SYNTHOS XPS PRIME 25 (IL)

Extruded polystyrene board

Declaration of Performance
No SK/P25/2015/01
Date of compilation: 2015-07-01

1. **Unique identification code of the product-type:**
   SYNTHOS XPS Prime 25

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 25 (IL)
   Synthos Kralupy a.s.
   O. Wichterleho 810
   278 01 Kralupy nad Vltavou
   Czech Republic

4. **System of assessment and verification of constancy of performance:**
   System 3

5. Harmonised standards EN 13164:2012; EN 14307+A:2013; EN 14934:2007

   Notified body: Centrum stavebního inženýrství, a.s., [Centre of Building Construction Engeneering Inc.,] (nr 1390). EN 13164:2012

   Intytut Techniki Budowlanej (number 1488) - EN 14307+A:2013; EN 14934:2007

6. **Declared performances** – Table No. 1

Essential characteristics	Performance	Harmonized technical specification
Thermal resistance and thermal conductivity	Table No. 2 below	EN 13164: 2012 EN 14934:2007
Maximum service temperature	NPD	EN 14307+A:2013
Durability of thermal resistance against ageing/degradation and high temperature - thermal conductivity in whole service temperature range	Table No. 3 below	EN 14307+A:2013

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Durability of thermal resistance against ageing/degradation	(a)	EN 13164: 2012 EN 14307+A:2013 EN 14934:2007
Durability of thermal resistance against high temperature	NPD	EN 14307+A:2013
Reaction to fire	Euroclass E	EN 13164: 2012 EN 14307+A:2013 EN 14934:2007
Reaction to fire of the product in standardized assemblies simulating end-use applications	NPD	EN 13164:2012
Durability of reaction to fire against ageing degradation and high temperature	NPD	EN 14307+A:2013
Durability of reaction to fire against heat, weathering, ageing/ degradation	No changes	EN 13164:2012 EN 14934:2007
Durability of reaction to fire against heat, weathering, ageing/ degradation and high temperature	No changes	EN 14307+A:2013
Contionus glowing combustion	NPD	EN 13164:2012 EN 14307+A:2013 EN 14934:2007
Length and width	At nominal length and width ≤ 1500 mm: ± 8 mm > 1500 mm: ± 10 mm	EN 13164: 2012 EN 14307+A:2013 EN 14934:2007
Thickness within T1 thickness tolerance class	20 ÷ 30 mm	EN 13164:2012 EN 14307+A:2013 EN 14934:2007
Squareness on length and width	5 mm/m	EN 13164:2012 EN 14307+A:2013 EN 14934:2007
Flatness	At nominal length and width 6 mm/m	EN 13164: 2012 EN 14307+A:2013 EN 14934:2007
Dimensional stability at 70°C and 90% relative humidity	Relative changes in length, width and thickness not exceeding 5%	EN 13164: 2012 EN 14934:2007
Dimensional stability at 70°C	NPD	EN 14934:2007
Dimensional stability at 23°C and 90% relative humidity	NPD	EN 14307+A:2013
Deformation under specific conditions of compressive load of 40 kPa and at temperature of 70°C	NPD	EN 13164:2012 EN 14307+A:2013 EN 14934:2007

Compressive strength at 10% of deformation	≥250 kPa	EN 13164:2012 EN 14307+A:2013 EN 14934:2007
Compressive strength at 5% of deformation	>150 kPa	EN 14934:2007
Compressive strength at 2% of deformation	>100 kPa	EN 14934:2007
Durability of compressive strength against ageing/ degradation - compressive creep	NPD	EN 13164:2012 EN 14934:2007
Tensile strength perpendicular to faces	≥ 200 kPa	EN 13164:2012 EN 14307+A:2013
Shear strength	≥ 170 kPa	EN 13164:2012 EN 14307+A:2013 EN 14934:2007
Bending strength	Table No. 4 below	EN 13164:2012 EN 14307+A:2013 EN 14934:2007
Durability of resistance against dynamic loads resistance to cyclic compressive load	NPD	EN 14934:2007
Behaviour under cyclic loading	NPD	EN 13164: 2012
Short term water absorption by partial immersion	<0,1 kg/m2	EN 14307+A:2013
Long term water absorption by total immersion	≤ 0.7%	EN 13164:2012 EN 14934:2007
Long term water absorption by diffusion	Table No. 5 below	EN 13164:2012
Durability of thermal resistance against heat, weathering, ageing/degradation - freeze-thaw resistance after long term water diffusion test	≤ 1 %	EN 13164:2012
Freeze - thaw resistance (durability of thermal resistance against heat, weathering, ageing/degradation and durability of compressive strength against ageing/ degradation)	≤1%	EN 14934:2007
Durability of thermal resistance against heat, weathering, ageing and degradation - freeze - thaw resistance after long term water absorption by total immersion	≤ 1 %	EN 13164:2012
Water vapour diffusion resistance factor	≥ 100	EN 13164:2012 EN 14307+A:2013 EN 14934:2007
Rate of release of corrosive substances – water – soluble chlorides	< 27 ppm	EN 14307+A:2013

Rate of release of corrosive substances – water – soluble fluorides	< 5 ppm	EN 14307+A:2013
Rate of release of corrosive substances – water – soluble silicates	< 27 ppm	EN 14307+A:2013
Rate of release of corrosive substances – water – soluble sodium ions	< 5 ppm	EN 14307+A:2013
Rate of release of corrosive substances – pH	7,0 ± 0,5	EN 14307+A:2013
Release of dangerous substances	NPD	EN 13164: 2012 EN 14307+A:2013 EN 14934:2007
Durability of resistance against chemical and biological agents	NPD	EN 14934:2007

(a) According to
- C appendix to EN 13164:2012,
- 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 S in time.

Table No. 2. Heat values for particular thickness

Thickness [mm]	Coefficient of heat conductivity λ_D [W/mK]	Thermal resistance R_D [m^2K/W]
20	≤ 0,032	≥ 0,55
30	≤ 0,033	≥ 0,80

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

Thickness [mm]	Coefficient of heat conductivity λD [W/mK] at -60°C	Coefficient of heat conductivity λD [W/mK] at +10 °C	Coefficient of heat conductivity λD [W/mK] at +70 °C
20	0,025	0,032	0,040
30	0,026	0,033	0,040

Table No. 4. Bending strength for particular thickness

Thickness [mm]	Bending strength [kPa]
20	≤ 600
30	≤ 500

Table No. 5. Long term water absorption by diffusion for particular thickness

Thickness [mm]	Long term water absorption by diffusion [%]
20	≤ 5
30	≤ 4

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:

HSE&Q Manager

Norbert Eichler

Chairman of the Board

Jolanta Brudnicka

Kralupy nad Vltavou, 2015-07-01

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