

Approval body for construction products  
and types of construction

Bautechnisches Prüfamt

An institution established by the Federal and  
Laender Governments



## European Technical Assessment

**ETA-21/0916**  
**of 21 February 2022**

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

Humidity-dependent vapour control layer  
VC 102/090 05-5

Product family  
to which the construction product belongs

Membranes, including liquid applied and kits (for water  
and/or water vapour control)

Manufacturer

Lenzing Plastics GmbH & Co. KG  
Werkstraße 2  
4860 Lenzing  
ÖSTERREICH

Manufacturing plant

Lenzing Plastics GmbH & Co. KG  
Werkstraße 2  
4860 Lenzing

This European Technical Assessment  
contains

6 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 030271-00-0605

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## Specific part

### 1 Technical description of the product

The humidity-dependent vapour control layer VC 102/090 05-5 consist of a backing layer and a humidity-dependent coating.

The thickness of the humidity-dependent vapour control layer is  $0.2 \text{ mm} \pm 0.02 \text{ mm}$  and the mass per unit is  $90 \text{ g/m}^2 -2.7 \text{ g/} +9 \text{ g}$ .

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

The performances given in Section 3 are only valid if the humidity-dependent vapour control layer VC 102/090 05-5 is used in compliance with the specifications and conditions given in Annex 1.

The verifications and assessment methods on which this European Technical Assessment is based lead to the assumption of a working life of the humidity-dependent vapour control layer VC 102/090 05-5 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

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

Essential characteristic	Performance
Reaction to fire	Euroclass E

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

Essential characteristic	Performance
Resistance to tearing (nail shank)	See Annex 1.2.1
Water vapour transmission properties	See Annex 1.2.2
Durability of water vapour transmission properties - artificial ageing through high temperature	See Annex 1.2.2
Tensile properties	See Annex 1.2.3
Durability of tensile properties - UV resistance and - artificial ageing through high temperature	See Annex 1.2.3
Air permeability	See Annex 1.2.4

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.030271-00-0605, the applicable European legal act is: [1999/90/EC(EU)].

The system to be applied is: 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 with Deutsches Institut für Bautechnik.

Issued in Berlin on 21 February 2022 by Deutsches Institut für Bautechnik

Anja Dewitt  
Head of Section

*beglaubigt:*  
Vössing

## Annex 1.1 Specification of intended use

EN 1995-1-1<sup>1</sup> applies for the installation of the humidity-dependent vapour control layer VC 102/090 05-5.

## Annex 1.2 Specification of essential characteristics

### A.1.2.1 Resistance to tearing (nail shank)

The resistance to tearing in longitudinal direction of the humidity-dependent vapour control layers of VC 102/090 05-5 in accordance with EN 12310-1<sup>2</sup> is: 96 N.

The resistance to tearing in transverse direction of the humidity-dependent vapour control layers of VC 102/090 05-5 in accordance with EN 12310-1 is: 93 N.

### A.1.2.2 Durability of water vapour transmission properties – artificial ageing through high temperature

The initial values of the  $s_d$ -values for the humidity-dependent vapour control layer VC 102/090 05-5 tested in accordance with EN ISO 12572<sup>3</sup> meet the values in Table A.1.2.2.

The aged values of the  $s_d$ -values for the humidity-dependent vapour control layer VC 102/090 05-5 tested in accordance with EN 1296<sup>4</sup> and the test plan deposited with DIBt fulfil the values in accordance with Table A.1.2.2.

Table A.1.2.2:  $s_d$ -values of VC 102/090 05-5 in [m]

Conditionings / Arithmetic average of dry point and wet point	23°C, 0/50% rel. hum. / 25 % rel. humidity [m]	23°C, 50/93% rel. hum. / 72 % rel. humidity [m]	23°C, 83/97% rel. hum. / 90 % rel. humidity [m]
Initial values	3.340	0.722	0.550
Aged values Storage at 80(±2) °C for 24 weeks	3.941	0.833	0.563

<sup>1</sup> EN 1995-1-1: 2004+AC:2006+A1:2008+A2:2014

<sup>2</sup> DIN EN 12310-1:1999

<sup>3</sup> EN ISO 12572:2017

<sup>4</sup> EN 1296:2000

Eurocode 5: Design of timber structures – Part 1-1: General - Common rules and rules for buildings

Flexible sheets for waterproofing – Part 1: Bitumen sheets for roof waterproofing; determination of resistance to tearing (nail shank)

Hygrothermal performance of building materials and products - Determination of water vapour transmission properties - Cup method

Flexible sheets for waterproofing. Bitumen, plastic and rubber sheets for roofing. Method of artificial ageing by long term exposure to elevated temperature

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Specification of essential characteristics	

### A.1.2.3 Durability of tensile properties – UV resistance and artificial aging through high temperature

The initial values and the aged values of the maximum tensile force and the maximum tensile force elongation for the humidity-dependent vapour control layer VC 102/090 05-5 determined in accordance with EN 13984<sup>5</sup> and EN 13859-1<sup>6</sup> correspond to the values in Table A.1.2.3 for both the longitudinal and transversal directions of the sheet. The specifications of the test standard with regard to the number and selection of test specimens have been fully complied with.

Table A.1.2.3: Minimum requirements of the maximum tensile force and the maximum tensile force elongation

VC 102/090 05-5	longitudinal		transversal	
	strength $F_H$ [N / 50 mm]	elongation $\epsilon_H$ [%]	strength $F_H$ [N / 50 mm]	elongation $\epsilon_H$ [%]
Initial values	212	90	150	92
Aged values Heat resistance	202	49	137	34
Aged values UV resistance	137	34	84	33

### A.1.2.4 Air permeability

The maximum air permeability  $Q_{50}$  [ $m^3/(m^2 \cdot h \cdot 50 \text{ Pa})$ ], tested in accordance with EN 13859-2<sup>7</sup>, clause 4.3.4 and EN 12114<sup>8</sup> with edge gluing on steel frame with adhesive tape, expressed in maximum area-related reference permeability at 50 Pa see Table A.1.2.4.

Table A.1.2.4 Maximum air permeability of VC 102/090 05-5

	Max. air permeability $Q_{50}$ [ $m^3/(m^2 \cdot h \cdot 50 \text{ Pa})$ ]
VC 102/090 05-5	0.009

<sup>5</sup> EN 13984:2013 Flexible sheets for waterproofing – Plastic and rubber vapour control layers – Definitions and characteristics  
<sup>6</sup> EN 13859-1:2014 Flexible sheets for waterproofing - Definitions and characteristics of underlays - Part 1: Underlays for discontinuous roofing  
<sup>7</sup> EN 13859-2:2014 Flexible sheets for waterproofing – Definitions and characteristics of underlays – Part 2: Underlays for walls  
<sup>8</sup> EN 12114:2000 Thermal performance of buildings – Air permeability of building components and building elements

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