SYNTHOS XPS PRIME G 50 TB

Extruded polystyrene board

Declaration of Performance
no. SD/PG50TB/2024/01
Date of compilation: 2024-01-01

1. **Unique identification code of the product-type:**
   Synthos XPS PRIME G 50 TB

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

3. **Manufacturer:**
   Synthos Dwory 7 spółka z ograniczoną odpowiedzialnością
   ul. Chemików 1
   32-600 Oświęcim
   POLAND

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

5. **Harmonised standards: EN 13164:2012+A1:2015; EN 14934:2007**
   Notified Bodies:
   Instytut Techniki Budowlanej (NB 1488)
   Forschungsinstitut für Wärmeschutz e. V. München FIW München (NB 0751)
   RISE Research Institutes of Sweden AB (NB 0402)

6. **Declared performances** - Table no.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 characteristic	Euroclass E	EN 13164:2012+A1:2015
Durability of reaction to fire against heat, weathering, ageing/degradation	Durability characteristics	No change	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	**DS(70,90)**	EN 13164:2012+A1:2015
		DLT(2)5	EN 13164:2012+A1:2015
	Freeze-thaw resistance after long term water diffusion test	**FTCD2**	EN 13164:2012+A1:2015

	Freeze-thaw resistance after long term water absorption by total immersion	**FTCI2**	EN 13164:2012+A1:2015
Compressive strength	Compressive strength at 10% of deformation	**CS(10/Y)300**	EN 13164:2012+A1:2015
Tensile/flexural strength	Tensile strength perpendicular to faces	**TR100**	EN 13164:2012+A1:2015
Durability of compressive strength against ageing/ degradation	Compressive creep	NPD	EN 13164:2012+A1:2015
Water permeability	Long term water absorption by total immersion	**WL(T)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	NPD	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	Reaction to fire	Euroclass E	EN 14934:2007
Glowing combustion	Continuous glowing combustion	NPD	EN 14934:2007
Resistance against dynamic loads	Resistance against cyclic compressive loading	Table no. 3, below	EN 14934:2007
Water permeability	Long term water absorption by total immersion	**WL(T)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	NPD	EN 14934:2007
Compressive strength	Compressive strength at 2% of deformation	**CS(2/Y)100**	EN 14934:2007
	Compressive strength at 5% of deformation	**CS(5/Y)200**	EN 14934:2007
	Compressive strength at 10% of deformation	**CS(10/Y)300**	EN 14934:2007

Tensile/flexural strength	Flexural strength	NPD	EN 14934:2007
Durability of reaction to fire against heat, weathering, ageing/ degradation	-	No change	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**	EN 14934:2007
	Freeze-thaw resistance	**FTC2**	EN 14934:2007
Durability of compressive strength against ageing/ degradation	Compressive creep	NPD	EN 14934:2007
	Freeze-thaw resistance	**FTC2**	EN 14934:2007
Durability of resistance against dynamic loads	Resistance to cyclic compressive load	Table no. 3, below	EN 14934:2007
Durability of resistance against chemical and biological agents	-	NPD	EN 14934:2007

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]
140	≤ 0,034	≥ 4,10
150	≤ 0,034	≥ 4,40
160	≤ 0,034	≥ 4,70
170	≤ 0,035	≥ 4,85
180	≤ 0,035	≥ 5,10
190	≤ 0,035	≥ 5,40
200	≤ 0,035	≥ 5,70
210	≤ 0,036	≥ 5,80
220	≤ 0,036	≥ 6,10
230	≤ 0,036	≥ 6,35
240	≤ 0,036	≥ 6,65

Table no. 3. 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
140	**CLRT(5/2×10⁶)260**	**CLR(5/2×10⁶)260**
150	**CLRT(5/2×10⁶)240**	**CLR(5/2×10⁶)240**
160	**CLRT(5/2×10⁶)220**	**CLR(5/2×10⁶)220**
170	**CLRT(5/2×10⁶)200**	**CLR(5/2×10⁶)200**
180	**CLRT(5/2×10⁶)190**	**CLR(5/2×10⁶)190**
190	**CLRT(5/2×10⁶)180**	**CLR(5/2×10⁶)180**
200	**CLRT(5/2×10⁶)170**	**CLR(5/2×10⁶)170**
210	**CLRT(5/2×10⁶)160**	**CLR(5/2×10⁶)160**
220	**CLRT(5/2×10⁶)150**	**CLR(5/2×10⁶)150**
230	**CLRT(5/2×10⁶)140**	**CLR(5/2×10⁶)140**
240	**CLRT(5/2×10⁶)130**	**CLR(5/2×10⁶)130**

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:

Chairman of the Board

Artur Pawłowski

Oświęcim, 2024-01-01