Deutsches Institut für Bautechnik
DIBt

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Approval body for construction products and types of construction

Bautechnisches Prüfamt

An institution established by the Federal and Laender Governments

Designated according to Article 29 of Regulation (EU) No 305/2011 and member of EOTA (European Organisation for Technical Assessment)

European Technical Assessment ETA-19/0425 of 17 September 2021

English translation prepared by DIBt - Original version in German language

General Part

Technical Assessment Body issuing the European Technical Assessment:	Deutsches Institut für Bautechnik
Trade name of the construction product	ROOFMATE SL-AP, Ravatherm XPS BL 300 SL, Ravatherm XPS BL 300 SL B1 FLOORMATE 500-AP, Ravatherm XPS BL 500 SL, Ravatherm XPS BL 500 SL B1 FLOORMATE 700-AP, Ravatherm XPS BL 700 SL
Product family to which the construction product belongs	Extruded polystyrene foam boards as load bearing layer and/or thermal insulation outside the waterproofing
Manufacturer	Ravago Building Solutions Germany GmbH Value Park Y51 06258 Schkopau DEUTSCHLAND
Manufacturing plant	RAVAGO BUILDING SOLUTIONS Germany GmbH Werk 1 - BS Schkopau D 68 06258 Schkopau Werk 2 - Rheinmünster Industriestraße 1 77836 Rheinmünster DEUTSCHLAND RAVAGO BUILDING SOLUTIONS FRANCE 8 Route de Herrlisheim 67410 Drusenheim FRANKREICH
This European Technical Assessment contains	15 pages including 1 annex which form an integral part of this assessment
This European Technical Assessment is issued in accordance with Regulation (EU) No 305/2011, on the basis of	EAD 040650-00-1201
This version replaces	ETA-19/0425 issued on 21 January 2020

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Specific Part

1 Technical description of the product

The extruded polystyrene foam boards are made of rigid cellular plastics material extruded from polystyrene or one of its copolymers and which has a closed cell structure. The blowing agent mixture is carbon dioxide (CO_2), isobutene and additives.The extruded polystyrene foam boards have a skin on both surfaces and a special edge treatment (shiplap).

The extruded polystyrene foam boards do not contain Hexabromocyclododecane (HBCD).

The extruded polystyrene foam boards have the following designations:

"ROOFMATE SL-AP", "Ravatherm XPS BL 300 SL", "Ravatherm XPS BL 300 SL B1", "FLOORMATE 500-AP", "Ravatherm XPS BL 500 SL", "Ravatherm XPS BL 500 SL B1", "FLOORMATE 700-AP" and "Ravatherm XPS BL 700 SL".

The extruded polystyrene foam boards are manufactured with the following dimensions:

Nominal thicknesses:	50 mm to 200 mm for ROOFMATE SL-AP, Ravatherm XPS BL 300 SL and Ravatherm XPS BL 300 SL B1,
	50 mm to 200 mm for FLOORMATE 500-AP, Ravatherm XPS BL 500 SL and Ravatherm XPS BL 500 SL B1
	50 mm to 120 mm for FLOORMATE 700-AP and Ravatherm XPS BL 700 SL
Nominal length:	1250 mm
Nominal widths:	600 mm

The European Technical Assessment has been issued for the products on the basis of agreed data/information, deposited with Deutsches Institut für Bautechnik, which identifies the product that has been assessed. The European Technical Assessment applies only to products corresponding to this agreed data/information.

2 Specification of the intended use in accordance with the applicable European Assessment Document

The extruded polystyrene foam boards are intended to be used as load bearing layer and /or thermal insulation outside the waterproofing. The boards are laid uniformly on the substrate to which they are applied. In particular the following applications are intended:

- Load bearing and thermal insulation underneath foundation slabs
- External horizontal and vertical thermal insulation of in-ground constructions in non-structural applications (also in case of groundwater)
- Inverted roof insulation (including park deck and green roof applications)

The performance according to section 3 only applies if the thermal insulation boards are installed according to the manufacture's installation instructions and if they are protected from precipitation, wetting or weathering during transport and storage before installation.

Concerning the application of the thermal insulation boards, also the respective national regulations shall be observed.

Where the thermal insulation boards are fixed by using adhesives, only such adhesions shall be used, which are suitable for this purpose. The assessment of these fixings is not subject of this European Technical Assessment.

The verifications and assessment methods on which this European Technical Assessment is based lead to the assumption of a working life of the extruded polystyrene foam boards of at least 50 years. The indications given on the working life cannot be interpreted as a guarantee given by the producer, but are to be regarded only as a means for choosing the right products in relation to the expected economically reasonable working life of the works.

3 Performance of the product and references to the methods used for its assessment

For sampling, conditioning and testing the provisions of the EAD No 040650-00-1201 "Extruded polystyrene foam boards as load bearing layer and/or thermal insulation outside the waterproofing" apply.

3.1 Mechanical resistance and stability (BWR 1)

Essential characteristic	Performance
Compressive stress at 10 % deformation or compressive strength	Level (individual values may fall below this level up to 10 %):
test acc. to EN 826:2013	
"ROOFMATE SL-AP", "Ravatherm XPS BL 300 SL", "Ravatherm XPS BL 300 SL B1"	≥ 300 kPa
"FLOORMATE 500-AP", "Ravatherm XPS BL 500 SL", "Ravatherm XPS BL 500 SL B1"	≥ 500 kPa
"FLOORMATE 700-AP" and "Ravatherm XPS BL 700 SL"	≥ 700 kPa
Slip deformation	See Annex A
Compressive stress or compressive strength in the transverse and longitudinal directions	No performance assessed
Characteristic value of compressive stress or compressive strength	
5 %-fractile value for a one-sided confidence level of 75 % under unknown or known variance using ISO 12491:1997	
"ROOFMATE SL-AP", "Ravatherm XPS BL 300 SL", "Ravatherm XPS BL 300 SL B1"	
thickness 50 mm ≤ d ≤ 120 mm	$\sigma_{0,05}$ = 346 kPa (n= 50; σ_{mean}= 431 kPa; s_σ=52 kPa)
thickness 120 mm < d ≤ 200 mm	$\sigma_{0,05}$ = 355 kPa (n= 50; σ_{mean}= 458 kPa; s_σ=63 kPa)

Essential characteristic	Performance
Characteristic value of compressive stress or compressive strength 5 %-fractile value for a one-sided confidence level of 75 % under unknown or known variance using ISO 12491:1997 "FLOORMATE 500-AP", "Ravatherm XPS BL 500 SL", "Ravatherm XPS BL 500 SL B1" thickness 50 mm ≤ d ≤ 120 mm thickness 120 mm < d < 200 mm "FLOORMATE 700-AP", "Ravatherm XPS BL 700 SL" thickness 50 mm ≤ d ≤ 120 mm	 $\sigma_{0,05}$ = 533 kPa (n= 36; σ_{mean}= 625 kPa; s_σ= 55 kPa) $\sigma_{0,05}$ = 518 kPa (n= 34; σ_{mean}= 601 kPa; s_σ=50 kPa) $\sigma_{0,05}$ =759 kPa (n= 32; σ_{mean}= 820 kPa; s_σ= 37 kPa)
Compressive creep	See Annex A
Behaviour under shear load (large-sized specimen)	See Annex A
Creep under shear load	See Annex A
Creep under combined compressive and shear load	See Annex A
Compressive modulus of elasticity	No performance assessed
Adhesion behaviour under compressive and shear load on large-sized samples	See Annex A
Shear strength	No performance assessed
Density test acc. to EN 1602:2013 "ROOFMATE SL-AP", "Ravatherm XPS BL 300 SL", "Ravatherm XPS BL 300 SL B1" "FLOORMATE 500-AP", "Ravatherm XPS BL 500 SL", "Ravatherm XPS BL 500 SL B1" "FLOORMATE 700-AP", "Ravatherm XPS BL 700 SL"	 density range: 32 kg/m³ - 39 kg/m³ 37 kg/m³ - 45 kg/m³ 41 kg/m³ - 45 kg/m³

3.2 Safety in case of fire (BWR 2)

Essential characteristic	Performance
Reaction to fire test acc. to EN ISO 11925-2:2010	Class E acc. to EN 13501-1:2007 + A1:2009

3.3 Energy economy and heat retention (BWR 6)

Essential characteristic	Performance
Thermal conductivity at mean reference temperature of 10 °C test acc. to EN 12667:2001 or EN 12939:2001 and aging procedure acc. EN 13164:2012+A1:2015, Annex C with deviating storage time period (sliced specimen) of (90 +2/-2) days prior to testing	
"ROOFMATE SL-AP", "Ravatherm XPS BL 300 SL", "Ravatherm XPS BL 300 SL B1"	
thickness 50 mm ≤ d ≤ 120 mm	$\lambda_{D(90d)}$ = 0,033 W/(m·K)
thickness 120 mm < d ≤ 160 mm	$\lambda_{D(90d)}$ = 0,035 W/(m·K)
thickness 160 mm < d ≤ 200 mm	$\lambda_{D(90d)}$ = 0,036 W/(m·K)
"FLOORMATE 500-AP", "Ravatherm XPS BL 500 SL", "Ravatherm XPS BL 500 SL B1"	
thickness 50 mm ≤ d ≤ 70 mm	$\lambda_{D(90d)}$ = 0,034 W/(m·K)
thickness 70 mm < d ≤ 120 mm	$\lambda_{D(90d)}$ = 0,035 W/(m·K)
thickness 120 mm < d ≤ 160 mm	$\lambda_{D(90d)}$ = 0,036 W/(m·K)
thickness 160 mm < d ≤ 200 mm	$\lambda_{D(90d)}$ = 0,037 W/(m·K)
"FLOORMATE 700-AP", "Ravatherm XPS BL 700 SL"	
thickness 50 mm ≤ d ≤ 70 mm	$\lambda_{D(90d)}$ = 0,034 W/(m·K)
thickness 70 mm < d ≤ 120 mm	$\lambda_{D(90d)}$ = 0,035 W/(m·K)
Moisture conversion coefficient	No performance assessed
Water absorption Long term water absorption by total immersion test acc. to EN 12087:2013 (method 2A)	WL(T)0,7 (W_{lt} ≤ 0,7 Vol.%)
Long term water absorption by diffusion test acc. to EN 12088:2013	WD(V)3 (W_{dV} ≤ 3,0 Vol.%)
Freeze-thaw resistance test acc. to EN 12091:2013 using the wet test specimens from having done the water diffusion test in accordance with EN 12088: 2013	FTCD1 (W_V ≤ 1,0 Vol.%)
Reduction in compressive stress at 10 % deformation or in compressive strength of the re-dried specimens, when tested in accordance with EN 826:2013	≤ 10 %

Essential characteristic	**Performance**
Water vapour diffusion resistance factor	No performance assessed
Geometrical properties Thickness test acc. EN 823:2013 (clause 7.2, figure 2, measuring set-up 3) thickness ≤ 120 mm thickness > 120 mm Length, width test acc. EN 822:2013 Squareness in direction of length and width; in direction of thickness test acc. EN 824:2013 Flatness in direction of length and width test acc. EN 825:2013 thickness ≤ 120 mm thickness > 120 mm	tolerance ± 2 mm +5/-2 mm ± 8 mm ±5 mm/m 2 mm 3 mm
Deformation under specified compressive load and temperature conditions test acc. to EN 1605:2013	 load: 40 kPa; temperature: (70 ± 1) °C; time: (168 ± 1) h ≤ 5 %
Dimensional stability under specified conditions test acc. to EN 1604:2013	 temperature: 70 °C and 90 % R.H. DS(70,90) ($\Delta\varepsilon_l \leq 5$ %, $\Delta\varepsilon_b \leq 5$ %, $\Delta\varepsilon_d \leq 5$ %)
Tensile strength perpendicular to faces	No performance assessed
Volume percentage of closed cells test acc. to EN ISO 4590:2016 (method 1 with correction)	 ≥ 95 %

4 Assessment and verification of constancy of performance (AVCP) system applied, with reference to its legal base

In accordance with EAD No. 040650-00-1201, the applicable European legal acts are: 1995/467/EC and 1999/91/EC[1].

The systems to be applied are:

System 1 for Essential characteristics concerning Mechanical resistance and stability (BWR 1)

System 3 all other Essential characteristics

5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD

Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited with Deutsches Institut für Bautechnik.

Issued in Berlin on 17 September 2021 by Deutsches Institut für Bautechnik

Frank Iffländer
Head of Section

beglaubigt:
Wendler

[1] as amended

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ROOFMATE SL-AP, Ravatherm XPS BL 300 SL, Ravatherm XPS BL 300 SL B1
FLOORMATE 500-AP, Ravatherm XPS BL 500 SL, Ravatherm XPS BL 500 SL B1
FLOORMATE 700-AP, Ravatherm XPS BL 700 SL

Annex A

1. Compressive stress

Slip deformation

Deformation until the conventional elastic zone (distinct straight portion of the force-displacement curve) is reached

ROOFMATE SL-AP, Ravatherm XPS 300 SL, Ravatherm XPS 300 SL B1 (φ =34 kg/m^3)				
thickness (mm)	1x100	3x100	1x120	2x120
compressive stress, σa	92	104	133	106
initial displacement Xa (mm)	**0,75**	**1,56**	**1,57**	**2,71**

ROOFMATE SL-AP, Ravatherm XPS 300 SL, Ravatherm XPS 300 SL B1 (φ =35 kg/m^3)		
thickness (mm)	1x120	2x120
compressive stress, σa	70	54
initial displacement Xa (mm)	**0,45**	**0,57**

FLOORMATE 700-AP, Ravatherm XPS 700 SL (φ =41 kg/m^3)				
thickness (mm)	1x100	3x100	1x120	2x120
compressive stress, σa	246	142	122	96
initial displacement Xa (mm)	**1,33**	**2,04**	**0,62**	**1,01**

2. Compressive creep

2.1 Compressive creep (single-layer board)

ROOFMATE SL-AP, Ravatherm XPS 300 SL, Ravatherm XPS 300 SL B1	**thickness 40 mm**			**thickness 200 mm**		
density (kg/m^3)	33			38		
compressive stress/ deformation acc. EN 826 (kPa / %)	312/-			541/-		
load stage (kPa)	**110**	**130**	**150**	**110**	**130**	**150**
X_0 (mm)	0,24	0,28	0,33	0,93	1,01	1,23
X_{ct} (mm)	0,17	0,24	0,30	0,36	0,43	0,70
X_{ct50}(mm)	0,36	0,51	0,64	0,62	0,69	1,34
X_{t50}(mm)	**0,6**	**0,79**	**0,97**	**1,55**	**1,70**	**2,57**

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ROOFMATE SL-AP, Ravatherm XPS BL 300 SL, Ravatherm XPS BL 300 SL B1
FLOORMATE 500-AP, Ravatherm XPS BL 500 SL, Ravatherm XPS BL 500 SL B1
FLOORMATE 700-AP, Ravatherm XPS BL 700 SL

Annex A

ROOFMATE SL-AP, Ravatherm XPS 300 SL, Ravatherm XPS 300 SL B1	**thickness 50 mm**		**thickness 120 mm**		**thickness 200 mm**	
density (kg/m³)	32,5	33,1	32	34,5	38,5	38
compressive stress/ deformation acc. EN 826 (kPa / %)	368/-	479/-	351/-	396/-	549/-	445/-
load stage (kPa)	**130**	**145**	**130**	**145**	**130**	**145**
X_0 (mm)	0,85	1,00	0,90	0,55	0,45	0,45
X_{ct} (mm)	0,22	0,31	0,36	0,39	0,36	0,46
X_{ct50}(mm)	1,15	1,30	0,60	0,75	0,30	0,55
X_{t50}(mm)	**2,00**	**2,30**	**1,50**	**1,30**	**0,75**	**1,00**

FLOORMATE 500L-AP, Ravatherm XPS 500 SL, Ravatherm XPS 500 SL B1	**thickness 50 mm**			**thickness 200 mm**		
density (kg/m³)	39			40		
compressive stress/ deformation acc. EN 826 (kPa / %)	582/-			684/-		
load stage (kPa)	**150**	**180**	**210**	**150**	**180**	**210**
X_0 (mm)	0,29	0,21	0,39	1,17	1,14	1,36
X_{ct} (mm)	0,25	0,46	0,38	0,38	0,30	0,34
X_{ct50}(mm)	0,46	0,67	0,74	0,63	0,62	0,82
X_{t50}(mm)	**0,75**	**0,88**	**1,13**	**1,80**	**1,76**	**2,18**

FLOORMATE 500L-AP, Ravatherm XPS 500 SL, Ravatherm XPS 500 SL B1	**thickness 50 mm**		**thickness 120 mm**		**thickness 200 mm**	
density (kg/m³)	39,5	39,5	40	40	42,4	42,4
compressive stress/ deformation acc. EN 826 (kPa / %)	611/-	611/-	685/-	685/-	676/-	676/-
load stage (kPa)	**180**	**210**	**180**	**210**	**180**	**210**
X_0 (mm)	0,31	0,384	0,65	0,70	0,45	0,60
X_{ct} (mm)	0,32	0,42	0,22	0,27	0,29	0,36
X_{ct50}(mm)	1,44	2,27	0,91	0,50	0,95	1,40
X_{t50}(mm)	**1,75**	**2,65**	**1,13**	**1,47**	**1,40**	**2,00**

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ROOFMATE SL-AP, Ravatherm XPS BL 300 SL, Ravatherm XPS BL 300 SL B1
FLOORMATE 500-AP, Ravatherm XPS BL 500 SL, Ravatherm XPS BL 500 SL B1
FLOORMATE 700-AP, Ravatherm XPS BL 700 SL

Annex A

FLOORMATE 700L-AP, Ravatherm XPS 700 SL	**thickness 50 mm**			**thickness 120 mm**		
density (kg/m³)	45			39		
compressive stress/ deformation acc. EN 826 (kPa / %)	742/-			701/-		
load stage (kPa)	**220**	**250**	**280**	**220**	**250**	**280**
X_0 (mm)	0,27	0,28	0,35	0,81	0,68	0,64
X_{ct} (mm)	0,12	0,14	0,18	0,65	0,85	1,41
X_{ct50}(mm)	0,41	0,40	0,57	1,30	1,75	2,87
X_{t50}(mm)	**0,68**	**0,68**	**0,92**	**2,11**	**2,43**	**3,51**

FLOORMATE 700L-AP, Ravatherm XPS 700 SL	**thickness 50 mm**	**thickness 60 mm**	**thickness 120 mm**
density (kg/m³)	42,5	41	41,5
compressive stress/ deformation acc. EN 826 (kPa / %)	785/-	798/-	800/-
load stage (kPa)	**275**	**275**	**275**
X_0 (mm)	0,9	0,95	0,80
X_{ct} (mm)	0,41	0,29	0,38
X_{ct50}(mm)	0,90	0,95	0,60
X_{t50}(mm)	**1,70**	**1,20**	**1,40**

2.2. Compressive creep (multi-layer installation)

ROOFMATE SL-AP, Ravatherm XPS 300 SL, Ravatherm XPS 300 SL B1	**thickness 3x100 mm**		
density (kg/m³)	34,5		
compressive stress/ deformation acc. EN 826 (kPa / %)	350/10		
load stage (kPa)	**110**	**130**	**150**
X_0 (mm)	1,45	1,89	2,65
X_{ct} (mm)	1,14	1,40	1,58
X_{ct50}(mm)	2,04	2,46	3,08
X_{t50}(mm)	**3,50**	**4,35**	**5,73**

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ROOFMATE SL-AP, Ravatherm XPS BL 300 SL, Ravatherm XPS BL 300 SL B1
FLOORMATE 500-AP, Ravatherm XPS BL 500 SL, Ravatherm XPS BL 500 SL B1
FLOORMATE 700-AP, Ravatherm XPS BL 700 SL

Annex A

FLOORMATE 700-AP, Ravatherm XPS 700 SL	**thickness 2x120 mm**		
density (kg/m³)	42,4		
compressive stress/ deformation acc. EN 826 (kPa / %)	660/10		
load stage (kPa)	**220**	**250**	**280**
X_0 (mm)	0,98	0,80	1,25
X_{ct} (mm)	0,60	0,63	0,87
X_{ct50}(mm)	1,25	1,44	1,79
X_{t50}(mm)	**2,23**	**2,24**	**3,04**

3. Behaviour under shear load (large-sized specimen)

ROOFMATE SL-AP, Ravatherm XPS 300 SL, Ravatherm XPS 300 SL B1	**thickness 200 mm**	
density (kg/m³)	39	37
shear strength τ_{large} acc. EAD chapter 2.2.4 and the guidelines in EN 12090 (kPa)	**188**	**161**

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ROOFMATE SL-AP, Ravatherm XPS BL 300 SL, Ravatherm XPS BL 300 SL B1
FLOORMATE 500-AP, Ravatherm XPS BL 500 SL, Ravatherm XPS BL 500 SL B1
FLOORMATE 700-AP, Ravatherm XPS BL 700 SL

Annex A

4. Creep under shear

ROOFMATE SL-AP, Ravatherm XPS 300 SL, Ravatherm XPS 300 SL B1	
thickness	**200 mm**
density (kg/m^3)	39
shear strength/ deformation acc. EAD (kPa)	188
load stage (kPa)	**66**
$X_{\tau 0}$ (mm)	1,74
$X_{\tau ct}$ (mm)	0,93
$X_{\tau ct50}$(mm)	1,49
$X_{\tau t50}$(mm)	**3,23**

5. Creep under combined compressive and shear load

ROOFMATE SL-AP, Ravatherm XPS 300 SL, Ravatherm XPS 300 SL B1		
thickness	**200 mm**	
density (kg/m^3)	39	
load stage (kPa)	**66**	**130**
deformation under	shear load	compressive load
$X_{\tau 0}$ /X_0 (mm)	2,19	1,52
$X_{\tau ct}$ /X_{ct} (mm)	0,66	0,44
$X_{\tau ct50}$/X_{ct50}(mm)	1,22	1,17
$X_{\tau t50}$/X_{t50}(mm)	**3,41**	**2,69**

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**ROOFMATE SL-AP, Ravatherm XPS BL 300 SL, Ravatherm XPS BL 300 SL B1
FLOORMATE 500-AP, Ravatherm XPS BL 500 SL, Ravatherm XPS BL 500 SL B1
FLOORMATE 700-AP, Ravatherm XPS BL 700 SL**

Annex A

6. Adhesion behaviour under compressive and shear load on large-sized samples

ROOFMATE SL-AP, Ravatherm XPS 300 SL, Ravatherm XPS 300 SL B1			
Adhesive friction coefficient between the extruded polystyrene foam boards Acc. EAD chapter 2.2.8, Annex A, A.3.1			
thickness	**2x 120 mm**		
density (kg/m³)	36		
Compression stress – load stage (kPa)	**15**	**45**	**90**
Adhesive friction coefficient regarding the compression stress – load stage	0,65	0,75	0,77
Adhesive friction coefficient	**0,73**		
Adhesive friction coefficient between the extruded polystyrene foam boards and in-situ concrete as well as a concrete finished part with foil Acc. EAD chapter 2.2.8, Annex A, A.3.2			
thickness	**2x 120 mm**		
density (kg/m³)	36		
Compression stress – load stage (kPa)	**15**	**45**	**90**
Adhesive friction coefficient regarding the compression stress – load stage	0,51	0,56	0,62
Adhesive friction coefficient	**0,57**		
Adhesive friction coefficient between the extruded polystyrene foam boards and in-situ concrete without foil Acc. EAD chapter 2.2.8, Annex A, A.3.3			
thickness	**2x 120 mm**		
density (kg/m³)	36		
Compression stress – load stage (kPa)	**15**	**45**	**90**
Adhesive friction coefficient regarding the compression stress – load stage	2,46	1,41	1,07
Adhesive friction coefficient	**1,65**		

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**ROOFMATE SL-AP, Ravatherm XPS BL 300 SL, Ravatherm XPS BL 300 SL B1
FLOORMATE 500-AP, Ravatherm XPS BL 500 SL, Ravatherm XPS BL 500 SL B1
FLOORMATE 700-AP, Ravatherm XPS BL 700 SL**

Annex A

FLOORMATE 700-AP, Ravatherm XPS 700 SL			
Adhesive friction coefficient between the extruded polystyrene foam boards Acc. EAD chapter 2.2.8, Annex A, A.3.1			
thickness	**2x 120 mm**		
density (kg/m³)	43		
Compression stress – load stage (kPa)	**35**	**105**	**210**
Adhesive friction coefficient regarding the compression stress – load stage	0,70	0,72	0,77
Adhesive friction coefficient	**0,73**		
Adhesive friction coefficient between the extruded polystyrene foam boards and in-situ concrete as well as a concrete finished part with foil Acc. EAD chapter 2.2.8, Annex A, A.3.2			
thickness	**2x 120 mm**		
density (kg/m³)	42		
Compression stress – load stage (kPa)	**35**	**105**	**210**
Adhesive friction coefficient regarding the compression stress – load stage	0,51	0,54	0,58
Adhesive friction coefficient	**0,54**		
Adhesive friction coefficient between the extruded polystyrene foam boards and in-situ concrete without foil Acc. EAD chapter 2.2.8, Annex A, A.3.3			
thickness	**2x 120 mm**		
density (kg/m³)	42,5		
Compression stress – load stage (kPa)	**35**	**105**	**210**
Adhesive friction coefficient regarding the compression stress – load stage	1,71	1,07	0,95
Adhesive friction coefficient	**1,24**		