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and types of construction

Bautechnisches Prüfamt

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## European Technical Assessment

**ETA-19/0427**  
**of 8 May 2023**

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

"Velox Platten WS", "Velox Platten WS-D", "Velox Platten  
WS-C" and "Velox Platten WS-M"

Product family  
to which the construction product belongs

Minerally-bonded boards made of wood chips

Manufacturer

VELOX-Werk Ges.m.b.H  
Dachberg 10  
9422 MARIA ROJACH  
ÖSTERREICH

Manufacturing plant

VELOX-Werk Ges.m.b.H  
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This European Technical Assessment  
contains

9 pages 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 040949-00-1201

This version replaces

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## Specific part

### 1 Technical description of the product

This European Technical Assessment applies to the factory-made minerally-bonded chipboards made of wood-chips with the designations "Velox Platten WS", "Velox Platten WS-D" and "Velox Platten WS-C" as well as the composite boards "Velox Platten WS-M", hereinafter referred to as insulation chipboards (see table 1).

The insulation chipboards consist of a mixture of loose wood chips and mineral binders and are manufactured in different board thicknesses. The insulation chipboards are mechanically compressed featuring smooth or textured surfaces.

The boards "Velox Platten WS", "Velox Platten WS-C" and "Velox Platten WS-D" can be bonded to an insulation board covered by an EPS-board in accordance with EN 13163 to form the two- or three-layered composite board "Velox Platte WS-M".

The "Velox Platte WS-EPS 135" is also such a composite board and consists of a 35 mm thick "Velox Platte WS" board bonded to a 100 mm thick EPS insulation board in accordance with EN 13163.

Table 1: Board groups, board thicknesses and surfaces

Board group	Board thickness (nominal thickness)	Surfaces
"Velox Platten WS"	25 mm bis 85 mm	smooth
"Velox Platten WS-D"	25 mm bis 85 mm	smooth
"Velox Platten WS-C"	25 mm bis 85 mm	smooth / textured
"Velox Platten WS-M"	40 mm bis 350 mm	smooth

To indicate the thickness (in millimeters) of the respective chipboard, the designations "25" to "85" can be added to the insulation chipboard designation. The colour of the insulation chipboard (e.g., "red", "brown", "green", "black" or "ochre") can also be added to the respective chipboard designation. Deviations from the nominal width of 500 mm of the insulation chipboard can be indicated by an additional combination of numbers (e.g., "WS 35/400") at the end of the chipboard designation.

The designations "Velox Platten WS", "Velox Platten WS-D", "Velox Platten WS-C" and "Velox-Platten WS-M" are used for the respective chipboard group hereinafter. The specifications and performance assessed also apply to insulation chipboards of the respective board group including the before-mentioned additions to the designation.

The board group "Velox panels WS-D" includes the board types "WAD" and "WSD", which are intended for use in the attic area ("WAD") or in shuttering formwork systems ("WSD") as so-called "lost (permanent) shuttering formwork".

The board group "Velox panels WS-C" includes the following board types, which differ in the differently structured surfaces of the insulation chipboards:

"Velox Platten WSA"	smooth surface
"Velox Platten WSE"	tree bark texture
"Velox Platten WSK"	tile texture
"Velox Platten WSO"	wave texture
"Velox Platten WSR"	groove texture
"Velox Platten WSW"	waffle texture
"Velox Platten WSS"	smooth surface
"Velox Platten WSDA"	smooth surface

The insulation chipboards assessed here deviate from EN 13168 in that they are made of wood chips instead of wood wool. The length/width ratio of the wood chips is less than 20:1 deviating from EN 13168.

The insulation chipboards are manufactured in the following dimensions:

Nominal thicknesses: see table 1

Nominal length: 2000 mm

Nominal width: 500 mm

Other length or width dimensions are possible.

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 insulation chipboards are intended for use as thermal insulation of walls, ceilings and roofs in buildings, for sound absorption and in view screen walls and noise barrier walls.

The performance according to section 3 only applies if the insulation chipboards are installed according to the manufacturer's installation instructions and if they are protected from precipitation, wetting or weathering in built-in state and during transport, storage and installation.

As to the application of the insulation chipboards, the respective national regulations shall additionally be observed.

The thermal resistance is calculated based on the nominal thickness of the insulation chip board (only "Velox Platten WS" and "Velox Platten WS-D"). The design thermal conductivity is determined in accordance with the respective national provisions.

If the insulation chipboards are bonded and/or mechanically fixed, only suitable adhesives and/or fasteners shall be used. The assessment of such fasteners and/or adhesives is not covered by 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 insulation chipboard of at least 25 years. The indications given on the working life cannot be interpreted as a guarantee given by the manufacturer, 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 040949-00-1201 "Minerally-bonded boards made of wood chips" apply.

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

Essential characteristic	Performance
Reaction to fire test acc. to EN ISO 11925-2:2020 and EN 13823:2010+A1:2014 "Velox Platten WS", "Velox-Platten WS-C", "Velox Platten WS-D" for boards with thicknesses from 25 mm to 85 mm and densities acc. to clause 3.5	Class D-s1, d0* acc. to EN 13501-1:2018

Essential characteristic	Performance
"Velox Platten WS-M"	No performance assessed
Propensity to undergo continuous smouldering all board types	No performance assessed
Façade fire performance all board types	No performance assessed
* The given classification is valid for application on substrates of class A1, A2-s1, d0 in accordance with EN 13501-1, density $\geq 650 \text{ kg/m}^3$ , thickness $> 9 \text{ mm}$ , mechanically fixed with metal fastener or bonded with inorganic, minerally bonded mortars (with cement and/or lime as binders) and butt-jointed boards (no open joints).	

### 3.2 Hygiene, health and the environment (BWR 3)

Essential characteristic	Performance
Chloride content Test acc. to EN 13168:2012+A1:2015 "Velox Platten WS"	$\leq 0,35 \%$ Cl 1 acc. to EN 13168:2012+A1:2015
"Velox Platten WS-D"	$\leq 0,35 \%$ Cl 1 acc. to EN 13168:2012+A1:2015
"Velox Platten WS-C" and "Velox Platten WS-M"	No performance assessed
Content, emission and/or release of dangerous substances	No performance assessed

### 3.3 Safety and accessibility in use (BWR 4)

Essential characteristic	Performance
Compressive stress at 10% deformation test acc. to EN 826:2013 "Velox Platten WS"	$\geq 1500 \text{ kPa}$ CS(10/Y)1000 acc. to EN 13168:2012+A1:2015
"Velox Platten WS-D"	$\geq 2000 \text{ kPa}$ CS(10/Y)1000 acc. to EN 13168:2012+A1:2015
"Velox Platten WS-C" and "Velox Platten WS-M"	No performance assessed
Compressive creep	No performance assessed
Bending strength test acc. to EN 12089:2013 "Velox Platten WS" (d = 50 mm) with support span length $l = 1200 \text{ mm}$ "Velox Platten WS-D" (d = 35 mm) with support span length $l = 1200 \text{ mm}$ "Velox Platten WS-C" and "Velox Platten WS-M"	$\geq 500 \text{ kPa}$  $\geq 1000 \text{ kPa}$  No performance assessed
Behaviour under point load	No performance assessed
Dimensional stability under specified temperature and humidity (with $70^\circ\text{C}$ and 90%)	No performance assessed

Essential characteristic	Performance
Dimensional stability acc. to EN 1605	No performance assessed
Tensile strength perpendicular to the faces test acc. to EN 1607:2013 "Velox Platten WS-EPS 135"	$\geq 60$ kPa TR60 acc. to EN 13168:2012+A1:2015
all other boards	No performance assessed
Shear strength and shear modulus of elasticity test acc. to EN 12090:2013 "Velox Platten WS-EPS 135"	$\tau = \geq 25$ kPa
all other boards	No performance assessed
Nominal thickness test acc. to EN 823:2013 Dimensional deviation	25 mm to 85 mm T1 acc. to EN 13168:2012+A1:2015
Nominal length test acc. to EN 822:2013 Dimensional deviation	2000 mm L2 acc. to EN 13168:2012+A1:2015
Nominal width test acc. to EN 822:2013 Dimensional deviation	500 mm W1 acc. to EN 13168:2012+A1:2015
Pull-through parameter test acc. to EN 1383:2016 "Velox Platten WSE" (d = 80 mm) (screws EJOT JT3-ST-2-6,0x120)	Characteristic pull-through parameter acc. to EN 14358:2017 $f_{\text{head}} = 12,0$ N/mm <sup>2</sup>
all other boards	No performance assessed

### 3.4 Protection against noise (BWR 5)

Essential characteristic	Performance
Sound absorption test acc. to EN ISO 354:2003 and EN ISO 11654:1997	
"Velox Platten WSA" (d = 50 mm)	$\alpha_W = 0,60$ $\alpha_P = 0,10$ (125 Hz) $\alpha_P = 0,30$ (250 Hz) $\alpha_P = 0,80$ (500 Hz) $\alpha_P = 0,60$ (1000 Hz) $\alpha_P = 0,60$ (2000 Hz) $\alpha_P = 0,65$ (4000 Hz)

Essential characteristic	Performance
"Velox Platten WSR" (d = 50 mm)	$\alpha_W = 0,55$ $\alpha_P = 0,05$ (125 Hz) $\alpha_P = 0,25$ (250 Hz) $\alpha_P = 0,70$ (500 Hz) $\alpha_P = 0,55$ (1000 Hz) $\alpha_P = 0,60$ (2000 Hz) $\alpha_P = 0,60$ (4000 Hz)
"Velox Platten WSO" (d = 80 mm)	$\alpha_W = 0,70$ $\alpha_P = 0,15$ (125 Hz) $\alpha_P = 0,40$ (250 Hz) $\alpha_P = 0,90$ (500 Hz) $\alpha_P = 0,95$ (1000 Hz) $\alpha_P = 0,90$ (2000 Hz) $\alpha_P = 0,85$ (4000 Hz)
"Velox Platten WSW" (d = 85 mm)	$\alpha_W = 0,85$ $\alpha_P = 0,20$ (125 Hz) $\alpha_P = 0,55$ (250 Hz) $\alpha_P = 1,00$ (500 Hz) $\alpha_P = 0,85$ (1000 Hz) $\alpha_P = 0,90$ (2000 Hz) $\alpha_P = 0,85$ (4000 Hz)
all other boards	No performance assessed

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

Essential characteristic	Performance
Thermal conductivity test acc. to EN 12667:2001 in accordance with EN 13169:2013 "Velox Platten WS" ( $35 \text{ mm} \leq d \leq 75 \text{ mm}$ ) with densities $550 \text{ kg/m}^3 \pm 10 \%$ Conversion of humidity acc. to EN ISO 10456:2010 Mass-related moisture content at 23 °C/50 % rel. humidity Mass-related moisture content at 23 °C/80 % rel. humidity Mass-related moisture conversion factor Moisture conversion factor (dry to 23 °C/50 % rel. humidity) Moisture conversion factor (23 °C/50 % rel. humidity to 23 °C/80 % rel. humidity)	Declared value*) for a moisture content of the chipboards at 23 °C and 50 % relative humidity $\lambda_{D(23/50)} \leq 0,120 \text{ W/(m} \cdot \text{K)}$  $u_{23/50} = 0,0350 \text{ kg/kg}$  $u_{23/80} = 0,0564 \text{ kg/kg}$  No performance assessed No performance assessed No performance assessed

Essential characteristic	Performance
<p>Thermal conductivity test acc. to EN 12667:2001 in accordance with EN 13169:2013 "Velox Platten WS-D" (<math>35 \text{ mm} \leq d \leq 50 \text{ mm}</math>) with densities <math>650 \text{ kg/m}^3 \pm 10 \%</math></p> <p>Conversion of humidity acc. to EN ISO 10456:2010 Mass-related moisture content at 23 °C/50 % rel. humidity Mass-related moisture content at 23 °C/80 % rel. humidity</p>	<p>Declared value*) for a moisture content of the chipboards at 23 °C and 50 % relative humidity</p> <p><math>\lambda_{D (23/50)} \leq 0,150 \text{ W/(m} \cdot \text{K)}</math></p> <p><math>u_{23/50} = 0,0351 \text{ kg/kg}</math></p> <p><math>u_{23/80} = 0,0570 \text{ kg/kg}</math></p>
<p>Mass-related moisture conversion factor Moisture conversion factor (dry to 23 °C/50 % rel. humidity) Moisture conversion factor (23 °C/50 % rel. humidity to 23 °C/80 % rel. humidity)</p>	<p>No performance assessed No performance assessed No performance assessed</p>
<p>Thermal conductivity all other boards</p>	<p>No performance assessed</p>
<p>Water vapour transmission test acc. to EN 12086:2013 "Velox Platten WS"  "Velox Platten WS-D"</p>	<p><math>\mu \leq 30</math> <math>Z = 0,523 \text{ m}^2 \text{ h Pa mg}^{-1}</math> <math>\mu \leq 30</math> <math>Z = 0,547 \text{ m}^2 \text{ h Pa mg}^{-1}</math></p>
<p>Water absorption (short-term)</p>	<p>No performance assessed</p>
<p>Density test acc. to EN 1602:2013 "Velox Platten WS" "Velox Platten WS-D" "Velox Platten WS-C"</p>	<p><math>500 \text{ kg/m}^3 \text{ bis } 700 \text{ kg/m}^3</math> <math>700 \text{ kg/m}^3 \text{ bis } 1000 \text{ kg/m}^3</math> <math>600 \text{ kg/m}^3 \text{ bis } 1000 \text{ kg/m}^3</math></p>
<p>* The declared value of the thermal conductivity is representative for at least 90 % of the production with a level of reliability 90 % and applies to the density range given in section 3.6.</p>	

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

In accordance with the European Assessment Document EAD No 040949-00-1201 "Minerally-bonded boards made of wood chips" the legal basis is:

Commission Decision 1999/91/EC (as amended 2001/596/EC).

The system to be applied is: system 3

In addition, with regard to reaction to fire for products covered by this EAD the applicable European legal act is:

Commission Decision 1999/91/EC (as amended 2001/596/EC).

The system to be applied is: system 3



**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 at Deutsches Institut für Bautechnik.

Issued in Berlin on 8 May 2023 by Deutsches Institut für Bautechnik

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*beglaubigt:*  
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