,044

Nominal thickness of board	Test method	PRIME S 30 R– min values of thermal resistance [m² ·K/W] in various temperatures								
		-60 °C	-40 °C	-20 °C	0 °C	10 °C	20 °C	40 °C	60 °C	70 °C
d_N = 40 mm	EN 14307	1,60	1,45	1,35	1,25	1,25	1,15	1,10	1,00	1,00
d_N = 50 mm		2,00	1,85	1,70	1,60	1,55	1,45	1,35	1,25	1,25
d_N = 60 mm		2,40	2,20	2,05	1,90	1,85	1,75	1,65	1,50	1,50
d_N = 80 mm		2,95	2,85	2,65	2,50	2,35	2,35	2,20	2,05	2,00
d_N = 100 mm		3,70	3,55	3,30	3,00	2,85	2,75	2,55	2,35	2,20
d_N = 120 mm		4,40	4,10	3,85	3,75	3,50	3,20	2,90	2,60	2,40
d_N = 140 mm (TB)		5,15	4,80	4,50	4,20	4,10	3,85	3,55	3,15	2,95
d_N = 150 mm (TB)		5,55	5,15	4,80	4,50	4,40	4,15	3,80	3,40	3,15
d_N = 160 mm (TB)		5,90	5,50	5,15	4,80	4,70	4,40	4,10	3,60	3,40
d_N = 170 mm (TB)		6,25	5,85	5,45	5,15	5,00	4,70	4,35	3,85	3,60
d_N = 180 mm (TB)		6,65	6,20	5,80	5,45	5,25	5,00	4,60	4,05	3,80
d_N = 190 mm (TB)		7,00	6,55	6,10	5,75	5,55	5,25	4,85	4,30	4,00
d_N = 200 mm (TB)		7,40	6,85	6,45	6,05	5,85	5,55	5,10	4,50	4,25
d_N = 210 mm (TB)		7,75	7,20	6,75	6,35	6,15	5,80	5,35	4,70	4,45
d_N = 220 mm (TB)		8,10	7,55	7,05	6,65	6,45	6,10	5,60	5,00	4,65
d_N = 230 mm (TB)		8,50	7,90	7,40	6,95	6,75	6,35	5,85	5,20	4,85
d_N = 240 mm (TB)		8,85	8,25	7,70	7,25	7,05	6,65	6,15	5,45	5,10
d_N = 250 mm (TB)		9,25	8,60	8,05	7,55	7,35	6,90	6,40	5,65	5,30
d_N = 260 mm (TB)		9,60	8,95	8,35	7,85	7,60	7,20	6,65	5,90	5,50
d_N = 270 mm (TB)		10,00	9,30	8,70	8,15	7,90	7,50	6,90	6,10	5,70
d_N = 280 mm (TB)		10,35	9,65	9,00	8,45	8,20	7,75	7,15	6,35	5,95
d_N = 290 mm (TB)		10,70	10,00	9,35	8,75	8,50	8,05	7,40	6,55	6,15
d_N = 300 mm (TB)		11,00	10,30	9,65	9,05	8,20	8,30	7,65	6,80	6,35

Nominal thickness of board	Test method	PRIME S 30 P and PRIME S 30 PC – max values of thermal conductivity coefficient [W/(m·K)] in various temperatures								
		-60 °C	-40 °C	-20 °C	0 °C	10 °C	20 °C	40 °C	60 °C	70 °C
d_N = 40 mm	EN 14307	0,026	0,028	0,030	0,032	0,033	0,035	0,038	0,042	0,044
d_N = 50 mm		0,026	0,028	0,030	0,032	0,033	0,035	0,038	0,042	0,044
d_N = 60 mm		0,026	0,028	0,030	0,032	0,033	0,035	0,038	0,042	0,044
d_N = 80 mm		0,027	0,028	0,030	0,033	0,035	0,036	0,039	0,042	0,045
d_N = 100 mm		0,027	0,028	0,030	0,033	0,035	0,036	0,039	0,042	0,045
d_N = 120 mm		0,027	0,028	0,030	0,033	0,035	0,036	0,039	0,042	0,045
d_N = 140 mm (TB)		0,027	0,028	0,030	0,033	0,035	0,036	0,039	0,042	0,045
d_N = 150 mm (TB)		0,027	0,028	0,030	0,033	0,035	0,036	0,039	0,042	0,045
d_N = 160 mm (TB)		0,027	0,028	0,030	0,033	0,035	0,036	0,039	0,042	0,045
d_N = 170 mm (TB)		0,027	0,028	0,030	0,033	0,035	0,036	0,039	0,042	0,045
d_N = 180 mm (TB)		0,027	0,028	0,030	0,033	0,035	0,036	0,039	0,042	0,045
d_N = 190 mm (TB)		0,027	0,028	0,030	0,033	0,035	0,036	0,039	0,042	0,045
d_N = 200 mm (TB)		0,027	0,028	0,030	0,033	0,035	0,036	0,039	0,042	0,045
d_N = 210 mm (TB)		0,027	0,028	0,030	0,033	0,035	0,036	0,039	0,042	0,045
d_N = 220 mm (TB)		0,027	0,028	0,030	0,033	0,035	0,036	0,039	0,042	0,045
d_N = 230 mm (TB)		0,027	0,028	0,030	0,033	0,035	0,036	0,039	0,042	0,045
d_N = 240 mm (TB)		0,027	0,028	0,030	0,033	0,035	0,036	0,039	0,042	0,045
d_N = 250 mm (TB)		0,027	0,028	0,030	0,033	0,035	0,036	0,039	0,042	0,045
d_N = 260 mm (TB)		0,027	0,029	0,031	0,034	0,036	0,037	0,041	0,046	0,049
d_N = 270 mm (TB)		0,027	0,029	0,031	0,034	0,036	0,037	0,041	0,046	0,049
d_N = 280 mm (TB)		0,027	0,029	0,031	0,034	0,036	0,037	0,041	0,046	0,049
d_N = 290 mm (TB)		0,027	0,029	0,031	0,034	0,036	0,037	0,041	0,046	0,049
d_N = 300 mm (TB)		0,027	0,029	0,031	0,034	0,036	0,037	0,041	0,046	0,049

Nominal thickness of board	Test method	PRIME S 30 P and PRIME S 30 PC – min values of thermal resistance [m² ·K/W] in various temperatures								
		-60 °C	-40 °C	-20 °C	0 °C	10 °C	20 °C	40 °C	60 °C	70 °C
d_N = 40 mm	EN 14307	1,50	1,40	1,30	1,25	1,20	1,10	1,05	0,95	0,90
d_N = 50 mm		1,90	7,75	1,65	1,55	1,50	1,40	1,30	1,15	1,10
d_N = 60 mm		2,30	2,10	2,00	1,85	1,80	1,70	1,55	1,40	1,35
d_N = 80 mm		2,95	2,85	2,65	2,40	2,25	2,20	2,05	1,90	1,75
d_N = 100 mm		3,70	3,50	3,30	3,00	2,85	2,75	2,55	2,35	2,20
d_N = 120 mm		4,40	4,20	4,00	3,60	3,40	3,30	3,05	2,85	2,65
d_N = 140 mm (TB)		5,15	5,00	4,65	4,20	4,00	3,85	3,55	3,30	3,10
d_N = 150 mm (TB)		5,55	5,35	5,00	4,50	4,25	4,15	3,80	3,55	3,30
d_N = 160 mm (TB)		5,90	5,70	5,30	4,80	4,55	4,40	4,10	3,80	3,55
d_N = 170 mm (TB)		6,25	6,05	5,65	5,15	4,85	4,70	4,35	4,00	3,75
d_N = 180 mm (TB)		6,65	6,40	6,00	5,45	5,10	5,00	4,60	4,25	4,00
d_N = 190 mm (TB)		7,00	6,75	6,30	5,75	5,40	5,25	4,85	4,50	4,20
d_N = 200 mm (TB)		7,40	7,10	6,65	6,05	5,10	5,55	5,10	4,75	4,40
d_N = 210 mm (TB)		7,75	7,50	7,00	6,35	6,00	5,80	5,35	5,00	4,65
d_N = 220 mm (TB)		8,10	7,85	7,30	6,65	6,25	6,10	5,60	5,20	4,85
d_N = 230 mm (TB)		8,50	8,20	7,65	6,95	6,55	6,35	5,85	5,45	2,10
d_N = 240 mm (TB)		8,85	8,55	8,00	7,25	6,85	6,65	6,15	5,70	5,33
d_N = 250 mm (TB)		9,25	8,90	8,30	7,55	7,10	6,90	6,40	5,95	5,55
d_N = 260 mm (TB)		9,60	8,95	8,35	7,60	7,20	7,00	6,30	5,65	5,30
d_N = 270 mm (TB)		10,00	9,30	8,70	7,90	7,50	7,25	6,55	5,85	5,50
d_N = 280 mm (TB)		10,35	9,65	9,00	8,20	7,75	7,55	6,80	6,05	5,70
d_N = 290 mm (TB)		10,70	10,00	9,35	8,50	8,05	7,80	7,05	6,30	5,90
d_N = 300 mm (TB)		11,00	10,30	9,65	8,80	8,30	8,10	7,30	6,50	6,10

Nominal thickness of board	Test method	PRIME S 50 – max values of thermal conductivity coefficient [W/(m·K)] in various temperatures								
		-60 °C	-40 °C	-20 °C	0 °C	10 °C	20 °C	40 °C	60 °C	70 °C
d_N = 40 mm	EN 14307	0,025	0,027	0,029	0,031	0,033	0,034	0,036	0,038	0,04
d_N = 50 mm		0,026	0,028	0,03	0,032	0,033	0,034	0,036	0,038	0,04
d_N = 60 mm		0,026	0,028	0,03	0,032	0,034	0,034	0,036	0,038	0,04
d_N = 80 mm		0,026	0,028	0,03	0,032	0,034	0,034	0,036	0,038	0,04
d_N = 100 mm		0,027	0,029	0,031	0,033	0,034	0,037	0,039	0,042	0,045
d_N = 120 mm		0,028	0,03	0,032	0,033	0,034	0,036	0,042	0,046	0,049
d_N = 140 mm (TB)		0,026	0,028	0,03	0,032	0,033	0,035	0,038	0,042	0,044
d_N = 150 mm (TB)		0,026	0,028	0,03	0,032	0,033	0,035	0,038	0,042	0,044
d_N = 160 mm (TB)		0,026	0,028	0,03	0,032	0,033	0,035	0,038	0,042	0,044
d_N = 170 mm (TB)		0,026	0,028	0,03	0,032	0,033	0,035	0,038	0,042	0,044
d_N = 180 mm (TB)		0,026	0,028	0,03	0,032	0,033	0,035	0,038	0,042	0,044
d_N = 190 mm (TB)		0,026	0,028	0,03	0,032	0,033	0,035	0,038	0,042	0,044
d_N = 200 mm (TB)		0,026	0,028	0,03	0,032	0,033	0,035	0,038	0,042	0,044
d_N = 210 mm (TB)		0,026	0,028	0,03	0,032	0,033	0,035	0,038	0,042	0,044
d_N = 220 mm (TB)		0,026	0,028	0,03	0,032	0,033	0,035	0,038	0,042	0,044
d_N = 230 mm (TB)		0,026	0,028	0,03	0,032	0,033	0,035	0,038	0,042	0,044
d_N = 240 mm (TB)		0,026	0,028	0,03	0,032	0,033	0,035	0,038	0,042	0,044
d_N = 250 mm (TB)		0,026	0,028	0,03	0,032	0,033	0,035	0,038	0,042	0,044

Nominal thickness of board	Test method	PRIME S 50 – min values of thermal resistance [m² ·K/W] in various temperatures								
		-60 °C	-40 °C	-20 °C	0 °C	10 °C	20 °C	40 °C	60 °C	70 °C
d_N = 40 mm	EN 14307	1,60	1,45	1,35	1,25	1,20	1,15	1,10	1,05	1,00
d_N = 50 mm		1,90	1,75	1,65	1,55	1,50	1,45	1,35	1,30	1,25
d_N = 60 mm		2,30	2,10	2,00	1,85	1,75	1,75	1,65	1,55	1,50
d_N = 80 mm		3,05	2,85	2,65	2,50	2,35	2,35	2,20	2,10	2,00
d_N = 100 mm		3,70	3,40	3,20	3,00	2,90	2,70	2,55	1,35	2,20
d_N = 120 mm		4,25	4,00	3,75	3,60	3,50	3,30	2,85	2,60	2,40
d_N = 140 mm (TB)		5,35	5,00	4,65	4,35	4,20	4,00	3,65	3,30	3,15
d_N = 150 mm (TB)		5,75	5,35	5,00	4,65	4,50	4,25	3,90	3,55	3,40
d_N = 160 mm (TB)		6,15	5,70	5,30	5,00	4,80	4,55	4,20	3,80	3,60
d_N = 170 mm (TB)		6,50	6,05	5,65	5,30	5,15	4,85	4,45	4,00	3,85
d_N = 180 mm (TB)		6,90	6,40	6,00	5,60	5,45	5,10	4,70	4,25	4,05
d_N = 190 mm (TB)		7,30	6,75	6,30	5,90	5,75	5,40	5,00	4,50	4,30
d_N = 200 mm (TB)		7,65	7,10	6,65	6,25	6,05	5,70	5,25	4,75	4,40
d_N = 210 mm (TB)		8,05	7,50	7,00	6,55	6,35	6,00	5,50	5,00	4,75
d_N = 220 mm (TB)		8,45	7,85	7,30	6,85	6,65	6,25	5,75	5,20	5,00
d_N = 230 mm (TB)		8,80	8,20	7,65	7,15	6,95	6,55	6,05	5,45	5,20
d_N = 240 mm (TB)		9,20	8,55	8,00	7,50	7,25	6,85	6,30	5,70	5,45
d_N = 250 mm (TB)		9,60	8,90	8,30	7,80	7,55	7,10	6,55	5,95	5,65

Nominal thickness of board	Test method	-60 °C	-40 °C	-20 °C	0 °C	10 °C	20 °C	40 °C	60 °C	70 °C
		PRIME S 70 - max values of thermal conductivity coefficient [W/(m·K)] in various temperatures								
d_N = 40 mm	EN 14307	0,026	0,027	0,029	0,031	0,033	0,034	0,036	0,038	0,04
d_N = 50 mm		0,027	0,029	0,031	0,033	0,033	0,035	0,037	0,039	0,04
d_N = 60 mm		0,027	0,029	0,031	0,033	0,034	0,035	0,037	0,039	0,04
d_N = 80 mm		0,027	0,029	0,031	0,033	0,034	0,035	0,037	0,039	0,04
d_N = 100 mm		0,027	0,029	0,031	0,033	0,034	0,037	0,039	0,042	0,045
d_N = 120 mm (TB)		0,026	0,028	0,03	0,032	0,033	0,035	0,038	0,042	0,044
d_N = 140 mm (TB)		0,026	0,028	0,03	0,032	0,033	0,035	0,038	0,042	0,044
d_N = 150 mm (TB)		0,026	0,028	0,03	0,032	0,033	0,035	0,038	0,042	0,044
d_N = 160 mm (TB)		0,026	0,028	0,03	0,032	0,033	0,035	0,038	0,042	0,044
d_N = 170 mm (TB)		0,026	0,028	0,03	0,032	0,033	0,035	0,038	0,042	0,044
d_N = 180 mm (TB)		0,026	0,028	0,03	0,032	0,033	0,035	0,038	0,042	0,044
d_N = 190 mm (TB)		0,026	0,028	0,03	0,032	0,033	0,035	0,038	0,042	0,044
d_N = 200 mm (TB)		0,026	0,028	0,03	0,032	0,033	0,035	0,038	0,042	0,044
		PRIME S 70 - min values of thermal resistance [m^2 ·K/W] in various temperatures								
d_N = 40 mm	EN 14307	1,50	1,45	1,35	1,25	1,20	1,15	1,10	1,05	1,00
d_N = 50 mm		1,85	1,70	1,60	1,50	1,50	1,40	1,35	1,25	1,25
d_N = 60 mm		2,20	2,05	1,90	1,80	1,75	1,70	1,60	1,50	1,50
d_N = 80 mm		2,95	2,75	2,55	2,40	2,35	2,25	2,15	2,05	2,00
d_N = 100 mm		3,70	3,40	3,20	3,00	2,90	2,70	2,55	2,35	2,20
d_N = 120 mm (TB)		4,60	4,25	4,00	3,75	3,60	3,40	3,15	2,85	2,70
d_N = 140 mm (TB)		5,35	5,00	4,65	4,35	4,20	4,00	3,65	3,30	3,15
d_N = 150 mm (TB)		5,75	5,35	5,00	4,65	4,50	4,25	3,90	3,55	3,40
d_N = 160 mm (TB)		6,15	5,70	5,30	5,00	4,80	4,55	4,20	3,80	3,60
d_N = 170 mm (TB)		6,50	6,05	5,65	5,30	5,15	4,85	4,45	4,00	3,85
d_N = 180 mm (TB)		6,90	6,40	6,00	5,60	5,45	5,10	4,70	4,25	4,05
d_N = 190 mm (TB)		7,30	6,75	6,30	5,90	5,75	5,40	5,00	4,50	4,30
d_N = 200 mm (TB)		7,65	7,10	6,65	6,25	6,05	5,70	5,25	4,75	4,40

2. MECHANICAL PROPERTIES

Parameter	Code	Unit	Test method	Synthos XPS PRIME S – value or feature					
				PRIME S 30	PRIME S 30 R	PRIME S 30 P	PRIME S 30 PC	PRIME S 50	PRIME S 70
Declared compressive stress or compressive strength at 10% deformation	CS(10\Y)	kPa	EN 826	≥ 300	≥ 300	≥ 300	≥ 300	≥ 500	≥ 700
Compressive stress or compressive strength at 2% deformation	-	kPa	EN 826	≥ 100	≥ 100	≥ 100	≥ 100	≥ 200	≥ 300
Compressive stress or compressive strength at 5% deformation	-	kPa	EN 826	≥ 200	≥ 200	≥ 200	≥ 200	≥ 400	≥ 600
Average achieved elasticity modulus in compression	-	MPa	EN 826	≥ 17 ≥ 25 (TB)	≥ 14 ≥ 21 (TB)	No data	No data	≥ 25 ≥ 37 (TB)	≥ 27 ≥ 40 (TB)
Average achieved elasticity modulus at 50% of the peak stress (E50)/ Kirchhoff modulus	-	MPa	EN 826	≥ 5,5 ≥ 6,5 (TB)	≥ 5,5 ≥ 6,5 (TB)	No data	No data	≥ 9	≥ 12,5
Compressive creep	CC(2/1,5/50)	kPa	EN 1606 + AC	≥ 110 ≥ 130 (TB)	≥ 110 ≥ 130 (TB)	No data	No data	≥ 180	≥ 250
Point load level for 5 mm deformation	-	N	EN 12430	≥ 2000	≥ 2000	No data	No data	≥ 3500	≥ 5000
Tensile strength perpendicular to faces	TR	**kPa**	EN 1607	≥ 200 ≥ 100 (TB)	≥ 400 ≥ 200 (TB)	≥ 400	≥ 400	≥ 200	≥ 200
Average achieved Poisson's ratio	-	-	EN 12090, EN 826	0,39	0,39	No data	No data	0,39	0,41

Nominal thickness of board	Resistance to cyclic compressive load for PRIME S 30, PRIME S 30 R, PRIME S 30 P, and PRIME S 30 PC				
	Square wave load			Sinusoidal wave load	
	Deformation after $2x10^6$ cycles and load 150 kPa [%]	Deformation of 2% after $2x10^6$ cycles [kPa]	Deformation of 5% after $2x10^6$ cycles [kPa]	Deformation of 2% after $2x10^6$ cycles [kPa]	Deformation of 5% after $2x10^6$ cycles [kPa]
Test method	EN 13793			EN 14307	
d_N = 40 mm	≤ 2	≥ 135	≥ 200	≥ 135	≥ 200
d_N = 50 mm	≤ 2,5	≥ 130	≥ 180	≥ 130	≥ 180
d_N = 60 mm	≤ 3	≥ 125	≥ 170	≥ 125	≥ 170
d_N = 80 mm	≤ 5	≥ 115	≥ 150	≥ 115	≥ 150
d_N = 100 mm	-	≥ 110	≥ 140	≥ 110	≥ 140
d_N = 120 mm	-	≥ 105	≥ 135	≥ 105	≥ 135
d_N = 140 mm (TB)	-	≥ 105	≥ 130	≥ 105	≥ 130
d_N = 150 mm (TB)	-	≥ 100	≥ 125	≥ 100	≥ 125
d_N = 160 mm (TB)	-	≥ 100	≥ 120	≥ 100	≥ 120
d_N = 170 mm (TB)	-	≥ 95	≥ 115	≥ 95	≥ 115
d_N = 180 mm (TB)	-	≥ 95	≥ 110	≥ 95	≥ 110
d_N = 190 mm (TB)	-	≥ 90	≥ 110	≥ 90	≥ 110
d_N = 200 mm (TB)	-	≥ 90	≥ 105	≥ 90	≥ 105
d_N = 210 mm (TB)	-	No data	≥ 100	No data	≥ 100
d_N = 220 mm (TB)	-	No data	≥ 100	No data	≥ 100
d_N = 230 mm (TB)	-	No data	≥ 95	No data	≥ 95
d_N = 240 mm (TB)	-	No data	≥ 95	No data	≥ 95
d_N = 250 mm (TB)	-	No data	≥ 95	No data	≥ 95
d_N = 260 mm (TB)	-	No data	≥ 90	No data	≥ 90
d_N = 270 mm (TB)	-	No data	≥ 90	No data	≥ 90
d_N = 280 mm (TB)	-	No data	≥ 90	No data	≥ 90
d_N = 290 mm (TB)	-	No data	≥ 90	No data	≥ 90
d_N = 300 mm (TB)	-	No data	≥ 90	No data	≥ 90

Nominal thickness of board	Resistance to cyclic compressive load for PRIME S 50				
	Square wave load			Sinusoidal wave load	
	Deformation after $2x10^6$ cycles and load 150 kPa [%]	Deformation of 2% after $2x10^6$ cycles [kPa]	Deformation of 5% after $2x10^6$ cycles [kPa]	Deformation of 2% after $2x10^6$ cycles [kPa]	Deformation of 5% after $2x10^6$ cycles [kPa]
Test method	EN 13793			EN 14307	
d_N = 40 mm	≤ 1	≥ 370	≥ 450	≥ 370	≥ 450
d_N = 50 mm	≤ 1	≥ 320	≥ 420	≥ 320	≥ 420
d_N = 60 mm	≤ 1	≥ 260	≥ 380	≥ 260	≥ 380
d_N = 80 mm	≤ 1	≥ 220	≥ 330	≥ 220	≥ 330
d_N = 100 mm	≤ 1	≥ 200	≥ 300	≥ 200	≥ 300
d_N = 120 mm	≤ 1	≥ 180	≥ 270	≥ 180	≥ 270
d_N = 140 mm (TB)	≤ 1,5	≥ 170	≥ 260	≥ 170	≥ 260
d_N = 150 mm (TB)	≤ 2	≥ 165	≥ 240	≥ 165	≥ 240
d_N = 160 mm (TB)	≤ 2	≥ 160	≥ 220	≥ 160	≥ 220
d_N = 170 mm (TB)	≤ 2	≥ 155	≥ 200	≥ 155	≥ 200
d_N = 180 mm (TB)	≤ 2	≥ 150	≥ 190	≥ 150	≥ 190
d_N = 190 mm (TB)	≤ 2,5	≥ 145	≥ 180	≥ 145	≥ 180
d_N = 200 mm (TB)	≤ 3	≥ 140	≥ 170	≥ 140	≥ 170
d_N = 210 mm (TB)	≤ 4	No data	≥ 160	No data	≥ 160
d_N = 220 mm (TB)	≤ 5	No data	≥ 150	No data	≥ 150
d_N = 230 mm (TB)	-	No data	≥ 140	No data	≥ 140
d_N = 240 mm (TB)	-	No data	≥ 130	No data	≥ 130
d_N = 250 mm (TB)	-	No data	≥ 120	No data	≥ 120

Nominal thickness of board	Resistance to cyclic compressive load for PRIME S 70				
	Square wave load			Sinusoidal wave load	
	Deformation after $2x10^6$ cycles and load 150 kPa [%]	Deformation of 2% after $2x10^6$ cycles [kPa]	Deformation of 5% after $2x10^6$ cycles [kPa]	Deformation of 2% after $2x10^6$ cycles [kPa]	Deformation of 5% after $2x10^6$ cycles [kPa]
Test method	EN 13793			EN 14307	
d_N = 40 mm	≤ 0,5	≥ 510	≥ 600	≥ 510	≥ 600
d_N = 50 mm	≤ 0,5	≥ 470	≥ 560	≥ 470	≥ 560
d_N = 60 mm	≤ 0,5	≥ 430	≥ 530	≥ 430	≥ 530
d_N = 80 mm	≤ 0,5	≥ 380	≥ 470	≥ 380	≥ 470
d_N = 100 mm	≤ 0,5	≥ 280	≥ 440	≥ 280	≥ 440
d_N = 120 mm (TB)	≤ 1	≥ 240	≥ 380	≥ 240	≥ 380
d_N = 140 mm (TB)	≤ 1	≥ 230	≥ 360	≥ 230	≥ 360
d_N = 150 mm (TB)	≤ 1	≥ 220	≥ 350	≥ 220	≥ 350
d_N = 160 mm (TB)	≤ 1	≥ 210	≥ 340	≥ 210	≥ 340
d_N = 170 mm (TB)	≤ 1	≥ 200	≥ 330	≥ 200	≥ 330
d_N = 180 mm (TB)	≤ 1	≥ 190	≥ 320	≥ 190	≥ 320
d_N = 190 mm (TB)	≤ 1	≥ 180	≥ 310	≥ 180	≥ 310
d_N = 200 mm (TB)	≤ 1,5	≥ 170	≥ 300	≥ 170	≥ 300

Nominal thickness of board	Unit	Test method	Bending (flexural) strength					
			PRIME S 30	PRIME S 30 R	PRIME S 30 P	PRIME S 30 PC	PRIME S 50	PRIME S 70
d_N = 40 mm	kPa	EN 12089	≥ 500	≥ 500	≥ 500	≥ 500	≥ 600	≥ 700
d_N = 50 mm			≥ 400	≥ 400	≥ 400	≥ 400	≥ 400	≥ 500
d_N = 60 mm			≥ 300	≥ 300	≥ 300	≥ 300	≥ 300	≥ 400
d_N = 80 mm			≥ 300	≥ 300	≥ 300	≥ 300	≥ 300	≥ 400
d_N = 100 mm			≥ 250	≥ 250	≥ 250	≥ 250	≥ 250	≥ 300
d_N = 120 mm-300 mm (TB)			-	-	-	-	-	

Nominal thickness of board	Unit	Test method	Shear strength					
			PRIME S 30	PRIME S 30 R	PRIME S 30 P	PRIME S 30 PC	PRIME S 50	PRIME S 70
d_N = 40 mm	kPa	EN 12090	≥ 270	≥ 270	≥ 270	≥ 270	≥ 320	≥ 390
d_N = 50 mm			≥ 190	≥ 190	≥ 190	≥ 190	≥ 250	≥ 310
d_N = 60 mm			≥ 140	≥ 140	≥ 140	≥ 140	≥ 200	≥ 260
d_N = 80 mm			≥ 100	≥ 100	≥ 100	≥ 100	≥ 160	≥ 220
d_N = 100 mm			≥ 75	≥ 75	≥ 75	≥ 75	≥ 130	≥ 200
d_N = 120 mm			≥ 55	≥ 55	≥ 55	≥ 55	≥ 110	(-)
d_N = 120 mm (TB)			(-)	(-)	(-)	(-)	(-)	No data
d_N = 140 mm-300 mm (TB)			No data	No data	No data	No data	No data	No data

Nominal thickness of board	Unit	Test method	Dynamic stiffness					
			PRIME S 30	PRIME S 30 R	PRIME S 30 P	PRIME S 30 PC	PRIME S 50	PRIME S 70
d_N = 40 mm	MN/m^3	EN 29052-1	380	No data	No data	No data	420	440
d_N = 50 mm			280	No data	No data	No data	360	380
d_N = 60 mm			250	No data	No data	No data	300	320
d_N = 80 mm			190	No data	No data	No data	210	230
d_N = 100 mm			150	No data	No data	No data	170	190
d_N = 120 mm			130	No data	No data	No data	150	(-)
d_N = 120 mm (TB)			(-)	(-)	(-)	(-)	(-)	No data
d_N = 140 mm-300 mm (TB)			No data	No data	No data	No data	No data	No data

3. HYDROPHOBIC PROPERTIES

Parameter	Code	Unit	Test method	Synthos XPS PRIME S - value or feature					
				PRIME S 30	PRIME S 30 R	PRIME S 30 P	PRIME S 30 PC	PRIME S 50	PRIME S 70
Declared long-term water absorption by total immersion	WL(T)	%	EN 12087 + A1	≤ 0,7	≤ 0,7 ≤ 1,5 (TB)	≤ 1,5	≤ 1,5	≤ 0,7	≤ 0,7
Average achieved long term water absorption by total immersion	-	%		≤ 0,25	≤ 0,50	≤ 1,00	≤ 1,00	≤ 0,15	≤ 0,15
Short-term water absorption	-	kg/m^3	EN 1609	≤ 0,50	≤ 1,00	≤ 0,50	≤ 0,50	≤ 0,50	≤ 0,50
	-	kg/m^2		≤ 0,1					
Water vapour diffusion resistance acc. to EN-ISO 10456	-	-	EN 12086	150					

Nominal thickness of board	Code	Unit	Test method	Freeze-thaw resistance after long-term water absorption by total immersion test					
				PRIME S 30	PRIME S 30 R	PRIME S 30 P	PRIME S 30 PC	PRIME S 50	PRIME S 70
d_N = 40 mm	FTCI	%	EN 12091	≤ 1	≤ 4	No data	No data	≤ 1	≤ 1
d_N = 50 mm				≤ 1	≤ 3	No data	No data	≤ 1	≤ 1
d_N = 60 mm				≤ 1	≤ 2	No data	No data	≤ 1	≤ 1
d_N = 80 mm				≤ 1	≤ 2	No data	No data	≤ 1	≤ 1
d_N = 100 mm				≤ 1	≤ 1	No data	No data	≤ 1	≤ 1
d_N = 120 mm				≤ 1	≤ 1	No data	No data	≤ 1	(-)
d_N = 120 mm (TB)				(-)	(-)	No data	No data	(-)	≤ 2
d_N = 140 mm - 200 mm (TB)				≤ 2	No data	No data	No data	≤ 2	≤ 2
d_N = 210 mm - 250 mm (TB)				≤ 2	No data	No data	No data	≤ 2	(-)
d_N = 260 mm - 300 mm (TB)				≤ 2	No data	No data	No data	(-)	(-)

Nominal thickness of board	Code	Unit	Test method	Long-term water absorption by diffusion					
				PRIME S 30	PRIME S 30 R	PRIME S 30 P	PRIME S 30 PC	PRIME S 50	PRIME S 70
d_N = 40 mm	WD(V)	%	EN 12088	≤ 3	≤ 3	No data	No data	≤ 3	≤ 3
d_N = 50 mm				≤ 3	≤ 3	No data	No data	≤ 3	≤ 3
d_N = 60 mm				≤ 2	≤ 3	No data	No data	≤ 2	≤ 2
d_N = 80 mm				≤ 2	≤ 3	No data	No data	≤ 2	≤ 2
d_N = 100 mm				≤ 1	≤ 2	No data	No data	≤ 1	≤ 1
d_N = 120 mm				≤ 1	≤ 2	No data	No data	≤ 1	(-)
d_N = 120 mm (TB)				(-)	(-)	No data	No data	(-)	≤ 2
d_N = 140 mm - 200 mm (TB)				≤ 1	≤ 1	No data	No data	≤ 1	≤ 1
d_N = 210 mm - 250 mm (TB)				≤ 1	≤ 1	No data	No data	≤ 1	(-)
d_N = 260 mm - 300 mm (TB)				≤ 1	≤ 1	No data	No data	(-)	(-)

Nominal thickness of board	Code	Unit	Test method	Freeze-thaw resistance after long-term water diffusion test					
				PRIME S 30	PRIME S 30 R	PRIME S 30 P	PRIME S 30 PC	PRIME S 50	PRIME S 70
d_N = 40 mm	FTCD	%	EN 12091	≤ 1	≤ 4	No data	No data	≤ 1	≤ 1
d_N = 50 mm				≤ 1	≤ 3	No data	No data	≤ 1	≤ 1
d_N = 60 mm				≤ 1	≤ 2	No data	No data	≤ 1	≤ 1
d_N = 80 mm				≤ 1	≤ 2	No data	No data	≤ 1	≤ 1
d_N = 100 mm				≤ 1	≤ 1	No data	No data	≤ 1	≤ 1
d_N = 120 mm				≤ 1	≤ 1	No data	No data	≤ 1	(-)
d_N = 120 mm (TB)				(-)	(-)	No data	No data	(-)	≤ 2
d_N = 140 mm - 200 mm (TB)				≤ 2	≤ 3	No data	No data	≤ 2	≤ 2
d_N = 210 mm - 250 mm (TB)				≤ 2	≤ 3	No data	No data	≤ 2	(-)
d_N = 260 mm - 300 mm (TB)				≤ 2	≤ 3	No data	No data	(-)	(-)

4. OTHER PARAMETERS

Parameter	Code	Unit	Test method	Synthos XPS PRIME S – value or feature					
				PRIME S 30	PRIME S 30 R	PRIME S 30 P	PRIME S 30 PC	PRIME S 50	PRIME S 70
Finishing of the surface	-	-	-	gładkie	ryflowane	planned	planned and grooved	gładkie	gładkie
Grooves dimensions	-	-	-	-	-	-	width 6 mm depth 4 mm distance between grooves 53 mm	-	-
Finishing of the edges	-	-	-	**I** – Square edges **L** – Half-lapped edges **N** – Tongue and groove					
Thickness tolerance	T1, T3	-	-	T1[1)]	T1[1)]	T3[2)]	T3[2)]	T1[1)]	T1[1)]
Nominal thicknesses (range)	-	mm	EN 823	40-120, 140-300 (TB)	40-120, 140-300 (TB)	40-120, 140-300 (TB)	40-120, 140-300 (TB)	40-120, 140-250 (TB)	40-100, 120-200 (TB)
Length	-	mm	EN 822	1250 (+/-8), possible between 1000 and 3000					
Width	-	mm	EN 822	600 (+/-8)					
Squareness on length and width	-	mm/m	EN 824	≤ 5					
Flatness on length and width	-	mm/m	EN 825	≤ 6					
Density	-	kg/m^3	EN 1602	29 - 36	29 - 36	29 - 36	29 – 36	33 - 42	37 - 47
Dimensional stability under specified conditions – 90% relative humidity and 70 °C [3)]	DS(70,90)	%	EN 1604 + AC	≤ 5					
Deformation under specified compressive load and temperature conditions, at load 40 kPa and temperature 70 °C	DLT(2)	%	EN 1605	≤ 5					

Parameter	Code	Unit	Test method	Synthos XPS PRIME S – value or feature					
				PRIME S 30	PRIME S 30 R	PRIME S 30 P	PRIME S 30 PC	PRIME S 50	PRIME S 70
Linear coefficient of thermal expansion	-	mm/m·K	EN 14581						
- longitudinally				< 0,08					
- transversely				< 0,06					
- via thickness				< 0,05					
Global Warming Potential (GWP) of cellular gas	-	-	-	< 5					
Ozone Depletion Potential (ODP) of cellular gas	-	-	-	0					
Reaction to fire – class	-	Euroclass	EN 13501-1+A1	F					
Durability of reaction to fire	-	-	-	Does not deteriorate in time					
Average achieved open cells content	-	%	EN ISO 4590	≤ 5					
Fungus resistance	-	-	EN ISO 846	The material does not serve as a source for the growth of fungi					
Flashpoint	-	°C	ČSN 640149	> 400					
Minimal service temperature	-	°C	EN 14309	-60					
Maximum service temperature	-	°C	EN 14706	+70[3)]					
Resistance against XA1 aggressive environment (acc. to EN 206-1) at temperature (23±2) °C – change of weight after 8 weeks of exposition and drying into constant mass	-	%	EN ISO 175	< 0,6					

1) T1 thickness tolerance: d_N < 50mm (-2/+2 mm); 50 ≤ d_N ≤ 120 (-2/+3 mm); d_N > 120 (-2/+6 mm)
2) T3 thickness tolerance: -0,5/+0,5 mm
3) Dimensional stability parameter is declared for following conditions: temperature up to 70 °C and ambient relative humidity level up to (90±5)%. Manufacturer does not declare keeping dimensional stability by Synthos XPS PRIME S in conditions of temperature higher than 70 °C, and at the same time ambient relative humidity level higher than 90%

5. EMISSIONS OV VOLATILE ORGANIC COMPOUNDS

Regulation	Version	Value - Synthos XPS PRIME S
EU Taxonomy	Regulation (EU) 2020/852 of the European Parliament and of the Council of 18 June 2020 on the establishment of a framework to facilitate sustainable investment	Pass
French VOC regulation	DEVL1101903D and DEVL1104875A Regulation of March and May 2011	A+
French CMR components	DEVP0908633A and DEVP0910046A Regulation of April and May 2009	Pass
Italian CAM	Regulation of the Minister of 24 November 2025 – Minimum environmental criteria for construction	Premium score
ABG/AgBB	uidelines of the Committee for the Health Assessment of Construction Products, September 2024	Pass
Belgian regulation	C-2014/24239 Royal Decree of May 2014	Pass
Indoor Air Comfort	Indoor Air Comfort v2026 of January 2026	Pass
Indoor Air Comfort GOLD	Indoor Air Comfort GOLD v2026 of January 2026	Pass
Blue Angel (DE-UZ 132)	Low-Emission Thermal Insulation Material and Suspended Ceilings for Use in Buildings, January 2020	Pass
BREEAM International	BREEAM International New Construction v6.0 (2021)	Exemplary level
BREEAM NOR	BREEAM NOR v 6.1.1 New Construction (2024)	Exemplary level
LEED V4.1. BETA (poza USA)	LEED v4.1.BETA for Building Design and Construction (November 2025)	Pass
WELL V2	WELL V2, Q2 2025	Pass
M1 Emission Classification of Building Materials	M1- Protocol for Chemical and Sensory Testing of Building Materials. Version of 2024	Pass
CDPH	CDPH/EHLB/Standard Method v1.2. (January 2017)	Pass

CONDITIONS FOR SAFE TRANSPORT, STORAGE AND USE

Synthos XPS PRIME S boards, like all polystyrene products:

1. degrade under the influence of sunlight, resulting in surface deformation, structural degradation, dimensional change and loss of flatness and squareness;

2. also degrade during direct contact with heat sources at temperatures above 70 °C, resulting in deformation or even melting;

3. are flammable, may burn violently if exposed to open flame;

4. dissolve in direct contact with substances that have a destructive effect on polystyrene and other preparations containing such organic compounds.

The manufacturer does not declare that Synthos XPS PRIME S will maintain dimensional stability in conditions with a temperature above 70 °C and relative humidity > 90%.

TRANSPORTATION

Synthos XPS PRIME S boards must be transported using means of transport that meet the requirements of the regulations in force in country of delivery and country of transport routes, as well as ensure the safety of road users and workers on the construction site. In addition, they must ensure the conditions of transport of materials that guarantee the maintenance of their required quality.

Synthos XPS transported in this way does not pose a threat to human safety.

STORAGE

It is recommended:

1. The product should be stored in ventilated buildings, preferably roofed.
2. If the product must be stored outdoors for a long time, it should be protected by covering the surface exposed to radiation with a light material.
3. The product cannot be stored in buildings where flammable and volatile products are stored.
4. At every stage of storage, transport, assembly and use of the product, contact with open flames or heat sources should be strictly avoided.

USE

Basic occupational health and safety rules, fire safety rules and job instructions at the workplace must be followed.
When using the product, do not eat or drink at work. Wear appropriate work clothes. If necessary, use personal protective equipment.
During mechanical or manual processing (cutting) dust may be generated. Therefore, ventilation of the workplace should be ensured if it is in a closed place.
When cutting with a resistance wire, the material may catch fire.
Synthos XPS PRIME S boards cannot be used in direct contact with substances that have a destructive effect on polystyrene or other preparations containing such organic compounds.

List of chemical substances to which Synthos XPS PRIME S boards are not resistant:

Group of substances	Example
Substances from the halogen group	Chlorine, bromine
Aliphatic hydrocarbons	Propylene, butadiene
Halogenated aliphatic hydrocarbons	Chloroform
Aromatic hydrocarbons	Benzene, toluene, xylene, phenol, naphthalene
Aldehydes	Formaldehyde
Ketones and ethers	Acetone, methyl ethyl ketone (MEK), diethyl ether, tetrahydrofuran
Anhydrides and esters	Acetic anhydride, ester solvents
Organic nitrogen compounds (amides, amines, nitriles)	Acrylonitrile, aniline
Petroleum fractions	Gasoline, diesel, heating oil

BASIC ASSEMBLY RULES

It is recommended that:

1. If boards are exposed to sunlight during installation, they should be protected against bright non-transparent material.
2. In the case of gluing the product, the surface should be rough, roughened by means of a takir to styrofoam.
3. Installing the product at low ambient temperatures requires free space between the boards to maintain proper dilatation.
4. It is recommended to use solvent-free adhesives for fixing the boards. Before use, check whether the adhesive can be used for polystyrene foam.

Detailed guidelines for product installation can be found in the instructions available at www.synthosxps.com:

1. Technical specification for the execution and acceptance of construction works using Synthos XPS extruded polystyrene
2. Implementation details for construction works using Synthos XPS extruded polystyrene
3. Catalogues of material costs - thermal insulation using Synthos XPS extruded polystyrene

4. Auxiliary tables for dimensioning - thermal insulation using Synthos XPS extruded polystyrene.

RESPONSIBILITIES AND DURABILITY OF THE ESSENTIAL CHARACTERISTICS OF THE PRODUCT

Responsibilities

Technical data contained in this document are for information purposes and are based on the current state of knowledge and experience of the Manufacturer. The information provided (technical data) may not be used for mixtures of the Manufacturer's product with other substances.
The product should be transported, stored and used in accordance with applicable regulations, these guidelines and good occupational hygiene practices.
The use of the information provided, as well as the use of the product, are not controlled by the Manufacturer, therefore the determination of the conditions of safety of use is the responsibility of the buyer.
The producer is not responsible for the product being intended by the buyer for the purpose he chooses, the product is assembled by the buyer and the product is managed by the buyer.

Durability of the essential characteristics of the product

In accordance with the European harmonized standard EN 13164 below are the permitted reference to the durability of material properties:

1. Durability of reaction to fire as a function of heat, weather conditions, aging and degradation and high temperature

Reaction to fire of Synthos XPS PRIME S does not change up to the maximum application temperature, i.e. 70 °C.

2. Durability of thermal resistance as a function of heat, weathering, aging and degradation

The given declared values for Synthos XPS PRIME S are based on the so-called an aging procedure simulating the behaviour at infinity, and confirming the durability of the thermal resistance and the thermal conductivity over time, therefore these are limit values. The actual value is always much lower than the declared value.

The durability of the resistance associated with the absorption of water by Synthos XPS PRIME S is guaranteed by meeting the following parameters:
- freeze-thaw resistance after long-term water diffusion test
- freeze-thaw resistance after long-term water absorption by total immersion test

Surface type	Product type	Freeze-thaw resistance
Smooth surface	PRIME S 30 (I, L, N, I TB, L TB, N TB); PRIME S 50 (I, L, N, I TB, L TB, N TB); PRIME S 70 (I, L, N, I TB, L TB, N TB)	The level of absorbed water in both tests is lower than 1%
Planned surface	PRIME S 30 (IP, LP, IP TB, LP TB)	Freeze-thaw resistance is not guaranteed
Planned surface and grooves	PRIME S 30 (IPC, LPC, IPC TB, LPC TB)	
Embossed surface	PRIME S 30 (IR, LR, NR, IR TB, LR TB, NR TB)	The level of absorbed water in both tests depends on board thickness. Details to be found in Section "HYDROPHOBIC PARAMETERS"

Changes in the thickness of Synthos XPS PRIME S that may affect the value of thermal resistance are guaranteed based on the parameters:

- dimensional stability under specific conditions - Synthos XPS PRIME S products do not show dimensional changes (length, width, thickness) greater than 5% in the 70 °C test and 90% relative humidity;
- deformation under specified compressive load and temperature conditions, at load 40 kPa and temperature 70 °C - Synthos XPS PRIME S products show a value of less than 5%.

3. Durability of thermal resistance under high temperature conditions

Appropriate thermal resistance values for a given temperature (up to a maximum application temperature of 70 °C) will not be worse than the declared values and will not change with time.

4. Durability of compressive strength under aging or degradation

The durability of the compressive strength as a result of exposure to external conditions is guaranteed by meeting the following parameters:

- freeze-thaw resistance after long-term water diffusion test
- freeze-thaw resistance after long-term water absorption by total immersion test

Surface type	**Product type**	**Reduction of compressive strenght after freeze-thaw**
Smooth surface	PRIME S 30 (I, L, N, I TB, L TB, N TB); PRIME S 50 (I, L, N, I TB, L TB, N TB); PRIME S 70 (I, L, N, I TB, L TB, N TB)	Less than 10%
Planned surface	PRIME S 30 (IP, LP, IP TB, LP TB)	Freeze-thaw resistance is not guaranteed
Planned surface and grooves	PRIME S 30 (IPC, LPC, IPC TB, LPC TB)	
Embossed surface	PRIME S 30 (IR, LR, NR, IR TB, LR TB, NR TB)	Depends on board thickness. Details to be found in Section "HYDROPHOBIC PARAMETERS"

The durability of the compressive strength as a result of many years of static loading is guaranteed by the guarantee of maximum thickness reduction (deformation of the product) due to compression creep.
Synthos XPS PRIME S shows the declared levels between CC(2/1.5/50)110 and CC(2/1.5/50)250 depending on particular type (details to be found in Section 2 "MECHANICAL PARAMETERS", what means that after 50 years of application: not more than 1.5% of creep with a deformation of not more than 2% for the declared stress, respectively between 110 and 250 kPa.

The condition of keeping of the essential characteristics by the product is to follow the guidelines:

1. Synthos XPS PRIME S should be stored according to the guidelines in this document, see SAFE ASSEMBLING AND STORAGE CONDITIONS
2. Synthos XPS PRIME S should be used in accordance with the applicable product technical documentation issued by the Manufacturer, in force at the time of its production. Through the technical documentation it is understood this document and the declarations of performance.
3. The construction project is in line with current building regulations in country of construction in force at the date of sale of Synthos XPS PRIME S.
4. Work with Synthos XPS PRIME S are carried out in accordance and accurately according to the construction project.
5. The building is used as intended.
6. The building is kept in good order.

PACKING OF SYNTHOS XPS PRIME S

Basic packaging unit – package in PE film packaging. Basic form of a loading unit with given number of packages on it, set on polystyrene-foam beams, wrapped with a PE film.

Table data given for goods with nominal dimensions 1250x600 mm:

Board:

Dimensions of board in transportation [mm]		
Finishing of the edges	**Length**	**Width**
I (I, IR, IP, IPC)	1250	600
L (L, LR, LP, LPC)	1265	615
N (N, NR, NP, NPC)	1262	612

Package:

XPS board thickness [mm]	No. of boards in a package [pcs.]	Insulation surface in a package [m^2]	Volume in a package [m^3]	Package height [m]
40	10	7,5	0,300	0,40
50	8	6	0,300	0,40
60	7	5,25	0,315	0,42
80	5	3,75	0,300	0,40
100	4	3	0,300	0,40
120	4	3	0,360	0,48
140	3	2,25	0,315	0,40
150	3	2,25	0,338	0,45
160	3	2,25	0,360	0,48
170	3	2,25	0,383	0,51
180	2	1,5	0,270	0,36
190	2	1,5	0,285	0,38
200	2	1,5	0,300	0,40
210	2	1,5	0,315	0,42
220	2	1,5	0,330	0,44
230	2	1,5	0,345	0,46
240	2	1,5	0,360	0,48
250	2	1,5	0,375	0,50
260	2	1,5	0,390	0,52
270	2	1,5	0,405	0,54
280	2	1,5	0,420	0,56
290	2	1,5	0,435	0,58
300	2	1,5	0,450	0,60

Dimensions of package in transportation [mm]			
Finishing of the edges	**Length**	**Width**	**Height**
I (I, IR, IP, IPC)	1250	600	Depends on thickness, see table earlier
L (L, LR, LP, LPC)	1265	615	
N (N, NR, NP, NPC)	1262	612	

Loading unit:

XPS board thickness [mm]	No. of packages in a loading unit [pcs.]	No. of boards in a loading unit [pcs.]	Insulation surface in a loading unit [m^2]	Volume in a loading unit [m^3]	Loading unit height [m]
40	12	120	90	3,60	2,48
50	12	96	72	3,60	2,48
60	12	84	63	3,78	2,60
80	12	60	45	3,60	2,48
100	12	48	36	3,60	2,48
120	10	40	30	3,60	2,48
140	12	36	27	3,78	2,60
150	10	30	22,5	3,38	2,33
160	10	30	22,5	3,60	2,48
170	10	30	22,5	3,83	2,63
180	14	28	21	3,78	2,60
190	12	24	18	3,42	2,36
200	12	24	18	3,60	2,48
210	12	24	18	3,78	2,60
220	10	20	15	3,30	2,28
230	10	20	15	3,45	2,38
240	10	20	15	3,60	2,48
250	10	20	15	3,75	2,58
260	8	16	12	3,12	2,16
270	8	16	12	3,24	2,24
280	8	16	12	3,36	2,32
290	8	16	12	3,48	2,40
300	8	16	12	3,60	2,48

Dimensions of loading unit in transportation [mm]			
Finishing of the edges	**Length**	**Width**	**Height**
I (I, IR, IP, IPC)	1250	1200	Depends on thickness, see table earlier
L (L, LR, LP, LPC)	1265	1230	
N (N, NR, NP, NPC)	1262	1224	

MANUFACTURER

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