SYNTHOS XPS PRIME D 30 (I, L, N) 100

Extruded polystyrene board

Declaration of Performance
no. SD/PD30-100/2016/01
Date of compilation: 2016-12-01

1. **Unique identification code of the product-type:**
   SYNTHOS XPS PRIME D 30 L 100

2. **Intended use:**
   Thermal insulation for buildings
   Thermal insulation for building equipment and industrial installations
   Thermal insulation and light weight fill products for civil engineering applications.

3. **Manufacturer:**
   SYNTHOS XPS PRIME D 30 L 100
   Synthos Dwory 7 spółka z ograniczoną odpowiedzialnością spółka jawna
   ul. Chemików 1
   32-600 Oświęcim
   Poland

4. **System of assessment and verification of constancy of performance:**
   System 3, in case reaction to fire – system 4

5. Harmonised standards: EN 13164:2012+A1:2015; EN 14307+A:2013; EN 14934:2007
   Notified body: Instytut Techniki Budowlanej (no. 1488)

6. **Deklarované vlastnosti** - Tabulka č. 1

Essential characteristics	Performance		Harmonized technical specification
Thermal resistance	Thermal resistance and thermal conductivity	Table no. 2, below	EN 13164:2012+A1:2015
	Thickness		
Reaction to fire	Euroclass charakteristic	Euroclass F	EN 13164:2012+A1:2015
Durability of reaction to fire against heat, weathering, ageing/degradation	Durability characteristics	NPD	EN 13164:2012+A1:2015

Durability of thermal resistance against heat, weathering, ageing/degradation	Thermal resistance and thermal conductivity	Table no. 2, below	EN 13164:2012+A1:2015
	Durability characteristics	(a)	EN 13164:2012+A1:2015
	Freeze-thaw resistance after long term water diffusion test	**FTCD1**	EN 13164:2012+A1:2015
	Freeze-thaw resistance after long term water water absorption by total immersion	**FTCI1**	EN 13164:2012+A1:2015
Compressive strength	Compressive strength at 10% of deformation	**CS(10/Y)300** (≥300 kPa)	EN 13164:2012+A1:2015
Tensile/flexural strength	Tensile strength perpendicular to faces	**TR200** (≥200 kPa)	EN 13164:2012+A1:2015
Durability of compressive strength against ageing/ degradation	Compressive creep	**CC/2/1,5/50)110** (Value not exceeding 1,5 % for compressive creep and 2 % for total thickness reduction after extrapolation at 50 years under a declared stress of 110 kPa)	EN 13164:2012+A1:2015
Water permeability	Long term water absorption by total immersion	**WL(T)0,7** (≤ 0,7%)	EN 13164:2012+A1:2015
	Long term water absorption by diffusion	**WD(V)1**	EN 13164:2012+A1:2015
Water vapour permeability	Water vapour transmission	**MU100**	EN 13164:2012+A1:2015
Release of dangerous substances to the indoor environment	Release of dangerous substances	NPD	EN 13164:2012+A1:2015
Glowing combustion	Continuous glowing combustion	NPD	EN 13164:2012+A1:2015
Reaction to fire Euroclass characteristic	Reaction to fire	Euroclass F	EN 14307:2009+A1:2013
Water permeability	Short term water absorption by partial immersion	**WS(0,1)** (<0,1 kg/m^2)	EN 14307:2009+A1:2013

Thermal resistance	Thermal conductivity	In whole temperature service range - table no. 3	EN 14307:2009+A1:2013
	Dimensions and tolerances		EN 14307:2009+A1:2013
Water vapour permeability	Water vapour transmission properties	**MU100**	EN 14307:2009+A1:2013
Compressive strength	Compressive strength at 10% of deformation	**CS(10/Y)300** ≥300 kPa	EN 14307:2009+A1:2013
Rate of release of corrosive substances	Trace quantities of water soluble chloride ions	**CL(27)** (<27 ppm)	EN 14307:2009+A1:2013
	Trace quantities of water soluble fluoride ions	**F(5)** (<5 ppm)	EN 14307:2009+A1:2013
	Trace quantities of water soluble silicate ions	**SI(27)** (<27 ppm)	EN 14307:2009+A1:2013
	Trace quantities of water soluble sodium ions	**NA(5)** (<5 ppm)	EN 14307:2009+A1:2013
	pH value	**PH7** (7,0 ± 0,5)	EN 14307:2009+A1:2013
Release of dangerous substances to the indoor environment	Release of dangerous substances	NPD	EN 14307:2009+A1:2013
Glowing combustion	Continuous glowing combustion	NPD	EN 14307:2009+A1:2013
Durability of reaction to fire against ageing/degradation and high temperature	Durability characteristics	NPD	EN 14307:2009+A1:2013
	Maximum service temperature	**ST(+)70** (70°C)	EN 14307:2009+A1:2013
Durability of thermal resistance against heat, weathering, ageing/degradation	Thermal conductivity	In whole temperature service range - table no. 3	EN 14307:2009+A1:2013
	Dimensions and tolerances		EN 14307:2009+A1:2013
	Durability characteristics	(a)	EN 14307:2009+A1:2013
	Maximum service temperature	**ST(+)70** (70°C)	EN 14307:2009+A1:2013
Reaction to fire	Reaction to fire	Euroclass F	EN 14934:2007
Glowing combustion	Continuous glowing combustion	NPD	EN 14934:2007
Resistance against dynamic loads	Resistance against cyclic compressive loading	Table no. 4, below	EN 14934:2007
Water permeability	Long term water absorption by total immersion	**WL(T)0,7** (≤ 0,7%)	EN 14934:2007

	Long term water absorption by diffusion	NPD	EN 14934:2007
Release of dangerous substances to the indoor environment	Release of dangerous substances	NPD	EN 14934:2007
Thermal resistance	Thermal resistance and thermal conductivity	Table no. 2,below	EN 14934:2007
	Thickness		EN 14934:2007
Water vapour permeability	Water vapour transmission	**MU100**	EN 14934:2007
Compressive strength	Compressive strength at 2% of deformation	**CS(2/Y)100** (≥100 kPa)	EN 14934:2007
	Compressive strength at 5% of deformation	**CS(5/Y)200** (≥200 kPa)	EN 14934:2007
	Compressive strength at 10% of deformation	**CS(10/Y)300** (≥300 kPa)	EN 14934:2007
Bending strength	Bending strength	NPD	EN 14934:2007
Durability of reaction to fire against heat, weathering, ageing/ degradation	-	NPD	EN 14934:2007
Durability of thermal resistance against heat, weathering, ageing/degradation	Thermal resistance and thermal conductivity	Table no.2, below	EN 14934:2007
	Dimensional stability at 23°C and 90% relative humidity	NPD	EN 14934:2007
	Dimensional stability at (70 °C)	NPD	EN 14934:2007
	Dimensional stability at 70°C and 90% relative humidity	**DS(TH)**	EN 14934:2007
	Deformation under specific conditions of compressive load of 40 kPa and at temperature of 70°C	**DLT(2)5** (≤5%)	EN 14934:2007
	Freeze-thaw resistance	**FTC1**	EN 14934:2007

Durability of compressive strength against ageing/ degradation	Compressive creep	**CC/2/1,5/50)110** Value not exceeding 1,5 % for compressive creep and 2 % for total thickness reduction after extrapolation at 50 years under a declared stress of 110 kPa	EN 14934:2007
	Freeze-thaw resistance	**FTC1**	EN 14934:2007
Durability of resistance against dynamic loads	Resistance to cyclic compressive load	Table no.4, below	EN 14934:2007
Durability of resistance against chemical and biological agents	-	NPD	EN 14934:2007

(a) According to
- C appendix to EN 13164:2012+A1:2015,
- C appendix to EN 14934:2007,
- B appendix to EN 14307+A:2013,

the declared values of thermal resistance factor (as in table 2) comprise changes of thermal conductivity of Synthos XPS PRIME D in time.

Table no. 2. Heat values for particular thickness

Thickness In the class of tolerance T1 [mm]	Coefficient of thermal conductivity λ_D [W/mK]	Thermal resistance R_D [m^2K/W]
100	≤ 0,032	≥ 3,10

Table no 3. Heat values for particular thickness in whole temperature service range

Thickness In the class of tolerance T1 [mm]	Coefficient of thermal conductivity λD [W/mK] při -60°C	Coefficient of thermal conductivity λD [W/mK] při +10 °C	Coefficient of thermal conductivity λD [W/mK] při +70 °C
100	0,026	0,032	0,038

Table no. 4. Resistance against cyclic compressive loading

Thickness [mm]	Resistance against cyclic compressive loading using square - wave load: 5% deformation after 2 x 10^6 cycles	Resistance against cyclic compressive loading using sinusoid - wave load: 5% deformation after 2 x 10^6 cycles
100	**CLRT(5/2×10⁶)140**	**CLR(5/2×10⁶)125**

The performance of the product identified above is in conformity with the set of declared performances. This declaration of performance is issued, in accordance with Regulation (EU) No 305/2011, under the sole responsibility of the manufacturer identified above.

Signed for and on behalf of the manufacturer by:

Head of Systems Management Department

Sylwester Jachna

Oświęcim, December 1, 2016

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