SYNTHOS XPS PRIME 50 (I, L, N)

Extruded polystyrene board

Declaration of Performance
No SK/P50/2014/02
Date of compilation: 2014-10-01

1. **Unique identification code of the product-type:**
   Synthos XPS Prime 50

2. **Intended use:**
   Thermal insulation for buildings

3. **Manufacturer:**
   SYNTHOS XPS PRIME 50 (I, L, N)
   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 standard EN 13164:2013

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

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

Essential characteristics	Performance	Harmonized technical specification
Thermal resistance and thermal conductivity	Table No. 2 below	EN 13164:2013
Stability of thermal resistance under the effect ageing and degradation	(a)	EN 13164:2013
Reaction to fire	Euroclass E	EN 13164:2013
Durability of reaction to fire against heat, weathering, ageing/ degradation	no changes	EN 13164:2013
Reaction to fire of the product in standardized assemblies simulating end-use applications	NPD	EN 13164:2013
Contionus glowing combustion	NPD	EN 13164:2013

Length and width	At nominal length and width ≤ 1500 mm: ± 8 mm > 1500 mm: ± 10 mm	EN 13164:2013
Thickness within T1 thickness tolerance class	40 ÷ 120 mm	EN 13164:2013
Squareness on length and width	5 mm/m	EN 13164:2013
Flatness	At nominal length and width 6 mm/m	EN 13164:2013
Dimensional stability at 70°C and 90% relative humidity	Relative changes in length, width and thickness not exceeding 5%	EN 13164:2013
Deformation under specific conditions of compressive load of 40 kPa and at temperature of 70°C	≤ 5%	EN 13164:2013
Compressive strength	≥500 kPa	EN 13164:2013
Stability of stress in pressure under the effect of ageing and degradation - compressive creep	Value not exceeding 1,5 % for compressive creep and 2 % for total thickness reduction after extrapolation at 50 years under a declared stress of 200 kPa	EN 13164:2013
Long term water absorption by total immersion	≤ 0.7%	EN 13164:2013
Long term water absorption by diffusion	Table No. 3 below	EN 13164:2013
Stability of thermal resistance under the effect of heat, weather, ageing and degradation- freeze-thaw resistance after long term water diffusion test	≤ 1 %	EN 13164:2013
Stability of thermal resistance under the effect of heat, weather, ageing and degradation - freeze - thaw resistance after long term water absorption by total immersion	≤ 1 %	EN 13164:2013
Water vapour diffusion resistance factor	≥ 100	EN 13164:2013
Tensile strength perpendicular to faces	≥ 200 kPa	EN 13164:2013
Release of dangerous substances	NPD	EN 13164:2013
Shear strength	≥ 270 kPa	EN 13164:2013
Bending strength	Table No. 4 below	EN 13164:2013

(a) In conformity with Annex C, EN 13164: 2013, the declared value of thermal resistance given in Table 2 allows for modifications in thermal conductivity of Synthos XPS Prime by the effect of time.

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

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]
40	≤ 0,033	≥ 1,10
50	≤ 0,034	≥ 1,35
60	≤ 0,034	≥ 1,65
80	≤ 0,034	≥ 2,25
100	≤ 0,035	≥ 2,75
120	≤ 0,036	≥ 3,20

Table No. 3. Long term water absorption by diffusion for particular thickness

Thickness [mm]	Long term water absorption by diffusion [%]
40	≤ 3
50	≤ 3
60	≤ 2
80	≤ 2
100	≤ 1
120	≤ 1

Table No. 4. Bending strength for particular thickness

Thickness [mm]	Bending strength [kPa]
40	≤ 600
50	≤ 400
60	≤ 300
80	≤ 300
100	NPD
>100	NPD

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, 2014-10-01

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