# SYNTHOS XPS PRIME 70 (I, L, N)

Extruded polystyrene board

Declaration of Performance
No SK/P70/2014/01
Date of compilation: 2014-10-01

1. **Unique identification code of the product-type:**
   Synthos XPS Prime 70

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

3. **Manufacturer:**
   SYNTHOS XPS PRIME 70 (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<br>≤ 1500 mm: ± 8 mm<br>> 1500 mm: ± 10 mm | EN 13164:2013 |
| Thickness within T1 thickness tolerance class | 40 ÷ 100 mm | EN 13164:2013 |
| Squareness on length and width | 5 mm/m | EN 13164:2013 |
| Flatness | At nominal length and width<br>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 | ≥700 kPa | EN 13164:2013 |
| Stability of stress in pressure under the effect of ageing and degradation - compressive creep | NPD | 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 | NPD | 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.

Table No. 2. Heat values for particular thickness

| Thickness [mm] | Coefficient of heat conductivity $\lambda_D$ [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 |

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 |

Table No. 4. Bending strength for particular thickness

| Thickness [mm] | Bending strength [kPa] |
|---|---|
| 40 | ≤ 700 |
| 50 | ≤ 500 |
| 60 | ≤ 400 |
| 80 | ≤ 400 |
| 100 | ≤ 300 |

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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