



Approval body for construction products and types of construction

Bautechnisches Prüfamt

An institution established by the Federal and Laender Governments



European Technical Assessment

ETA-11/0192 of 6 December 2022

English translation prepared by DIBt - Original version in German language

General Part

Technical Assessment Body issuing the European Technical Assessment:

Trade name of the construction product

Product family to which the construction product belongs

Manufacturer

Manufacturing plant

This European Technical Assessment contains

This European Technical Assessment is issued in accordance with Regulation (EU) No 305/2011, on the basis of

This version replaces

Deutsches Institut für Bautechnik

EJOT H1 eco, EJOT H4 eco and ejotherm H1

Plastic anchor for fixing of external thermal insulation composite systems with rendering

EJOT SE & Co. KG Astenbergstraße 21 57319 Bad Berleburg DEUTSCHLAND

EJOT manufacturing plant 1, 2, 3, 4

22 pages including 3 annexes which form an integral part of this assessment

EAD 330196-01-0604 edition 10/2017

ETA-11/0192 issued on 22 January 2020

Deutsches Institut für Bautechnik Kolonnenstraße 30 B | 10829 Berlin | GERMANY | Phone: +49 30 78730-0 | Fax: +49 30 78730-320 | Email: dibt@dibt.de | www.dibt.de



European Technical Assessment ETA-11/0192 English translation prepared by DIBt

Page 2 of 22 | 6 December 2022

The European Technical Assessment is issued by the Technical Assessment Body in its official language. Translations of this European Technical Assessment in other languages shall fully correspond to the original issued document and shall be identified as such.

Communication of this European Technical Assessment, including transmission by electronic means, shall be in full. However, partial reproduction may only be made with the written consent of the issuing Technical Assessment Body. Any partial reproduction shall be identified as such.

This European Technical Assessment may be withdrawn by the issuing Technical Assessment Body, in particular pursuant to information by the Commission in accordance with Article 25(3) of Regulation (EU) No 305/2011.



Page 3 of 22 | 6 December 2022

Specific Part

1 Technical description of the product

The nailed-in anchors EJOT H1 eco, EJOT H4 eco and ejotherm H1 consist of an anchor sleeve and an insulation plate made of virgin polyethylene an accompanying specific nail of galvanised steel and a mounting plug made of virgin polyamide.

For the anchor length of 95 mm (H1 eco and ejotherm H1) and for the anchor length of 115 – 135 mm (only H4 eco) the accompanying specific nail of galvanised steel has an overmoulding of polyamide.

The anchor may in addition be combined with the anchor plates SBL 140 plus and VT 90. An illustration and the description of the product are given in Annex A.

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 anchor is used in compliance with the specifications and conditions given in Annex B.

The verifications and assessment methods on which this European Technical Assessment is based lead to the assumption of a working life of the anchor of at least 25 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 and accessibility in use (BWR 4)

Essential characteristic	Performance
Characteristic load bearing capacity	
- Characteristic resistance under tension load	See Annex C 1
 Minimum edge distance and spacing 	See Annex B 2
Displacements	See Annex C 2, C 3 and C 4
Plate stiffness	See Annex C 2, C 3 and C 4

3.2 Energy economy and heat retention (BWR 6)

Essential characteristic	Performance
Point thermal transmittance	See Annex C 2, C 3 and C 4

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

In accordance with EAD No. 330196-01-0604, the applicable European legal act is: [97/463/EC].

The system to be applied is: 2+



European Technical Assessment ETA-11/0192 English translation prepared by DIBt

Page 4 of 22 | 6 December 2022

5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable European Assessment Document

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

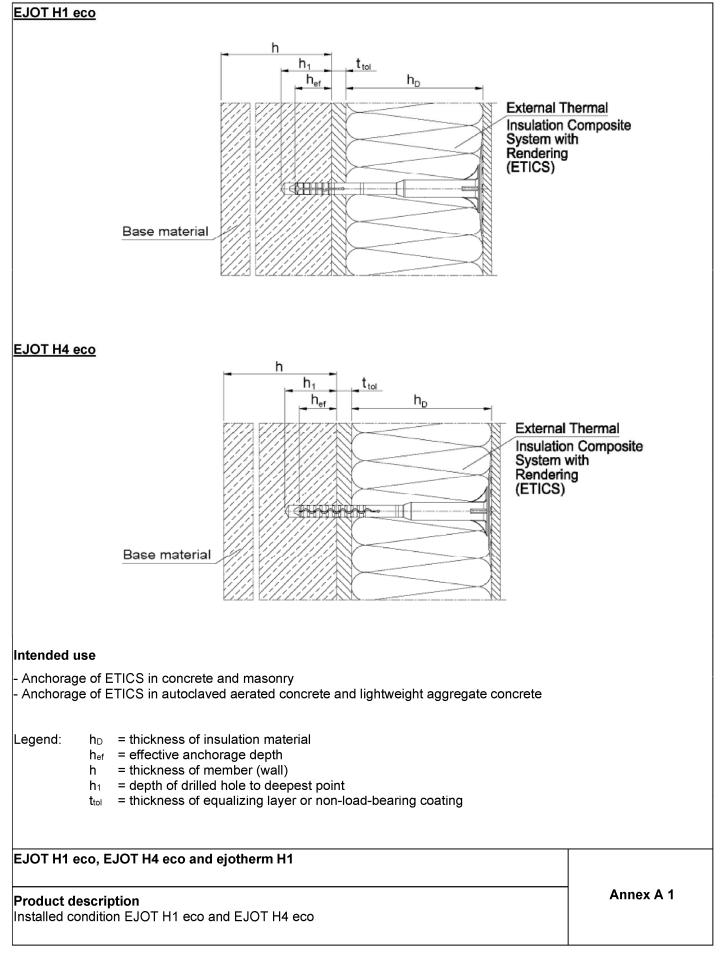
Issued in Berlin on 6 December 2022 by Deutsches Institut für Bautechnik

Dipl.-Ing. Beatrix Wittstock Head of Section *beglaubigt:* Ziegler

Page 5 of European Technical Assessment ETA-11/0192 of 6 December 2022

English translation prepared by DIBt

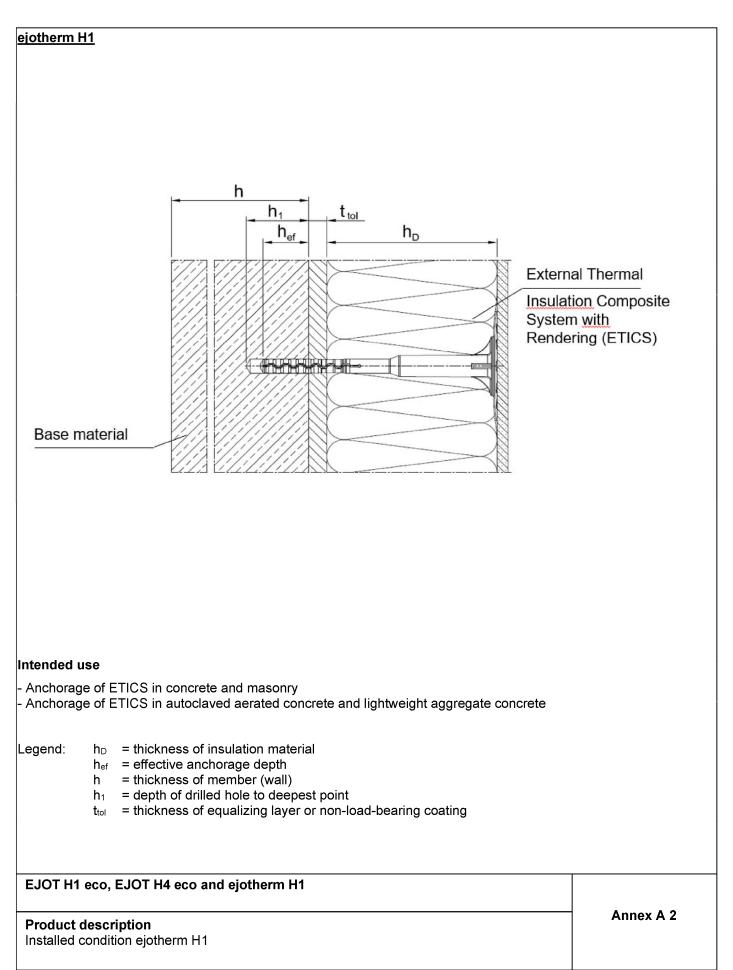




Page 6 of European Technical Assessment ETA-11/0192 of 6 December 2022

English translation prepared by DIBt





Page 7 of European Technical Assessment ETA-11/0192 of 6 December 2022

English translation prepared by DIBt



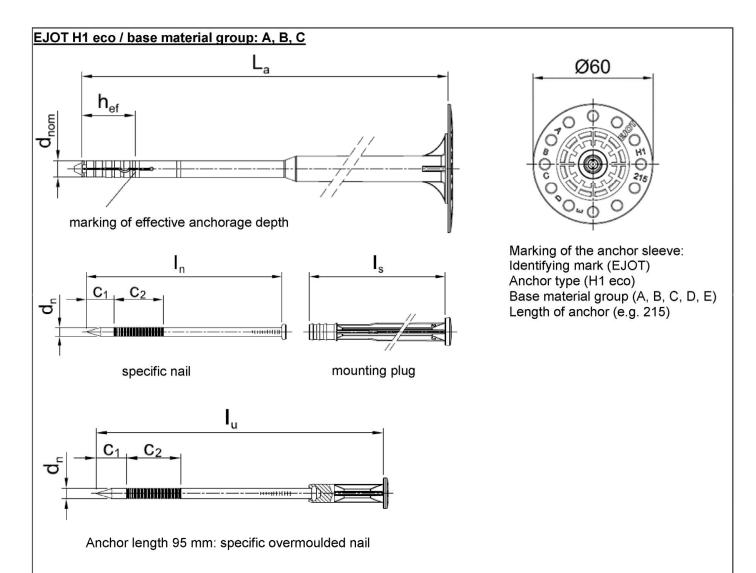


Tabelle A1: Dimensions

	Anchor sleeve		Mounting plug	Specific nail					
Anchor type	d _{nom}	h _{ef}	min La	min L₅	dn	C 1	C 2	min I _n	lu
			max L _a	max L₅				max In	
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
	8	25	95	32	4,5	14	25	60	90
EJOT H1 eco			295	112				180	

Determination of maximum thickness of insulation h_D [mm] EJOT H1 eco:

 $\begin{array}{ll} h_D & = L_a - t_{tol} - h_{ef} \\ z.B. & h_D & = 215 - 10 - 25 \\ h_{Dmax} & = 180 \end{array}$

EJOT H1 eco, EJOT H4 eco and ejotherm H1

Product description

Marking and dimension of the anchor sleeve EJOT H1 eco base material group: A, B, C, expansion element

Annex A 3

Electronic copy of the ETA by DIBt: ETA-11/0192

Page 8 of European Technical Assessment ETA-11/0192 of 6 December 2022

English translation prepared by DIBt



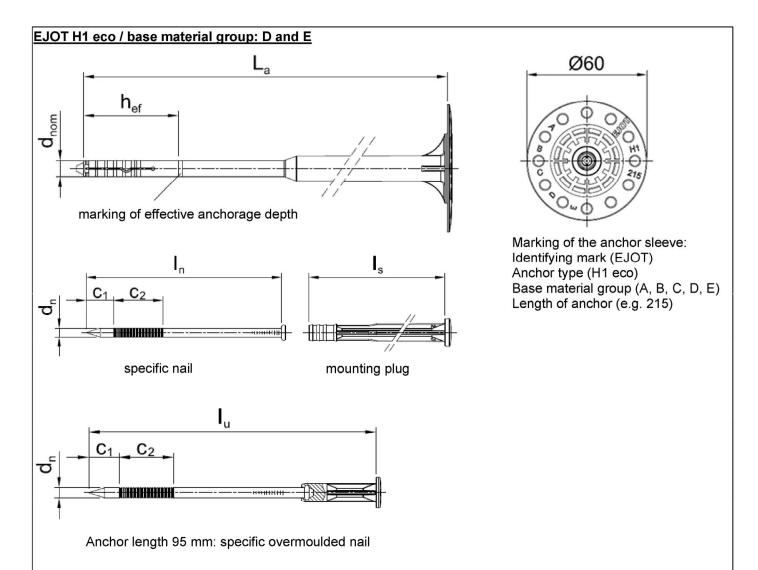


Tabelle A2: Dimensions

	Anchor sleeve			Mounting plug	Specific nail					
Anchor type	d _{nom}	h _{ef}	min L _a max L _a	min L₅ max L₅	dn	C 1	C 2	min In max In	lu	
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	
EJOT H1 eco	8	45	95	32	4,5	14	25	60	90	
EJOTHIECO			295	112				180		

Determination of maximum thickness of insulation h_D [mm] EJOT H1 eco:

 $\begin{array}{ll} h_D & = L_a - t_{tol} - h_{ef} \\ z.B. & h_D & = 215 - 10 - 45 \\ h_{Dmax} & = 160 \end{array}$

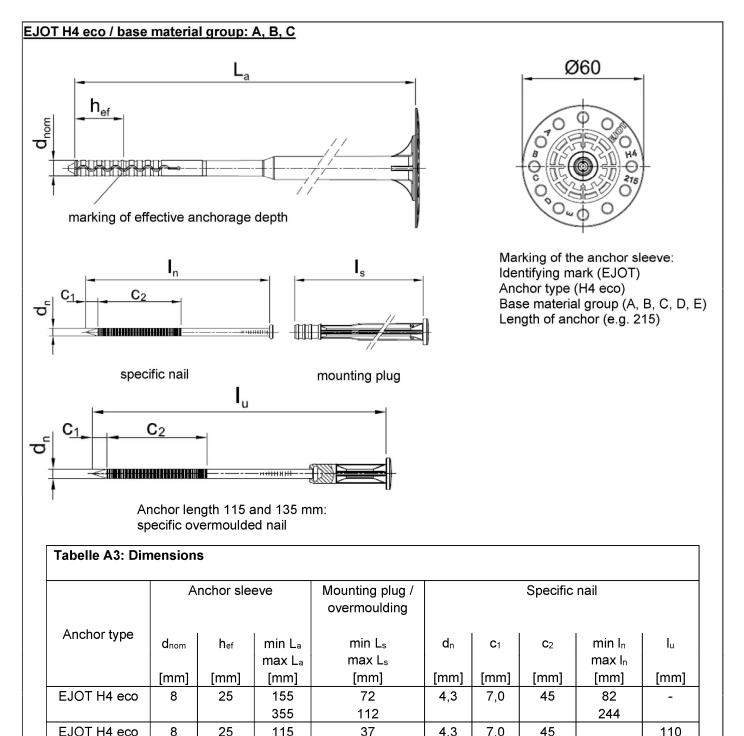
EJOT H1 eco, EJOT H4 eco and ejotherm H1

Product description

Marking and dimension of the anchor sleeve EJOT H1 eco base material group: D, E, expansion element Annex A 4

Electronic copy of the ETA by DIBt: ETA-11/0192





Determination of maximum thickness of insulation h_D [mm] EJOT H4 eco:

135

 $h_{\text{Dmax}} = 180$

EJOT H1 eco, EJOT H4 eco and ejotherm H1

Product description

Marking and dimension of the anchor sleeve EJOT H4 eco base material group: A, B, C, expansion element

Annex A 5

130

Page 10 of European Technical Assessment ETA-11/0192 of 6 December 2022

English translation prepared by DIBt



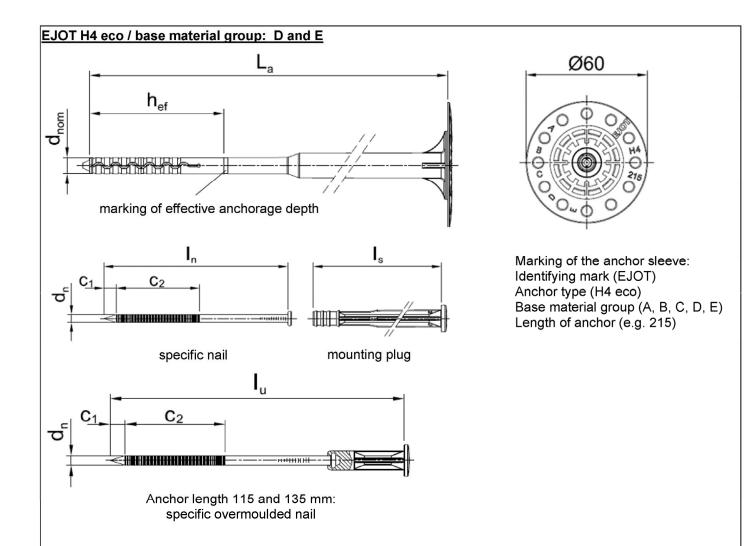


Tabelle A4: Dimensions

	Anchor sleeve		Mounting plug / overmoulding	Specific nail					
Anchor type	d _{nom}	h _{ef}	min L₃ max L₃	min L₅ max L₅	dn	C 1	C 2	min I _n max I _n	lu
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
EJOT H4 eco	8	65	155	72	4,3	7,0	45	82	-
			355	112				244	
EJOT H4 eco	8	65	115	37	4,3	7,0	45		110
			135						130

Determination of maximum thickness of insulation h_D [mm] EJOT H4 eco:

 $\begin{array}{ll} h_D & = L_a - t_{tol} - h_{ef} \\ z.B. & h_D & = 215 - 10 - 65 \\ h_{Dmax} & = 140 \end{array}$

EJOT H1 eco, EJOT H4 eco and ejotherm H1

Product description

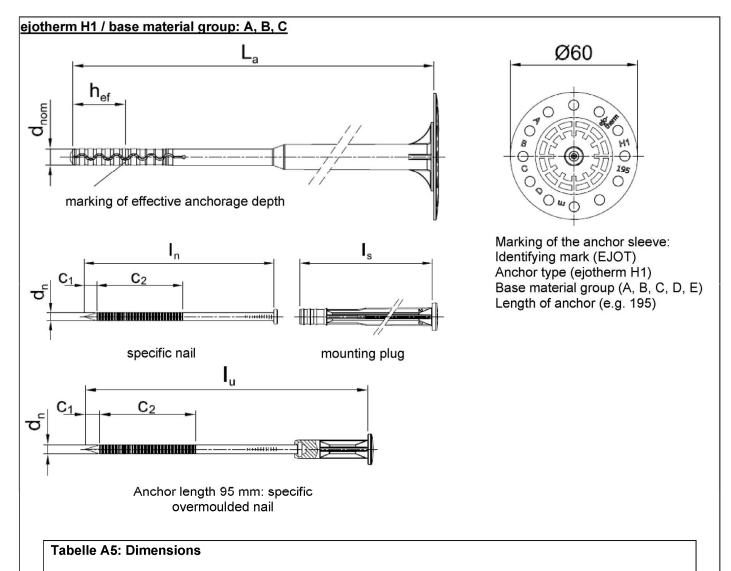
Marking and dimension of the anchor sleeve EJOT H4 eco base material group: D, E, expansion element

Annex A 6

Page 11 of European Technical Assessment ETA-11/0192 of 6 December 2022

English translation prepared by DIBt





Anchor sleeve Mounting plug / Specific nail overmoulding Anchor type min L_a min L_s d_{nom} h_{ef} dn **C**1 **C**2 min In lu max La max Ls max In [mm] [mm] [mm] [mm] [mm] [mm] [mm] [mm] [mm] 52 ejotherm H1 25 115 4,3 7,0 45 8 62 _ 355 112 244 ejotherm H1 8 25 95 37 4.3 7.0 45 95

Determination of maximum thickness of insulation h_D [mm] ejotherm H1:

$$h_D$$
 = $L_a - t_{tol} - h_{ef}$
z.B. h_D = 195 - 10 - 25

B. h_D = 195 h_{Dmax} = 160

EJOT H1 eco, EJOT H4 eco and ejotherm H1

Product description

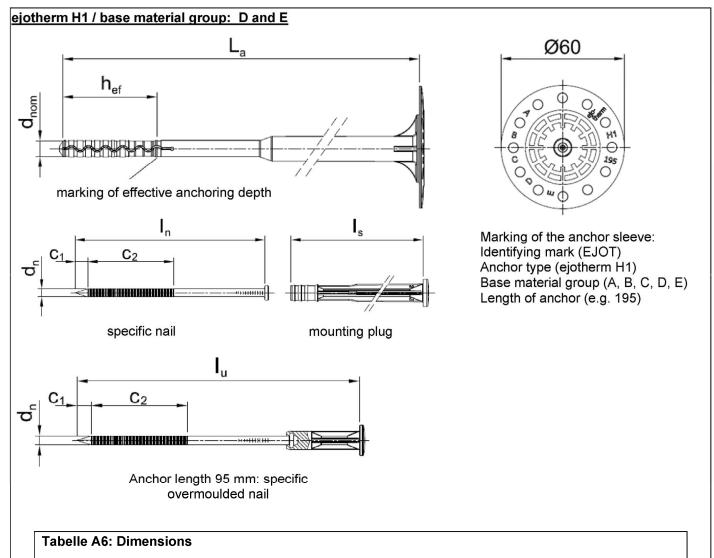
Marking and dimension of the anchor sleeve ejotherm H1 base material group: A,B,C, expansion element

Annex A 7

Page 12 of European Technical Assessment ETA-11/0192 of 6 December 2022

English translation prepared by DIBt





	Anchor sleeve		Mounting plug / overmoulding	Specific nail					
Anchor type	d _{nom}	h _{ef}	min La	min L _s	dn	C 1	C 2	min I _n	lu
			max La	max L _s				max I _n	
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
ejotherm H1	8	45	115	52	4,3	7,0	45	62	-
			355	112				244	
ejotherm H1	8	45	95	37	4,3	7,0	45		95

Determination of maximum thickness of insulation h_D [mm] ejotherm H1:

 $\begin{array}{ll} h_D & = L_a - t_{tol} - h_{ef} \\ z.B. & h_D & = 195 - 10 - 65 \\ h_{Dmax} & = 120 \end{array}$

EJOT H1 eco, EJOT H4 eco and ejotherm H1

Product description

Marking and dimension of the anchor sleeve ejotherm H1 base material group: D, E, expansion element

Annex A 8

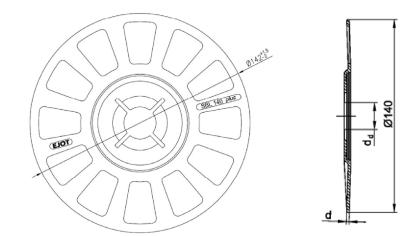
Page 13 of European Technical Assessment ETA-11/0192 of 6 December 2022

English translation prepared by DIBt



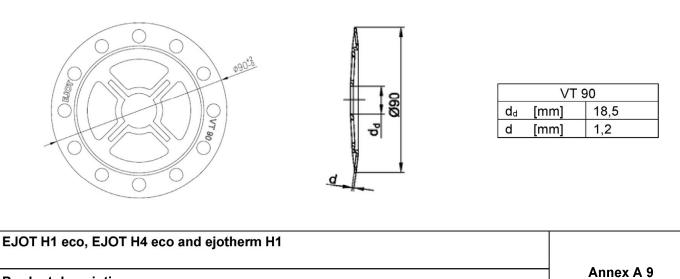
Name	Materials
Anchor sleeve	virgin Polyethylene, PE-HD Colours: nature, yellow, orange, red, blue, grey, white, green, anthracit
Mounting plug	virgin Polyamide, PA 6 GF 50 Colour: nature
Specific nail	Steel, electro galvanised \ge 5 µm zinc, according EN ISO 4042: 2018 blue passivated, f _{yk} \ge 670 N/mm ²
Slip on plate	Polyamide PA 6, Polyamide PA 6 GF 50

SBL 140 plus



	SBL 14	0 plus
\mathbf{d}_{d}	[mm]	21,0
d	[mm]	2,0

VT 90





Specifications of intended use

Anchorages subject to:

• The anchor may only be used for transmission of wind suction loads and shall not be used for the transmission of dead loads of the thermal insulation composite system.

Base materials:

- Compacted normal weight concrete without fibres (base material group A) according to Annex C 1.
- Solid masonry (base material group B), according to Annex C 1.
- Hollow or perforated masonry (base material group C), according to Annex C 1.
- Prefabricated reinforced components of lightweight aggregate concrete (LAC) (base material group D), according to Annex C 1.
- Autoclaved aerated concrete (base material group E), according to Annex C 1.
- For other base materials of base material groups A, B, C, D or E the characteristic resistance of the anchor may be determined by job site tests in accordance with EOTA Technical Report TR 51 edition April 2018.

Temperature Range:

• 0°C to +40°C (max. short term temperature +40°C and max. long term temperature +24°C)

Design:

- The anchorages are designed under the responsibility of an engineer experienced in accordance and masonry work with the partial safety factors $\gamma_m = 2,0$ and $\gamma_F = 1,5$ if there are no other regulations.
- Verifiable calculation notes and drawings are prepared taking account of the loads to be anchored. The position of the anchor is indicated on the design drawings.
- Fasteners are only to be used for multiple fixings of thermal insulation composite systems.

Installation:

- Hole drilling by the drill modes according to Annex C 1.
- Anchor installation carried out by appropriately qualified personnel and under the supervision of the person responsible for technical matters of the site.
- Installation temperature from 0°C to +40°C
- Exposure to UV due to solar radiation of the anchor not protected by rendering \leq 6 weeks

EJOT H1 eco, EJOT H4 eco and ejotherm H1

Intended use Specifications

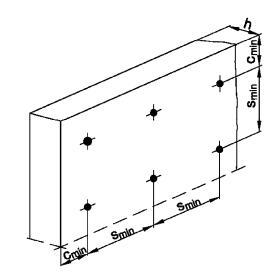
Annex B 1



Tabelle B1: Installation Parameters							
Anchor type		EJOT H1 eco		EJOT H4 eco		ejotherm H1	
		ABC	DE	АВС	DE	ABC	DE
Drill hole diameter	d₀[mm] =	8	8	8	8	8	8
Cutting diameter of drill bit	d _{cut} [mm] ≤	8,45	8,45	8,45	8,45	8,45	8,45
Depth of drilled hole to deepest point	h₁ [mm] ≥	35	55	35	75	35	55
Effective anchorage depth	h _{ef} [mm] ≥	25	45	25	65	25	45

Anchor type	EJOT H1 eco / EJOT H4 eco / ejotherm H1	
Minimum spacing	$s_{\sf min}$ \geq [mm]	100
Minimum edge distance	$c_{min} \geq [mm]$	100
Minimum thickness of member	h ≥ [mm]	100

Scheme of distance and spacing



EJOT H1 eco, EJOT H4 eco and ejotherm H1

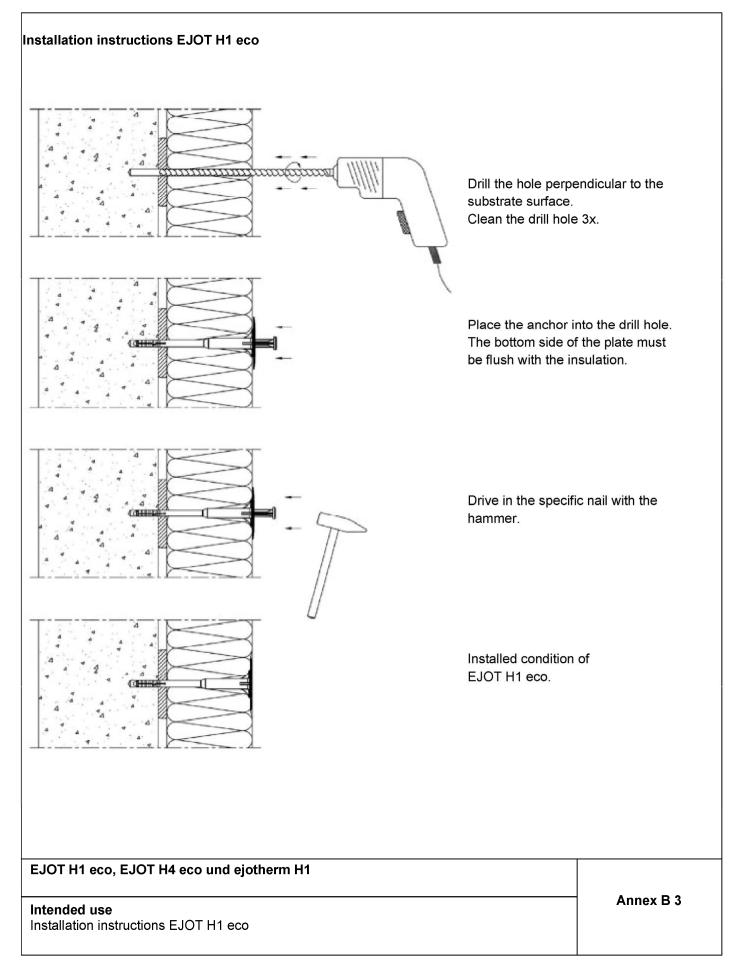
Intended use Installations parameters, Edge distances and spacing

Annex B 2

Page 16 of European Technical Assessment ETA-11/0192 of 6 December 2022

English translation prepared by DIBt

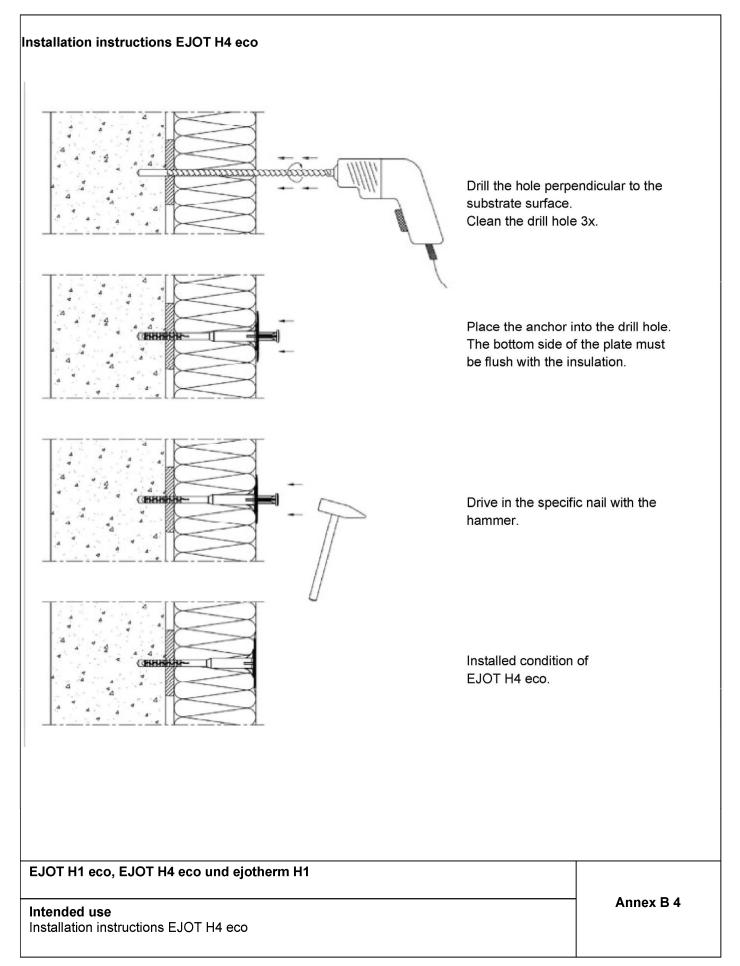




Page 17 of European Technical Assessment ETA-11/0192 of 6 December 2022

English translation prepared by DIBt



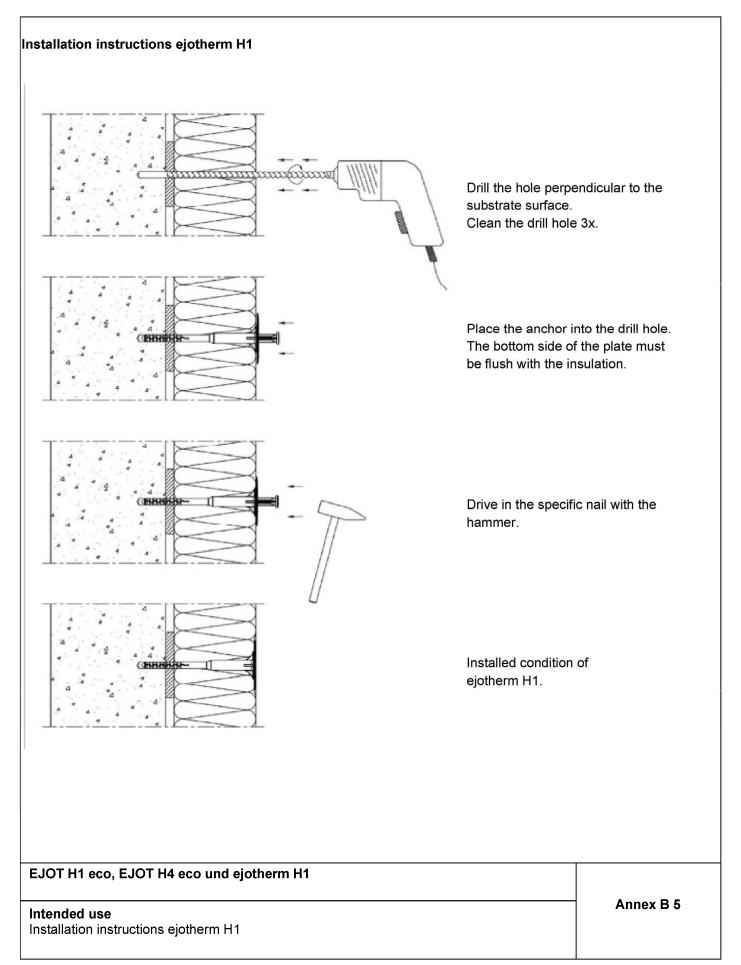


8.06.04-213/22

Page 18 of European Technical Assessment ETA-11/0192 of 6 December 2022

English translation prepared by DIBt







					EJOT	EJOT	ejotherm
					H1 eco	H4 eco	H1
Base materials	Bulk	Minimum	General	Drill	N _{Rk}	N _{Rk}	NRk
	density	com-	remarks	method			
	ρ	pressive					
		strength					
	[kg/dm³]	f _b [N/mm²]			[kN]	[kN]	[kN]
Concrete C 12/15			Compacted	hammer	0,9	0,5	0,9
as per EN 206:2013+A1:2016			normal weight	nammei	0,9	0,5	0,9
Concrete C 20/25 – C 50/60			concrete without	hommor	0,9	0,75	1,2
as per EN 206:2013+A1:2016			fibres; thickness of the	hammer	0,9	0,75	1,∠
Concrete C 20/25 – C 50/60			thin skin:				
as per EN 206:2013+A1:2016			100 mm > h ≥ 40	hammer	-	-	1,2
thin concrete members (thin skin)			mm				
Clay bricks, Mz,			Vertically				
as per	≥ 1,8	12	perforation ⁴⁾	hammer	0,9	0,75	1,2
EN 771-1:2011+A1:2015			up to 15 %.				
Sand-lime solid bricks, KS			Vertically				
as per	≥ 1,8	12	perforation ⁴⁾	hammer	0,9	0,75	1,2
EN 771-2:2011+A1:2015			up to 15 %.				
Vertically perforated clay bricks,			Vertically				
HLz as per	≥ 1,2	20	perforation ⁴⁾	rotary	0,75 ¹⁾	-	-
EN 771-1:2011+A1:2015			>15% and ≤50%				
Vertically perforated clay bricks,			Vertically				
HLz as per	≥ 0,9	12	perforation ⁴⁾	rotary	0 ,6 ²⁾	0 , 5 ²⁾	-
EN 771-1:2011+A1:2015			>15% and ≤50%				
Vertically perforated clay bricks,			Vertically				
HLz as per	≥ 0,8	12	perforation ⁴⁾	rotary	-	-	0,752)
EN 771-1:2011+A1:2015			>15% and ≤50%				
Sand-lime perforated bricks,			Vertically				
KSL as per	≥ 1,4	12	perforation ⁴⁾	rotary	0,9 ³⁾	0,75 ³⁾	1,2 ³⁾
EN 771-2:2011+A1:2015			>15% and ≤50%				
lightweight aggregate concrete,							
LAC as per EN 1520:2011,	≥ 1,2	4		hammer	0,9	1,2	1,1
EN 771-3:2011+A1:2015							
Autoclaved aerated concrete as							
per EN 771-4:2011 +A1:2015	≥ 0,6	4		rotary	0,5	0,5	0,9

¹⁾ The value applies only for outer web thickness ≥ 14 mm; otherwise the characteristic resistance shall be determined by job site pull-out tests.

²⁾ The value applies only for outer web thickness ≥ 11 mm; otherwise the characteristic resistance shall be determined by job site pull-out tests.

³⁾ The value applies only for outer web thickness ≥ 20 mm; otherwise the characteristic resistance shall be determined by job site pull-out tests.

⁴⁾ Cross section reduced by perforation vertically to the resting area

EJOT H1 eco, EJOT H4 eco and ejotherm H1

Performances Characteristic resistance Annex C 1



anchor type		insulation thickne h _D		mal transmittance	
				χ	
		[mm]		[Ŵ/K]	
ЕЈОТ Н1 есо		60 – 260		0,001	
	[mm]		[kN]		
EJOT H1 eco	60	1,4		0,6	
Table C4: Displace	ments EJOT H1 eco				
Table C4: Displace Base materials	ements EJOT H1 eco Bulk	minimum	Tension load	Displacements	

Base materials	Bulk density ρ [kg/dm³]	minimum compressive strength f₀ [N/mm²]	Tension load N [kN]	Displacements Δδ _N [mm]
Concrete C 12/15 – C 50/60 (EN 206:2013+A1:2016)			0,3	0,3
Clay bricks, Mz (EN 771-1:2011+A1:2015)	≥ 1 ,8	12	0,3	0,3
Sand-lime solid bricks, KS (EN 771-2:2011+A1:2015)	≥ 1 ,8	12	0,3	0,3
Vertically perforated clay bricks, HLz (EN 771-1:2011+A1:2015)	≥ 1 , 2	20	0,25	0,4
Vertically perforated clay bricks, HLz (EN 771-1:2011+A1:2015)	\geq 0,9	12	0,2	0,2
Sand-lime perforated bricks, KSL (EN 771-2:2011+A1:2015)	≥ 1,4	12	0,3	0,3
Lightweight aggregate concrete, LAC (EN 1520:2011 / EN 771-3:2011+A1:2015)	≥ 1 , 2	4	0,3	1,1
Autoclaved aerated concrete (EN 771-4:2011+A1:2015)	\geq 0,6	4	0,17	0,7

EJOT H1 eco, EJOT H4 eco and ejotherm H1

Performances Point thermal transmittance, plate

Point thermal transmittance, plate stiffness, displacements EJOT H1 eco

Annex C 2

Electronic copy of the ETA by DIBt: ETA-11/0192



Table C5: Point ther	mal transmitt	ance accordin	ng EOTA Technic	al Report TR 02	25:2016-0)5	
anchor type EJOT H4 eco			insulation thick	insulation thickness point		thermal transmittance	
		h _D [mm] 60 – 320			χ [W/K] 0,001		
Table C6: Plate stiffness according EOT anchor type diameter of the and [mm]			-	ical Report TR 026:2016-05 load resistance of the anchor plate [kN]		plate stiffness [kN/mm]	
anchor type		•	e load resista		r plate	•	
	L	-					
EJOT H4 eco		60		1,4		0,6	
Table C7: Displacen	nents EJOT H	l 4 eco Bulk	minimum	Tension load			
	50/00	density ρ [kg/dm³]	compressive strength f₀ [N/mm²]	N [kN]		Displacements Δδ _N [mm]	
Concrete C 12/15 – C (EN 206:2013+A1:20		density ρ	compressive strength				
Concrete C 12/15 – C (EN 206:2013+A1:20 Clay bricks, Mz (EN 771-1:2011+A1:2	16)	density ρ	compressive strength	[kN]		Δδ _N [mm]	
Concrete C 12/15 – C (EN 206:2013+A1:20 Clay bricks, Mz	16) 2015) s, KS	density ρ [kg/dm³]	compressive strength f₀ [N/mm²]	[kN] 0,25		Δδ _Ν [mm] 0,6	
Concrete C 12/15 – C (EN 206:2013+A1:20 Clay bricks, Mz (EN 771-1:2011+A1:2 Sand-lime solid bricks	16) 2015) s, KS 2015) Clay bricks,	density ρ [kg/dm³] ≥ 1,8	compressive strength f₀ [N/mm²] 12	[kN] 0,25 0,25		Δδ _N [mm] 0,6 0,4	

12

4

4

0,25

0,4

0,17

≥ 1,4

 \geq 1,2

 \geq 0,6

EJOT H1 eco, EJOT H4 eco and ejotherm H1

Sand-lime perforated bricks, KSL

(EN 771-2:2011+A1:2015) Lightweight aggregate concrete,

EN 771-3:2011+A1:2015) Autoclaved aerated concrete

(EN 771-4:2011+A1:2015)

LAC (EN 1520:2011 /

Performances Point thermal transmittance, plate stiffness, displacements EJOT H4 eco

Annex C 3

0,4

1,3

0,6



hD χ [mm] [W/K] ejotherm H1 $60 - 320$ $0,001$ Table C9: Plate stiffness according EOTA Technical Report TR 026:2016-05 anchor type diameter of the anchor plate [mm] load resistance of the anchor plate [kN] plate stiff	anchor type	mal transmittance according	insulation thick		thermal transmittance	
[mm] [W/K] ejotherm H1 60 – 320 0,001 Table C9: Plate stiffness according EOTA Technical Report TR 026:2016-05 anchor type diameter of the anchor plate [mm] load resistance of the anchor plate [kN] plate stiff						
Table C9: Plate stiffness according EOTA Technical Report TR 026:2016-05 anchor type diameter of the anchor plate load resistance of the anchor plate plate stiff [mm] [kN] [kN/m			[mm]			
anchor type diameter of the anchor plate [mm] load resistance of the anchor plate [kN] plate stiff [kN/m	jotherm H1		60 – 320		0,001	
ejotherm H1 60 1,4 0,6					ate plate stiffness	
		diameter of the anchor plate		nce of the anchor pla	ate plate stiffness [kN/mm]	
Table C10: Displacements ejotherm H1	anchor type	diameter of the anchor plate [mm]		nce of the anchor pla [kN]		
	anchor type	diameter of the anchor plate [mm] 60		nce of the anchor pla [kN]	[kN/mm]	
density compressive N	anchor type ejotherm H1 Fable C10: Displace	diameter of the anchor plate [mm] 60 ments ejotherm H1	e load resistar	nce of the anchor pla [kN] 1,4	[kN/mm]	
$ρ$ strength [kN] $Δδ_{N}$ [mm]	anchor type ejotherm H1 Fable C10: Displace	diameter of the anchor plate [mm] 60 <u>ments ejotherm H1</u> Bulk	e load resistar	nce of the anchor pla [kN] 1,4 Tension load	[kN/mm] 0,6	

Base materials	Bulk	minimum	Tension load N	Displacements
	density ρ [kg/dm³]	compressive strength f₀ [N/mm²]	[kN]	$\Delta\delta_{N}$ [mm]
Concrete C 12/15 (EN 206:2013+A1:2016)			0,3	0,6
Concrete C 20/25 – C 50/60 (EN 206:2013+A1:2016)			0,4	0,6
Clay bricks, Mz (EN 771-1:2011+A1:2015)	≥ 1 ,8	12	0,4	0,6
Sand-lime solid bricks, KS (EN 771-2:2011+A1:2015)	≥ 1 ,8	12	0,4	0,6
Vertically perforated clay bricks, HLz (EN 771-1:2011+A1:2015)	≥ 0 ,8	12	0,25	0,3
Sand-lime perforated bricks, KSL (EN 771-2:2011+A1:2015)	≥ 1 , 4	12	0,4	0,4
Lightweight aggregate concrete, LAC (EN 1520:2011 / EN 771-3:2011+A1:2015)	≥ 1 , 2	4	0,37	0,5
Autoclaved aerated concrete EN 771-4:2011+A1:2015)	≥ 0,6	4	0,3	0,4

EJOT H1 eco, EJOT H4 eco and ejotherm H4

Performances

Point thermal transmittance, plate stiffness, displacements ejotherm H1

Annex C 4