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

1) 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
- insulation of places where cold bridges may appear
- formwork
- other thermoinsulation application in construction with the accordance to the local regulations and standards

2) Thermal insulation for building equipment and industrial installations.
3) Thermal insulation and light weight fill products for civil engineering applications

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

Parameter	Unit	Test method	Values					
			PRIME S 30		PRIME S 50		PRIME S 70	
Thermal conductivity coefficient (λ_D) acc. to EN-13164 (10 °C) **Thermal resistance (R_D) acc. to EN-13164 (10 °C)**			λ_D	R_D	λ_D	R_D	λ_D	R_D
d_N = 40 mm	W/(m·K) $m^2 \cdot K/W$	EN 13164	**0,032**	**1,25**	**0,033**	**1,20**	**0,033**	**1,20**
d_N = 50 mm			**0,032**	**1,55**	**0,033**	**1,50**	**0,034**	**1,50**
d_N = 60 mm			**0,032**	**1,85**	**0,034**	**1,75**	**0,034**	**1,75**
d_N = 70 mm			**0,034**	**2,15**	(-)	(-)	(-)	(-)
d_N = 80 mm			**0,034**	**2,35**	**0,034**	**2,35**	**0,034**	**2,35**
d_N = 100 mm			**0,034**	**2,85**	**0,034**	**2,85**	**0,034**	**2,85**
d_N = 120 mm			**0,034**	**3,50**	**0,034**	**3,50**	(-)	(-)
d_N = 140 mm			**0,035**	**4,00**	(-)	(-)	(-)	(-)
d_N = 150 mm			**0,035**	**4,25**	(-)	(-)	(-)	(-)
d_N = 160 mm			**0,035**	**4,55**	(-)	(-)	(-)	(-)

Parameter	Unit	Test method	Values for Synthos XPS PRIME S 30, at temperature:								
			-60 °C	-40 °C	-20 °C	0 °C	10 °C	20 °C	40 °C	60 °C	70 °C
Thermal conductivity coefficient in whole range of service temperatures acc. to EN 14307	W/(m·K)	EN 14307									
d_N = 40 mm			**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 = 70 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			**0,027**	0,029	0,031	0,034	**0,035**	0,037	0,041	0,046	**0,049**
d_N = 150 mm			**0,027**	0,029	0,031	0,034	**0,035**	0,037	0,041	0,046	**0,049**
d_N = 160 mm			**0,027**	0,029	0,031	0,034	**0,035**	0,037	0,041	0,046	**0,049**
Thermal resistance in whole range of service temperatures acc. to EN 14307	$m^2 \cdot K/W$	EN 14307									
d_N = 40 mm			**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 = 70 mm			**2,80**	2,55	2,40	2,25	**2,15**	2,00	1,90	1,75	**1,75**
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			**5,15**	4,80	4,50	4,10	**4,00**	3,75	3,40	3,00	**2,85**
d_N = 150mm			**5,55**	5,15	4,80	4,40	**4,25**	4,05	3,65	3,25	**3,05**
d_N = 160mm			**5,90**	5,50	5,15	4,70	**4,55**	4,30	3,90	3,45	**3,25**

Parameter	Unit	Test method	Values for Synthos XPS PRIME S 50, at temperature:								
			-60 °C	-40 °C	-20 °C	0 °C	10 °C	20 °C	40 °C	60 °C	70 °C
Thermal conductivity coefficient in whole range of service temperatures acc. to EN 14307	W/(m·K)	EN 14307									
d_N = 40 mm			**0,025**	0,027	0,029	0,031	**0,033**	0,034	0,036	0,038	**0,040**
d_N = 50 mm			**0,026**	0,028	0,030	0,032	**0,033**	0,034	0,036	0,038	**0,040**
d_N = 60 mm			**0,026**	0,028	0,030	0,032	**0,034**	0,034	0,036	0,038	**0,040**
d_N = 80 mm			**0,026**	0,028	0,030	0,032	**0,034**	0,034	0,036	0,038	**0,040**
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**	0,030	0,032	0,033	**0,034**	0,036	0,042	0,046	**0,049**
Thermal resistance in whole range of service temperatures acc. to EN 14307	$m^2 \cdot K/W$	EN 14307									
d_N = 40 mm			**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	**2,85**	2,70	2,55	2,35	**2,20**
d_N = 120 mm			**4,25**	4,00	3,75	3,60	**3,50**	3,30	2,85	2,60	**2,40**

Parameter	Unit	Test method	Values for Synthos XPS PRIME S 70, at temperature:								
			-60 °C	-40 °C	-20 °C	0 °C	10 °C	20 °C	40 °C	60 °C	70 °C
Thermal conductivity coefficient in whole range of service temperatures acc. to EN 14307	W/(m·K)	EN 14307									
d_N = 40 mm			**0,026**	0,027	0,029	0,031	**0,033**	0,034	0,036	0,038	**0,040**
d_N = 50 mm			**0,027**	0,029	0,031	0,033	**0,033**	0,035	0,037	0,039	**0,040**
d_N = 60 mm			**0,027**	0,029	0,031	0,033	**0,034**	0,035	0,037	0,039	**0,040**
d_N = 80 mm			**0,027**	0,029	0,031	0,033	**0,034**	0,035	0,037	0,039	**0,040**
d_N = 100 mm			**0,027**	0,029	0,031	0,033	**0,034**	0,037	0,039	0,042	**0,045**
Thermal resistance in whole range of service temperatures acc. to EN 14307	$m^2 \cdot K/W$	EN 14307									
d_N = 40 mm			**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			**3,55**	3,30	3,10	2,90	**2,85**	2,60	2,45	2,30	**2,15**

2. MECHANICAL PROPERTIES

Parameter	Code	Unit	Test method	Synthos XPS PRIME S - value or feature			
				S 30 – I, L, N	S 30 – IR	S 50 – L	S 70 – L
Declared compressive stress or compressive strength at 10% deformation	CS(10\Y)	kPa	EN 826	≥ 300		≥ 500	≥ 700
Average achieved compressive stress or compressive strength at 10% deformation	-	kPa		≥ 350		≥ 550	≥ 750
Compressive stress or compressive strength at 2% deformation	CS(2\Y)	kPa		≥ 100		≥ 200	≥ 300
Compressive stress or compressive strength at 5% deformation	CS(5\Y)	kPa		≥ 200		≥ 400	≥ 600
Average achieved short-time elasticity modulus	-	MPa		≥ 10		≥ 18	≥ 21
Average achieved long-time elasticity modulus (E50)	-	MPa		≥ 5,5		≥ 9	≥ 12,5
Compressive creep	CC(2/1,5/50)	kPa	EN 1606 + AC	≥ 110		≥ 200	≥ 250
Tensile strength perpendicular to faces	TR	kPa	EN 1607	≥ 200	≥ 400	≥ 200	≥ 200
Shear strength	SS	kPa	EN 12090	≥ 170		≥ 270	≥ 270
Bending (flexural) strength	BS	kPa	EN 12089				
d_N = 40 mm				≥ 500		≥ 600	≥ 700
d_N = 50 mm				≥ 400		≥ 400	≥ 500
d_N = 60 mm				≥ 300		≥ 300	≥ 400
d_N = 70 mm				≥ 300		(-)	(-)
d_N = 80 mm				≥ 300		≥ 300	≥ 400
d_N = 100 mm				-		-	≥ 300
d_N = 120, 140, 150, 160 mm				-		-	-

Parameter	Code	Unit	Test method	Synthos XPS PRIME S - value or feature			
				S 30 – I, L, N	S 30 – IR	S 50 – L	S 70 – L
Resistance to cyclic compressive load using square - wave load – deformation of 2% after 2 x 10^6 cycles	-		EN 13793				
d_N = 40 mm		kPa		≥ 135		≥ 430	≥ 520
d_N = 50 mm				≥ 130		≥ 400	≥ 500
d_N = 60 mm				≥ 125		≥ 370	≥ 480
d_N = 70 mm				≥ 120		(-)	(-)
d_N = 80 mm				≥ 120		≥ 220	≥ 440
d_N = 100 mm				≥ 110		≥ 220	≥ 400
d_N = 120 mm				≥ 90		≥ 220	(-)
d_N = 140 mm				≥ 70		(-)	(-)
d_N = 150 mm				≥ 55		(-)	(-)
d_N = 160 mm				≥ 45		(-)	(-)
Resistance to cyclic compressive load using square - wave load – deformation of 2% after 5 x 10^6 cycles	CLRT(5/2×10^6)		EN 13793				
d_N = 40 mm		kPa		≥ 220		≥ 540	≥ 570
d_N = 50 mm				≥ 200		≥ 520	≥ 550
d_N = 60 mm				≥ 180		≥ 500	≥ 530
d_N = 70 mm				≥ 170		(-)	(-)
d_N = 80 mm				≥ 160		≥ 340	≥ 490
d_N = 100 mm				≥ 140		≥ 340	≥ 450
d_N = 120 mm				≥ 135		≥ 340	(-)
d_N = 140 mm				≥ 130		(-)	(-)
d_N = 150 mm				≥ 125		(-)	(-)
d_N = 160 mm				≥ 120		(-)	(-)

Parameter	Code	Unit	Test method	Synthos XPS PRIME S - value or feature			
				S 30 – I, L, N	S 30 – IR	S 50 – L	S 70 – L
Resistance to cyclic compressive load using sinusoid - wave load – deformation of 2% after 2 x 10^6 cycles							
d_N = 40 mm	-	kPa	EN 14307	≥ 125		≥ 370	≥ 500
d_N = 50 mm				≥ 120		≥ 350	≥ 480
d_N = 60 mm				≥ 115		≥ 330	≥ 430
d_N = 70 mm				≥ 120		(-)	(-)
d_N = 80 mm				≥ 105		≥ 220	≥ 350
d_N = 100 mm				≥ 95		≥ 220	≥ 280
d_N = 120 mm				≥ 80		≥ 220	(-)
d_N = 140 mm				≥ 55		(-)	(-)
d_N = 150 mm				≥ 40		(-)	(-)
d_N = 160 mm				≥ 30		(-)	(-)
Resistance to cyclic compressive load using sinusoid - wave load – deformation of 2% after 5 x 10^6 cycles							
d_N = 40 mm	CLR(5/2×10^6)	kPa	EN 14307	≥ 195		≥ 440	≥ 540
d_N = 50 mm				≥ 180		≥ 420	≥ 520
d_N = 60 mm				≥ 165		≥ 400	≥ 500
d_N = 70 mm				≥ 170		(-)	(-)
d_N = 80 mm				≥ 150		≥ 300	≥ 460
d_N = 100 mm				≥ 125		≥ 300	≥ 420
d_N = 120 mm				≥ 120		≥ 300	(-)
d_N = 140 mm				≥ 115		(-)	(-)
d_N = 150 mm				≥ 110		(-)	(-)
d_N = 160 mm				≥ 105		(-)	(-)

Parameter	Code	Unit	Test method	Synthos XPS PRIME S - value or feature			
				S 30 – I, L, N	S 30 – IR	S 50 – L	S 70 – L
Resistance to cyclic compressive load using square - wave load –deformation after 2 x 10^6 cycles, with load of 150 kPa							
d_N = 40 mm	CL	%	EN 13793	≤ 2		≤ 1	≤ 0,5
d_N = 50 mm				≤ 2,5		≤ 1	≤ 0,5
d_N = 60 mm				≤ 3		≤ 1	≤ 0,5
d_N = 70 mm				≤ 3,5		(-)	(-)
d_N = 80 mm				≤ 4		≤ 1	≤ 0,5
d_N = 100 mm				≤ 5		≤ 1	≤ 0,5
d_N = 120 mm				≤ 5		≤ 1	(-)
d_N = 140 mm				-		(-)	(-)
d_N = 150 mm				-		(-)	(-)
d_N = 160 mm				-		(-)	(-)
Dynamic stiffness	-	MN/m^3	EN 29052-1				
d_N = 40 mm				380		420	440
d_N = 50 mm				280		360	380
d_N = 60 mm				250		300	320
d_N = 70 mm				220		(-)	(-)
d_N = 80 mm				190		210	230
d_N = 100 mm				150		170	190
d_N = 120 mm				130		150	(-)
d_N = 140 mm				100		(-)	(-)
d_N = 150 mm				90		(-)	(-)
d_N = 160 mm				80		(-)	(-)

3. HYDROPHOBIC PROPERTIES

Parameter	Code	Unit	Test method	Synthos XPS PRIME S - value or feature			
				S 30 – I, L, N	S 30 – IR	S 50 – L	S 70 – L
Declared long-term water absorption by total immersion	WL(T)	%	EN 12087 + A1	≤ 0,7		≤ 0,7	≤ 0,7
Average achieved long term water absorption by total immersion	-	%		≤ 0,25	≤ 0,50	≤ 0,15	≤ 0,15
Short-term water absorption	WS	kg/m^3	EN 1609	≤ 0,5	≤ 1,0	≤ 0,5	≤ 0,5
	-	kg/m^2		≤ 0,1			
Freeze-thaw resistance after long-term water absorption by total immersion test	FTCI	%	EN 12091	≤ 1	-	≤ 1	≤ 1
Long-term water absorption by diffusion	WD(V)	%	EN 12088				
d_N = 40, 50 mm				≤ 3	≤ 3	≤ 3	≤ 3
d_N = 60, 70, 80 mm				≤ 2	≤ 3	≤ 2	≤ 2
d_N = 100 mm				≤ 1	≤ 2	≤ 1	≤ 1
d_N = 120 mm				≤ 1	≤ 2	≤ 1	(-)
d_N = 140, 150, 160 mm				≤ 1	(-)	(-)	(-)
Freeze-thaw resistance after long-term water diffusion test	EN 13164: FTCD EN 14734: FTC	%	EN 12091				
d_N = 40, 50 mm				≤ 1	-	≤ 1	≤ 1
d_N = 60, 70, 80 mm				≤ 1	≤ 2	≤ 1	≤ 1
d_N = 100 mm				≤ 1	≤ 1	≤ 1	≤ 1
d_N = 120 mm				≤ 1	≤ 1	≤ 1	(-)
d_N = 140, 150, 160 mm				≤ 1	(-)	(-)	(-)
Water vapour diffusion resistance acc. to EN-ISO 10456	MU	-	EN 12086	150			

4. OTHER PARAMETERS

Parameter	Code	Unit	Test method	Synthos XPS PRIME S - value or feature			
				S 30 – I, L, N	S 30 – IR	S 50 – L	S 70 – L
Finishing of the surface	-	-	-	smooth	chattered (embossed)	smooth	smooth
Finishing of the edges	-	-	-	**I** – Square edges **L** – Half-lapped edges **N** – Tongue and groove			
Thickness with tolerance T1 [1)]	T1	mm	EN 823	40, 50, 60, 70, 80, 100, 120, 140, 150, 160	40, 50, 60, 80, 100, 120	40, 50, 60, 80, 100, 120	40, 50, 60, 80, 100
Length	-	mm	EN 822	1250 (+/-8)			
Width	-	mm		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		33 - 42	37 - 47
Dimensional stability under specified conditions – 90% relative humidity and 70 °C [2)]	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		≤ 5	≤ 5
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			
BREEAM environmental classification	-	-	BREEAM	A			
Reaction to fire – class	-	Euroclass	EN 13501-1+A1	F			

Parameter	Code	Unit	Test method	Synthos XPS PRIME S - value or feature			
				S 30 – I, L, N	S 30 – IR	S 50 – L	S 70 – L
Durability of reaction to fire	-	-	-	Does not deteriorate in time			
Average achieved open cells content	-	%	EN ISO 4590	≤ 5			
Minimal service temperature	ST(-)	°C	EN 14309	-60			
Maximum service temperature	ST(+)	°C	EN 14706	+70[2)]			
Fungus resistance	-	-	EN ISO 846	The material does not serve as a source for the growth of fungi			
Flashpoint	-	°C	ČSN 640149	> 400			
Content of water soluble chlorides	CL	mg/kg	EN 13468	< 27			
Content of water soluble fluorides	F	mg/kg	EN 13468	< 5			
Content of water soluble sodium ions	NA	mg/kg	EN 13468	< 5			
Content of water soluble silicates	SI	mg/kg	EN 13468	< 27			
pH value of water extracts	pH	-	EN 13468	7 ± 0,5			
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) Thickness tolerance T1: d_N < 50mm (-2/+2); 50 ≤ d_N ≤ 120 (-2/+3); d_N > 120 (-2/+6)

2) 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%.

SAFE ASSEMBLING AND STORAGE CONDITIONS

Synthos XPS PRIME S boards, like any other polystyrene products:
1. degrade under the influence of sunlight, resulting in surface deformation, structure degradation, dimensional change and loss of flatness and squareness;
2. during direct contact with heat sources with temperatures above 70 °C, they also degrade, resulting in distortion and even melting;
3. they are flammable, they can be burnt violently in case of exposure to open fire;
4. dissolve in direct contact with substances having a destructive effect on polystyrene (eg organic solvents such as acetone, benzene, nitro ...), and other preparations containing such organic compounds.

The producer does not declare dimensional stability by Synthos XPS PRIME S in conditions of a higher temperature of 70 °C and at the same time a relative humidity higher than 90%.

Storage

It is recommended that:
1. The product should be stored in ventilated buildings, preferably covered buildings.
2. If it is necessary to store the product in the open air for long periods, it should be protected by covering of the surface exposed to radiation with a bright material.
3. The product may not be stored in buildings in which flammable and volatile products are stored.
4. Avoid contact with open flame or heat sources at any stage of storage, transport, installation and use of the product.

Assembly

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.

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

According to the harmonized European Standards EN-13164, EN-14934, and EN-14307 following durabilities are referred:

1. Durability of heat resistance and thermal conductivity in the conditions of exposure to high temperature, weather conditions, aging or degradation

    - Declared values indicated for Synthos XPS PRIME S are based on so called aging procedure, simulating its behaviour in infinity, and confirming stability of heat resistance and thermal conductivity in time.

    - Heat resistance values suitable for the temperature (up to a maximum service temperature of 70 °C) remain constant with time.

    - The product is resistant to freeze-thaw cycles as indicated by the declared parameters: freeze-thaw resistance, after the water absorption at diffusion test and after long-term water absorption by immersion test.

    - The product is resistant against deformations, what is indicated by dimensional stability and deformation under specific conditions of load and temperature

2. Durability of reaction to fire if exposed to high temperature, weather conditions, aging, degradation.

    The parameters of reaction to fire of Synthos XPS PRIME S products remain constant with time.

3. Durability of compressive strength in the conditions of aging or degradation

    It is characterised by two parameters: freeze-thaw resistance (as above) and compressive creep. Synthos XPS PRIME boards exert the following declared levels:
    - for XPS 30 series: CC(2/1,5/50)110
    - for XPS 50 series: CC(2/1,5/50)180
    - for XPS 70 series: CC(2/1,5/50)250

    i.e. not exceeded after 50 years of use: 1.5% creep at 2% deformation (thickness reduction) for the declared stress, respectively: 110/180/250 kPa.

4. Durability of resistance to dynamic load

    It is characterized by the resistance to cyclic compressive load as a result of the load extending as a rectangular wave and sinusoidal wave, as limit values of applied loads causing deformation (thickness reduction), not more than 5%.

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:

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
70	6	4,5	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	0,42
150	3	2,25	0,3375	0,45
160	3	2,25	0,360	0,48

Dimensions of board in transportation [mm]		
Finishing of the edges	Length	Width
I, IR	1250	600
L	1265	615
N	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
70	12	72	54	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

Dimensions of a loading unit in transportation [mm]			
Finishing of the edges	Length	Width	Height
I, IR	1250	1200	Depends on thickness, see table earlier
L	1265	1230	
N	1262	1224	

MANUFACTURER

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