SYNTHOS XPS PRIME 25 (IR)

Extruded polystyrene board

Declaration of Performance
No SK/P25R/2015/01
Date of compilation: 2015-07-01

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

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 (IR)
   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

SYNTHOS Kralupy a.s.
O.Wichterleho 810, 278 01 Kralupy nad Vltavou,
tel. +420 315 711 111, fax +420 315 723 566
www.synthosgroup.com

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	≤ 1.5%	EN 13164:2012 EN 14934:2007
Long term water absorption by diffusion	NPD	EN 13164:2012
Durability of thermal resistance against heat, weathering, ageing/degradation - freeze- thaw resistance after long term water diffusion test	NPD	EN 13164:2012
Freeze - thaw resistance (durability of thermal resistance against heat, weathering, ageing/degradation and durability of compressive strength against ageing/ degradation)	NPD	EN 14934:2007
Durability of thermal resistance against heat, weathering,, ageing and degradation - freeze - thaw resistance after long term water absorption by total immersion	NPD	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 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

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

SYNTHOS Kralupy a.s.
O.Wichterleho 810, 278 01 Kralupy nad Vltavou,
tel. +420 315 711 111, fax +420 315 723 566
www.synthosgroup.com