

Approval body for construction products  
and types of construction

Bautechnisches Prüfamt

An institution established by the Federal and  
Laender Governments



## European Technical Assessment

ETA-17/0909  
of 5 October 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

Austrotherm XPS TOP 30,  
Austrotherm XPS TOP 50 and  
Austrotherm XPS TOP 70

Product family  
to which the construction product belongs

Extruded polystyrene foam boards as load bearing layer  
and/or thermal insulation outside the waterproofing

Manufacturer

Austrotherm GmbH  
Friedrich-Schmid-Straße 165  
2754 Waldegg/Wopfing  
ÖSTERREICH

Manufacturing plant

Werk 1  
A-7083 Purbach  
Werk 2  
DE-20322 Wittenberge

This European Technical Assessment  
contains

13 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-17/0909 issued on 22 November 2017

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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<sub>2</sub>), isobutene and additives. 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 designation:

- "Austrotherm XPS TOP 30",
- "Austrotherm XPS TOP 50" and
- "Austrotherm XPS TOP 70".

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

- Nominal thicknesses: 50 mm to 200 mm  
("Austrotherm XPS TOP 70" 80 mm to 200 mm)
- Nominal length: 1250 mm
- Nominal widths: 600 mm

The European Technical Assessment has been issued for the product 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 and even on the substrate to which they are applied. In particular the following applications are covered:

- Load bearing and thermal insulation underneath foundation slabs with boards "Austrotherm XPS TOP 30" and "Austrotherm XPS TOP 70" from 80 mm thickness and "Austrotherm XPS TOP 50" from 50 mm thickness up
- 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 adhesives 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
<p>Compressive stress at 10 % deformation or compressive strength</p> <p>test acc. to EN 826:2013</p> <p>"Austrotherm XPS TOP 30" thickness <math>80 \text{ mm} \leq d \leq 200 \text{ mm}</math></p> <p>"Austrotherm XPS TOP 50"</p> <p>"Austrotherm XPS TOP 70"</p> <p>Slip deformation (until the conventional elastic zone (distinct straight portion of the force-displacement curve)) in case of 2-3 layer installation thickness of the single boards <math>\leq 120 \text{ mm}</math></p> <p>Compressive stress or compressive strength in the transverse and longitudinal directions</p>	<p>Level (individual values may fall below this level up to 10 %):</p> <p><math>\geq 300 \text{ kPa}</math></p> <p><math>\geq 500 \text{ kPa}</math></p> <p><math>\geq 700 \text{ kPa}</math></p> <p>See Annex A</p> <p>No performance assessed</p>
<p>Characteristic value of compressive stress or compressive strength</p> <p>5%-fractile value for a one-sided confidence level of 75 % under unknown or known variance using ISO 12491:1997</p> <p>"Austrotherm XPS TOP 30"</p> <p>thickness <math>80 \text{ mm} \leq d \leq 100 \text{ mm}</math></p> <p>thickness <math>d=120 \text{ mm}</math></p> <p>thickness <math>140 \text{ mm} \leq d \leq 200 \text{ mm}</math></p> <p>"Austrotherm XPS TOP 50"</p> <p>thickness <math>50 \text{ mm} \leq d \leq 100 \text{ mm}</math></p> <p>thickness <math>120 \text{ mm} \leq d \leq 200 \text{ mm}</math></p>	<p><math>\sigma_{0,05} = 322 \text{ kPa}</math> (n= 50; <math>\sigma_{\text{mean}} = 363 \text{ kPa}</math>; <math>s_{\sigma} = 23 \text{ kPa}</math>)</p> <p><math>\sigma_{0,05} = 343 \text{ kPa}</math> (n= 50; <math>\sigma_{\text{mean}} = 389 \text{ kPa}</math>; <math>s_{\sigma} = 26 \text{ kPa}</math>)</p> <p><math>\sigma_{0,05} = 366 \text{ kPa}</math> (n= 50; <math>\sigma_{\text{mean}} = 440 \text{ kPa}</math>; <math>s_{\sigma} = 43 \text{ kPa}</math>)</p> <p><math>\sigma_{0,05} = 526 \text{ kPa}</math> (n= 50; <math>\sigma_{\text{mean}} = 572 \text{ kPa}</math>; <math>s_{\sigma} = 26 \text{ kPa}</math>)</p> <p><math>\sigma_{0,05} = 511 \text{ kPa}</math> (n= 50; <math>\sigma_{\text{mean}} = 566 \text{ kPa}</math>; <math>s_{\sigma} = 30 \text{ kPa}</math>)</p>

Essential characteristic	Performance
<p>Characteristic value of compressive stress or compressive strength</p> <p>5%-fractile value for a one-sided confidence level of 75 % under unknown or known variance using ISO 12491:1997</p> <p>"Austrotherm XPS TOP 70"</p> <p>thickness <math>80 \text{ mm} \leq d &lt; 120 \text{ mm}</math></p> <p>thickness <math>120 \text{ mm} \leq d \leq 200 \text{ mm}</math></p>	<p><math>\sigma_{0,05} = 706 \text{ kPa}</math> (n= 50; <math>\sigma_{\text{mean}} = 745 \text{ kPa}</math>; <math>s_{\sigma} = 22 \text{ kPa}</math>)</p> <p><math>\sigma_{0,05} = 704 \text{ kPa}</math> (n= 50; <math>\sigma_{\text{mean}} = 737 \text{ kPa}</math>; <math>s_{\sigma} = 18 \text{ kPa}</math>)</p>
Compressive creep	See Annex A
<p>Behaviour under shear load (large-sized specimen)</p> <p>test acc. to the EAD and the guidelines in EN 12090:2013</p> <p>"Austrotherm XPS TOP 30", thickness 200 mm</p> <p>"Austrotherm XPS TOP 70", thickness 200 mm</p>	<p><math>\tau_{\text{large}} = 147 \text{ kPa}</math></p> <p><math>\tau_{\text{large}} = 181 \text{ kPa}</math></p>
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	No performance assessed
Shear strength	No performance assessed
<p>Density</p> <p>test acc. to EN 1602:2013</p> <p>"Austrotherm XPS TOP 30" thickness <math>80 \text{ mm} \leq d \leq 200 \text{ mm}</math></p> <p>"Austrotherm XPS TOP 50"</p> <p>"Austrotherm XPS TOP 70"</p>	<p>density range:</p> <p><math>30 \text{ kg/m}^3 - 40 \text{ kg/m}^3</math></p> <p><math>33 \text{ kg/m}^3 - 40 \text{ kg/m}^3</math></p> <p><math>36 \text{ kg/m}^3 - 43 \text{ kg/m}^3</math></p>

### 3.2 Safety in case of fire (BWR 2)

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

### 3.3 Energy economy and heat retention (BWR 6)

Essential characteristic	Performance
<p>Thermal conductivity</p> <p>at mean reference temperature of 10 °C</p> <p>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</p> <p>"Austrotherm XPS TOP 30"</p> <p>thickness 50 mm</p> <p>thickness 60 mm</p> <p>thickness 60 &lt; d ≤ 120 mm</p> <p>thickness 120 &lt; d ≤ 160 mm</p> <p>thickness 160 &lt; d ≤ 200 mm</p> <p>"Austrotherm XPS TOP 50"</p> <p>thickness 50 mm</p> <p>thickness 60 mm</p> <p>thickness 60 &lt; d ≤ 120 mm</p> <p>thickness 120 &lt; d ≤ 160 mm</p> <p>thickness 160 &lt; d ≤ 200 mm</p> <p>"Austrotherm XPS TOP 70"</p> <p>thickness 80 ≤ d ≤ 120 mm</p> <p>thickness 120 &lt; d ≤ 160 mm</p> <p>thickness 160 &lt; d ≤ 200 mm</p>	<p><math>\lambda_{D(90d)} = 0,032 \text{ W/(m} \cdot \text{K)}</math></p> <p><math>\lambda_{D(90d)} = 0,033 \text{ W/(m} \cdot \text{K)}</math></p> <p><math>\lambda_{D(90d)} = 0,035 \text{ W/(m} \cdot \text{K)}</math></p> <p><math>\lambda_{D(90d)} = 0,037 \text{ W/(m} \cdot \text{K)}</math></p> <p><math>\lambda_{D(90d)} = 0,038 \text{ W/(m} \cdot \text{K)}</math></p> <p><math>\lambda_{D(90d)} = 0,032 \text{ W/(m} \cdot \text{K)}</math></p> <p><math>\lambda_{D(90d)} = 0,033 \text{ W/(m} \cdot \text{K)}</math></p> <p><math>\lambda_{D(90d)} = 0,035 \text{ W/(m} \cdot \text{K)}</math></p> <p><math>\lambda_{D(90d)} = 0,037 \text{ W/(m} \cdot \text{K)}</math></p> <p><math>\lambda_{D(90d)} = 0,038 \text{ W/(m} \cdot \text{K)}</math></p> <p><math>\lambda_{D(90d)} = 0,035 \text{ W/(m} \cdot \text{K)}</math></p> <p><math>\lambda_{D(90d)} = 0,037 \text{ W/(m} \cdot \text{K)}</math></p> <p><math>\lambda_{D(90d)} = 0,038 \text{ W/(m} \cdot \text{K)}</math></p>
Moisture conversion coefficient	No performance assessed
<p>Water absorption</p> <p>Long term water absorption by total immersion</p> <p>test acc. to EN 12087:2013 (method 2A)</p> <p>"Austrotherm XPS TOP 30", "Austrotherm XPS TOP 50", "Austrotherm XPS TOP 70"</p> <p>Long term water absorption by diffusion</p> <p>test acc. to EN 12088:2013</p> <p>"Austrotherm XPS TOP 30", "Austrotherm XPS TOP 50", "Austrotherm XPS TOP 70"</p>	<p>WL(T)0,7 (<math>W_{it} \leq 0,7 \text{ Vol.}\%</math>)</p> <p>WD(V)3 (<math>W_{dV} \leq 3,0 \text{ Vol.}\%</math>)</p>

Essential characteristic	Performance
<p>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</p> <p>"Austrotherm XPS TOP 30", "Austrotherm XPS TOP 50", "Austrotherm XPS TOP 70"</p> <p>Reduction in compressive stress at 10 % deformation or in compressive strength of the re-dried specimens, when tested in accordance with EN 826:2013</p> <p>"Austrotherm XPS TOP 30", "Austrotherm XPS TOP 50", "Austrotherm XPS TOP 70"</p>	<p>FTCD1 (<math>W_v \leq 1,0 \text{ Vol.}\%</math>)</p> <p><math>\leq 10 \%</math></p>
Water vapour diffusion resistance factor	No performance assessed
<p>Geometrical properties</p> <p>Thickness</p> <p>test acc. EN 823:2013 (clause 7.2, figure 2, measuring set-up 3)</p> <p>"Austrotherm XPS TOP 30", "Austrotherm XPS TOP 50", "Austrotherm XPS TOP 70"</p> <p>thickness <math>\leq 120 \text{ mm}</math> thickness <math>&gt; 120 \text{ mm}</math></p> <p>Length, width</p> <p>test acc. EN 822:2013</p> <p>"Austrotherm XPS TOP 30", "Austrotherm XPS TOP 50", "Austrotherm XPS TOP 70"</p> <p>Squareness</p> <p>in direction of length and width; in direction of thickness test acc. EN 824:2013</p> <p>"Austrotherm XPS TOP 30", "Austrotherm XPS TOP 50", "Austrotherm XPS TOP 70"</p> <p>Flatness</p> <p>in direction of length and width test acc. EN 825:2013</p> <p>"Austrotherm XPS TOP 30", "Austrotherm XPS TOP 50", "Austrotherm XPS TOP 70"</p> <p>thickness <math>\leq 120 \text{ mm}</math> thickness <math>&gt; 120 \text{ mm}</math></p>	<p>tolerance</p> <p><math>\pm 2 \text{ mm}</math> <math>+4/-2 \text{ mm}</math></p> <p><math>\pm 8 \text{ mm}</math></p> <p><math>5 \text{ mm/m}</math></p> <p><math>2 \text{ mm}</math> <math>3 \text{ mm}</math></p>

Essential characteristic	Performance
<p>Compressive stress at 10 % deformation or compressive strength</p> <p>test acc. to EN 826:2013</p> <p>"Austrotherm XPS TOP 30" thickness 50 mm ≤ d &lt; 80 mm</p>	<p>Level</p> <p>≥ 300 kPa</p>
<p>Deformation under specified compressive load and temperature conditions</p> <p>test acc. to EN 1605:2013</p> <p>"Austrotherm XPS TOP 30", "Austrotherm XPS TOP 50", "Austrotherm XPS TOP 70"</p>	<p>load: 40 kPa; temperature: (70 ± 1) °C; time: (168 ± 1) h</p> <p>≤ 5 %</p>
<p>Dimensional stability under specified conditions</p> <p>test acc. to EN 1604:2013</p> <p>"Austrotherm XPS TOP 30", "Austrotherm XPS TOP 50", "Austrotherm XPS TOP 70"</p>	<p>temperature: 70 °C and 90% R.H.</p> <p>DS(70,90) (Δε<sub>i</sub> ≤ 5 %, Δε<sub>b</sub> ≤ 5 %, Δε<sub>d</sub> ≤ 5 %)</p>
<p>Tensile strength perpendicular to faces</p> <p>test acc. to EN 1607:2013</p> <p>"Austrotherm XPS TOP 30", "Austrotherm XPS TOP 50", "Austrotherm XPS TOP 70"</p>	<p>TR150 (σ<sub>mt</sub> ≥ 150 kPa)</p>
<p>Density</p> <p>test acc. to EN 1602:2013</p> <p>"Austrotherm XPS TOP 30" thickness 50 mm ≤ d &lt; 80 mm</p>	<p>density range:</p> <p>29 kg/m<sup>3</sup> - 34 kg/m<sup>3</sup></p>
<p>Volume percentage of closed cells</p> <p>test acc. to EN ISO 4590:2003 (method 1 with correction)</p> <p>"Austrotherm XPS TOP 30", "Austrotherm XPS TOP 50", "Austrotherm XPS TOP 70"</p>	<p>≥ 95%</p>



English translation prepared by DIBt

**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

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 5 October 2021 by Deutsches Institut für Bautechnik

Frank Iffländer  
Referatsleiter

*beglaubigt:*  
Wendler

**Austrotherm XPS TOP 30,  
Austrotherm XPS TOP 50 and  
Austrotherm XPS TOP 70**

**Annex A**

**1. Compressive stress**

**Slip deformation**

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

<b>Austrotherm XPS TOP 30</b> ( $\varphi = 35 \text{ kg/m}^3$ )		
thickness (mm)	2x100	3x100
compressive stress, $\sigma_a$	52	44
initial displacement $X_a$ (mm)	<b>0,37</b>	<b>0,39</b>
<b>Austrotherm XPS TOP 70</b> ( $\varphi = 41 \text{ kg/m}^3$ )		
thickness (mm)	2x100	3x100
compressive stress, $\sigma_a$	166	196
initial displacement $X_a$ (mm)	<b>1,44</b>	<b>2,12</b>

**2. Compressive creep**

**2.1 Compressive creep (single-layer board)**

<b>Austrotherm XPS TOP 30</b>	<b>thickness 50 mm</b>			<b>thickness 120 mm</b>		
density ( $\text{kg/m}^3$ )	32			33		
compressive stress/ deformation acc. EN 826 ( $\text{kPa} / \%$ )	370/3			561/8		
<b>load stage (kPa)</b>	<b>110</b>	<b>130</b>	<b>170</b>	<b>110</b>	<b>130</b>	<b>170</b>
$X_0$ (mm)	0,30	0,37	0,46	0,55	0,61	0,80
$X_{ct}$ (mm)	0,22	0,28	0,50	0,43	0,47	0,65
$X_{ct50}$ (mm)	0,58	0,77	1,30	1,44	1,50	1,90
<b><math>X_{t50}</math> (mm)</b>	<b>0,88</b>	<b>1,14</b>	<b>1,76</b>	<b>1,99</b>	<b>2,11</b>	<b>2,70</b>
<b>Austrotherm XPS TOP 30</b>						
	<b>thickness 200 mm</b>					
density ( $\text{kg/m}^3$ )	35					
compressive stress/ deformation acc. EN 826 ( $\text{kPa} / \%$ )	516/-					
<b>load stage (kPa)</b>	<b>103</b>	<b>155</b>	<b>206</b>			
$X_0$ (mm)	0,63	0,80	1,23			
$X_{ct}$ (mm)	0,56	0,92	1,31			
$X_{ct50}$ (mm)	2,76	3,14	3,84			
<b><math>X_{t50}</math> (mm)</b>	<b>3,39</b>	<b>3,94</b>	<b>5,07</b>			

**Austrotherm XPS TOP 30,  
Austrotherm XPS TOP 50 and  
Austrotherm XPS TOP 70**

**Annex A**

<b>Austrotherm XPS TOP 50</b>	<b>thickness 50 mm</b>			<b>thickness 120 mm</b>		
density (kg/m <sup>3</sup> )	36			35		
compressive stress/ deformation acc. EN 826 (kPa / %)	703/5			697/7		
<b>load stage (kPa)</b>	<b>150</b>	<b>180</b>	<b>240</b>	<b>150</b>	<b>180</b>	<b>240</b>
X <sub>0</sub> (mm)	0,25	0,33	0,40	0,58	0,66	0,86
X <sub>ct</sub> (mm)	0,19	0,26	0,40	0,40	0,48	0,86
X <sub>ct50</sub> (mm)	0,50	0,75	0,97	1,40	1,58	2,36
<b>X<sub>t50</sub>(mm)</b>	<b>0,75</b>	<b>1,08</b>	<b>1,37</b>	<b>1,98</b>	<b>2,24</b>	<b>3,22</b>

<b>Austrotherm XPS TOP 50</b>	<b>thickness 200 mm</b>		
density (kg/m <sup>3</sup> )	39		
compressive stress/ deformation acc. EN 826 (kPa / %)	683/-		
<b>load stage (kPa)</b>	<b>137</b>	<b>205</b>	<b>273</b>
X <sub>0</sub> (mm)	0,64	0,88	1,41
X <sub>ct</sub> (mm)	0,47	1,16	3,87
X <sub>ct50</sub> (mm)	2,23	3,37	9,90
<b>X<sub>t50</sub>(mm)</b>	<b>2,87</b>	<b>4,25</b>	<b>11,31</b>

<b>Austrotherm XPS TOP 70</b>	<b>thickness 50 mm</b>			<b>thickness 120 mm</b>		
density (kg/m <sup>3</sup> )	38			37		
compressive stress/ deformation acc. EN 826 (kPa / %)	879/5			796/10		
<b>load stage (kPa)</b>	<b>210</b>	<b>240</b>	<b>300</b>	<b>210</b>	<b>240</b>	<b>300</b>
X <sub>0</sub> (mm)	0,28	0,38	0,48	0,62	0,73	0,94
X <sub>ct</sub> (mm)	0,28	0,33	0,40	0,47	0,51	0,84
X <sub>ct50</sub> (mm)	0,71	0,72	0,85	1,31	1,47	2,25
<b>X<sub>t50</sub>(mm)</b>	<b>0,99</b>	<b>1,10</b>	<b>1,33</b>	<b>1,93</b>	<b>2,20</b>	<b>3,19</b>

<b>Austrotherm XPS TOP 70</b>	<b>thickness 200 mm</b>		
density (kg/m <sup>3</sup> )	40		
compressive stress/ deformation acc. EN 826 (kPa / %)	769/-		
<b>load stage (kPa)</b>	<b>154</b>	<b>231</b>	<b>308</b>
X <sub>0</sub> (mm)	0,67	1,15	1,47
X <sub>ct</sub> (mm)	0,64	1,45	4,25
X <sub>ct50</sub> (mm)	2,73	4,53	11,14
<b>X<sub>t50</sub>(mm)</b>	<b>3,40</b>	<b>5,68</b>	<b>12,61</b>

**Austrotherm XPS TOP 30,  
Austrotherm XPS TOP 50 and  
Austrotherm XPS TOP 70**

**Annex A**

**2.2. Compressive creep (multi-layer installation)**

<b>Austrotherm XPS TOP 30</b>	<b>thickness 3x 100 mm</b>		
density (kg/m <sup>3</sup> )	40		
<b>load stage (kPa)</b>	<b>87</b>	<b>130</b>	<b>173</b>
X <sub>0</sub> (mm)	1,11	1,79	2,29
X <sub>ct</sub> (mm)	1,27	2,00	4,76
X <sub>ct50</sub> (mm)	3,86	4,86	9,82
<b>X<sub>t50</sub>(mm)</b>	<b>4,97</b>	<b>6,65</b>	<b>12,11</b>
<b>Austrotherm XPS TOP 70</b>	<b>thickness 3x 100 mm</b>		
density (kg/m <sup>3</sup> )	41		
<b>load stage (kPa)</b>	<b>160</b>	<b>240</b>	<b>320</b>
X <sub>0</sub> (mm)	1,65	2,52	2,49
X <sub>ct</sub> (mm)	0,84	1,49	4,81
X <sub>ct50</sub> (mm)	3,37	5,18	16,79
<b>X<sub>t50</sub>(mm)</b>	<b>5,02</b>	<b>7,70</b>	<b>19,28</b>

**3. Creep under shear load**

<b>Austrotherm XPS TOP 30</b>	<b>thickness 200 mm</b>
density (kg/m <sup>3</sup> )	34
shear strength/ deformation acc. EN 12090 (kPa)	144
<b>load stage (kPa)</b>	<b>50,4</b>
X <sub>τ0</sub> (mm)	1,39
X <sub>τct</sub> (mm)	1,24
X <sub>τct50</sub> (mm)	3,80
<b>X<sub>τt50</sub>(mm)</b>	<b>5,19</b>

**Austrotherm XPS TOP 30,  
Austrotherm XPS TOP 50 and  
Austrotherm XPS TOP 70**

**Annex A**

**4. Creep under combined compressive and shear load**

<b>Austrotherm XPS TOP 30</b>		
<b>thickness</b>	<b>200 mm</b>	
density (kg/m <sup>3</sup> )	34	
<b>load stage (kPa)</b>	<b>50,4</b>	<b>130</b>
deformation under	shear load	compressive load
$X_{\tau 0} / X_0$ (mm)	1,41	0,67
$X_{\tau ct} / X_{ct}$ (mm)	1,29	1,16
$X_{\tau ct 50} / X_{ct 50}$ (mm)	3,22	2,56
<b><math>X_{\tau 150} / X_{t 150}</math> (mm)</b>	<b>4,63</b>	<b>3,23</b>