

ETICS anchors and accessories

Manual for facade experts

The trick with the click

- get the right anchor very quickly



How many anchors do I need for the fastening of facade insulation boards per square metre?

The calculation is not a problem anymore when using the ETICS anchor configurator – regardless if you do this from the office or mobile direct on the construction site.



The program is executed by means of a few questions. In a simple and quick manner, the user is given important answers, such as e.g., how can I find:








- the right anchor
- the necessary anchor length
- the number of anchors required
- recommended accessories

In doing so, the national requirements, standards and approvals are already considered. The ETICS anchor configurator is available for the following countries: Germany, Austria, Switzerland and France.

You can find indispensable orientation aid under:
www.wdvs-duebel.ejot.de


Anchor selection table

Anchor with European Technical Approval / Assessment (ETA)

		Insulation boards				Rail systems		Brick slip systems
								
		<i>ejotherm</i> STR U 2G P. 12	<i>ejotherm</i> STR H / A2 P. 18 / 20	EJOT H1 eco P. 28	<i>ejotherm</i> NTK U P. 30	<i>ejotherm</i> SDK U P. 36	<i>ejotherm</i> NK U P. 38	EJOT SDF-S <i>plus</i> 8UB P. 44
Normal weight concrete C 12/15 acc. to EN 206-1	A	●	-	●	●	●	●	-
Normal weight concrete C 16/20 - C 50/60 acc. to EN 206-1	A	●	-	●	●	●	●	●
Pre-cast concrete panels C 16/20 - C 50/60	A	●	-	○	○	●	○	-
Clay bricks (Mz) acc. to EN 771-1 / DIN 105	B	●	-	●	●	●	●	●
Solid lime sandstone (KS) acc. to EN 771-2 / DIN EN 106	B	●	-	●	●	●	●	●
Solid masonry of lightweight bricks (V) acc. to EN 771-3 / DIN 18152	B	●	-	○	○	●	●	-
Vertically perforated bricks (Hz) acc. to EN 771-1 / DIN 105	C	●	-	●	●	●	●	●
Vertically cored reference bricks (Hz) acc. to ÖNORM B 6124	C	●	-	-	-	●	-	-
Sand-lime sand bricks (KSL) acc. to EN 771-2 / DIN EN 106	C	●	-	●	●	●	●	●
Lightweight concrete hollow blocks (HbL) acc. to EN 771-3 / DIN 18151	C	●	-	○	○	●	●	●
Lightweight aggregate concrete (LAC) acc. to EN 1520	D	●	-	●	-	●	-	-
Autoclaved aerated concrete (AAC 2-AAC 7) acc. to EN 771-4	E	●	-	●	-	●	-	-
Timber and thin steel substrates (without ETA)		-	●	-	-	-	-	-


Fastening solutions for ceiling insulation

Ceiling insulation


EJOT DDS-Z
P. 48

Fastening solutions for special application cases with DiBt approval

Specialty solutions


EJOT VSD 8U-V
P. 60

Normal weight concrete acc. to EN 206-1	A	●
Pre-cast concrete panel envelope (concrete)	A	●
Clay bricks acc. to EN 771-1 / DIN 105	B	●
Solid lime sandstone acc. to EN 771-2 / DIN EN 106	B	●
Solid masonry or solid blocks of lightweight concrete acc. to EN 771-3 / DIN 18152	B	●
Vertically perforated clay bricks acc. to EN 771-1 / DIN 105	C	●
Sand-lime perforated bricks acc. to EN 771-2 / DIN EN 106	C	●
Lightweight concrete hollow blocks acc. to EN 771-3 / DIN 18151	C	●
Lightweight aggregate concrete acc. to TGL	D	●
Autoclaved aerated concrete acc. to EN 771-4	E	-
Autoclaved aerated concrete acc. to TGL	E	-

- Application ruled in the approval
- One-site test maybe required
- No approval

Screw-in anchor



Hammer-in anchor



Use categories

Secure solutions for every construction material

Which anchor do I need for which substrate? What do I do for mixed masonry? Our *ejothem* product range with European Technical Approval / Assessment (ETA) makes it easy for you.








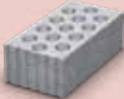

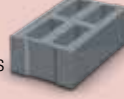
Moreover, you have a special programme with cost-efficient solutions at your hand.

Your advantages

- Easy anchor choice using a comprehensive product range
- Solutions for all insulating materials
- Reduced stock volume

Typical applications

- Rebuilding the stability of damaged ETICS
- Solutions for renovation
- Re-establishing the structural stability of existing pre-cast concrete panels

A	B	C	D	E
Normal weight concrete 	Clay bricks 	Vertically perforated clay bricks 	Lightweight aggregate concrete 	Autoclaved aerated concrete 
Pre-cast concrete panel 	Solid lime sandstone 	Sand-lime perforated bricks 		
	Solid masonry of lightweight concrete 	Lightweight concrete hollow blocks 		

Determining the required anchor lengths

Determining the required anchor length l_D :

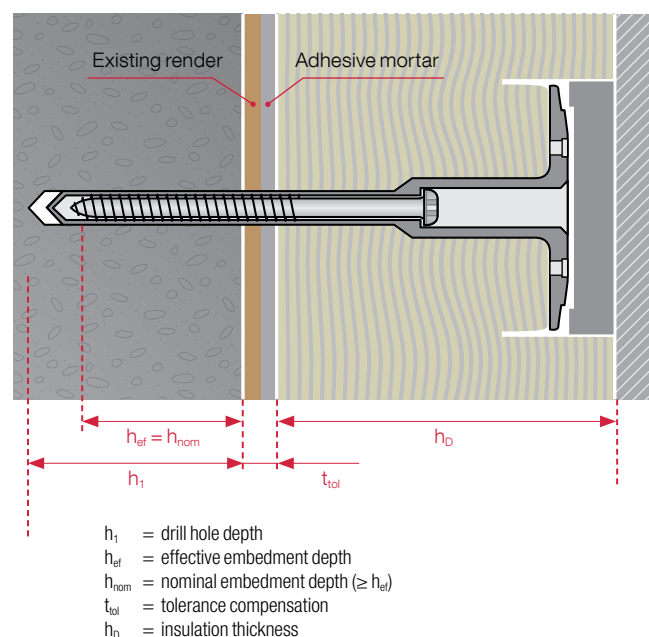
- effective embedment depth h_{ef}
- + tolerance compensation t_{tol}
- + insulation thickness h_D

Determining the tolerance compensation t_{tol} :

- non-load-bearing layers (thickness of existing render, wood-wool light weight boards, brick strip tiles etc., existing render is often 20 mm thick)
- + thickness of the adhesive mortar layer after pressing the insulation material onto the wall (generally, approx. 10 mm)*
- + additional compensation of uneven facade surfaces*

Notes:

- Building-specific conditions must always be considered
- As long as no other specifications are available, the nominal installation depth h_{nom} corresponds to the effective installation depth h_{ef}
- If larger uneven surface on the facade have to be compensated, different anchor lengths may be necessary
- Calculations also apply with the recessed assembly of the *ejothem STR U 2G* and *ejothem STR U*



* Facade tolerances are finally compensated by the actual overall thickness of the adhesive mortar layer.



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We EJOT Service – The quick
take it way to success
personally



We pride ourselves on working closely with developers and system suppliers, allowing for the optimum fixing solution to be chosen each time.

For this reason you can be assured that EJOT will provide you with the right product for the right application - if you'd like, we'll be happy to demonstrate it on site for you.

Exemplary service:

- Personal customer service representative - also at the construction site
- Anchor pull-out tests at the construction site
- Expert advice over the phone
- Support for invitation to tender
- Fast and reliable delivery service
- Training courses for fastening technologies



The way to turn rooms into living space

For more than 30 years we have been developing new and innovative fastening solutions for the building envelope. Drawn from our experience, it continues to benefit our customers year on year.

1) Industrial Lightweight Construction

High-quality fasteners for fixing profiled sheets and sandwich panels in the industrial light weight construction

2) External Thermal Insulation Composite Systems

Special anchors and accessories for fixing insulation for external wall systems

3) Rear Ventilated Facades

Screws and anchors for fixing substructures and facade cladding of rear ventilated systems

4) Flat Roofing

Fastening and installation tools for the efficient attachment of insulation and waterproofing membrane for both flat and tapered roofs

5) Industrial Window and Facade Technique

High quality fasteners for window and door production and use in aluminium/glass facade systems

6) Fastening Systems for Solar Installations

For fastening elevated solar and photovoltaic installations





We have a strong commitment...

for sustainability – EJOT EPD

Environmental protection and the sustainable use of resources are amongst the most important future projects. Sustainability is becoming more and more important for the building and real estate industry.

Buildings are assessed under ecological aspects such as energy efficiency and resource consumption etc. In particular public awarding authorities include these criteria into their contracts.

In terms of future building product acts, certificates regarding the basic demands "hygiene, environment, health protection" and "sustainable use of natural resources" will be required. EJOT, as a leading company in the field of ETICS fasteners, has responded to these requirements.

Being a leading company for ETICS fastenings, EJOT takes over the responsibility and being the first, have installed an Environmental Product Declaration (EPD). The EPD informs about products from them being manufactured up until their "End of Life". In the life cycle assessment, impacts on the environment are represented neutrally and transparent.

Certification according to EN 15804 / ISO 14025 is carried out by the institute "Bauen und Umwelt" (Construction and Environment). Being the only organisation in Germany, the IBU prepares and issues internationally valid EPD's.

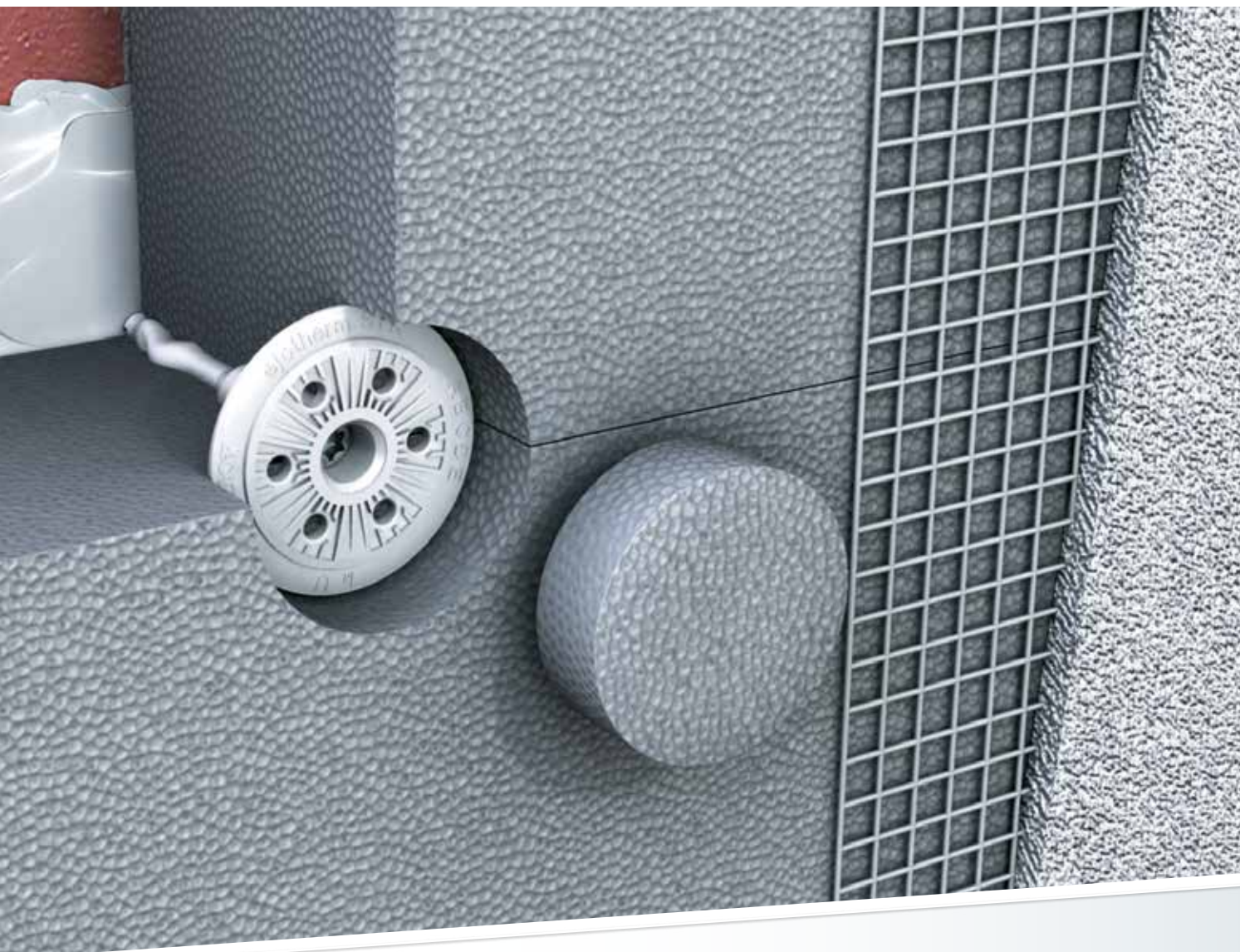
The EPD makes a substantial contribution to the classification of buildings in the scope of sustainable construction.





For every application

the correct fastening



Fastening of insulation boards

Fastening of rail systems

Fastening of brick slip systems

Fastening of ceiling insulation boards

Fastening solutions for mounted products

Fastening solutions for special applications

EJOT Tools

EJOT Anchor guide

ejoth^{erm} Washer anchor

Profit from one of the most perfect insulation fixing concepts on the market. The washer anchor from the *ejoth^{erm}* product range offers the perfect connection for all construction and insulating materials. That guarantees technically innovative functional principles and requirements matched precisely to the individual products.

ejoth^{erm} – well connected in all cases

- Fastening solutions for all insulating types
- Highly resistant with minimum installation depth
- Simple and quick to use
- Safe, thanks to a 100% setting control
- Suitable for most substrates and applications
- Less anchor consumption, standardised drill diameter
- With European Technical Approval / Assessment (ETA)
- Amazingly invisible thanks to the EJOT STR principle



The fascinating solution

The EJOT STR principle for flawless surfaces

We invented the EJOT STR principle for the perfect, homogeneous insulating surface. The safe fastening of the insulation is achieved in four simple and quick steps, and you see nothing of it.

- Automatically countersinks the anchor
- No rework, no subsequent skimming
- Pre-mounted, less assembly time
- For countersunk and surface fixed installation
- For insulating material thicknesses up to 400 mm

With *ejothem* STR U 2G and STR U, you can fix to all building material classes and with all insulating materials. Use *ejothem* STR H for fixing to timber. The installation is flexible depending on your requirements. Either surface fixed or countersunk, the *ejothem* STR caps and plugs are used to isolate the anchor in situ.

The selection wheel shows the different options. ▶



Efficiency in 4 steps:



Quick drilling thanks to reduced drill depth



Insert the anchor with pre-mounted screw into the drill hole until the washer rests slightly on the surface



Fastening with the *ejotherm* STR-tool 2GS: countersinking happens automatically (no milling, no dust)



Using a float, or flat object to insert the *ejotherm* STR insulation cap flush with the surface - ready



ejothem STR U 2G

Universal screw-in anchor for countersunk and surface fixed installation

- Approved for all building material categories (A, B, C, D, E)
- Countersunk installation - EJOT STR principle with *ejothem* STR cap for homogeneous surfaces and even rendering - quick and easy without milling dust
- Up to 40% faster installation
- Reduced thermal bridges (0.001 W/K)
- Surface fixed installation using *ejothem* STR plugs
- Shortest embedment depths, highest loads for maximum safety and economic anchor usage
- Permanent contact pressure
- Pre-mounted screw for quick installation
- 100 % setting control: the countersunk installation of the washer indicates safe anchorage

Notes on *ejothem* STR U:

Universal screw-in anchor *ejothem* STR U (first generation) is still available in the lengths 115 to 295 mm.



Technical data	
Anchor nominal diameter	8 mm
Washer diameter	60 mm
Drill hole depth, countersunk installation $h_1 \geq$	50 mm (90 mm)
Drill hole depth, surface fixed installation $h_2 \geq$	35 mm (75 mm)
Embedment depth $h_{ef} \geq$	25 mm (65 mm)
Screw drive	TORX T30
Point thermal transmission χ countersunk installation	0.001 W/K
Point thermal transmission χ surface fixed installation	0.002 W/K
Use categories acc. to ETA*	A, B, C, D, E
German DIBt Approval	Z-21.2-1769
European Technical Approval	ETA-04/0023

Values in parentheses: anchoring in aerated concrete (use category E)

*Specification according to ÖNORM B 6124 for concrete, solid brick and vertical brick



EJOT
STR principle

ejothem

B 6124



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Building materials, sorted according to use categories and design loads

For calculation of design loads the national safety factors have to be included (e.g., Germany: 3). Please observe the approval.

Minimum requirements on the raw density and compression strength of stone according to the approval.

Characteristic loads		
A	Normal weight concrete C 12/15 acc. to EN 206-1	1.5 kN
A	Normal weight concrete C 16/20 - C 50/60 acc. to EN 206-1	1.5 kN
A	Pre-cast concrete panel C 16/20 - C 50/60	1.5 kN
B	Clay bricks (Mz) acc. to EN 771-1 / DIN 105	1.5 kN
B	Solid lime sandstone (KS) acc. to EN 771-2 / DIN EN 106	1.5 kN
B	Solid masonry of lightweight concrete (V) acc. to EN 771-3 / DIN 18152	0.6 kN
C	Vertically perforated clay bricks (Hz) acc. to EN 771-1 / DIN 105	1.2 kN
C	Vertically cored reference bricks (Hz) acc. to ÖNORM B 6124	0.75 kN
C	Sand-lime perforated bricks (KSL) acc. to EN 771-2 / DIN EN 106	1.5 kN
C	Lightweight concrete hollow blocks (HbL) acc. to EN 771-3 / DIN 18151	0.6 kN
D	Lightweight aggregate concrete (LAC) acc. to EN 771-4	0.9 kN
E	Autoclaved aerated concrete (AAC 4 - AAC 7) acc. to EN 771-4	0.75 kN

Application matrix for the use categories A to D, embedment depth = 25 mm

- Sample setting is required for perforated block
- Drilling-out is necessary: use a drill with Ø 10 mm, drill 40 mm deep into the tolerance layer
- Only surface fixed

Insulation thickness (mm)	To allow for differences in thicknesses of build up (adhesive and existing render)					
	10	30	50	70	90	100
60	115 ^{1), 3)}	115 ³⁾	135 ³⁾	155 ^{2), 3)}		
80	115	135	155	175 ^{2), 3)}	195 ^{2), 3)}	
100	135	155	175	195	215 ^{2), 3)}	235 ^{2), 3)}
120	155	175	195	215	235	255
140	175	195	215	235	255	275 ³⁾
160	195	215	235	255	275	295
180	215	235	255	275	295	315
200	235	255	275	295	315	335
220	255	275	295	315	335	355
240	275	295	315	335	355	375
260	295	315	335	355	375	395
280	315	335	355	375	395	415
300	335	355	375	395	415	435
320	355	375	395	415	435	455
340	375	395	415	435	455	
360	395	415	435	455		
380	415	435	455			
400	435	455				
420	455					

Application matrix with use category E, embedment depth = 65 mm

- Drilling-out is necessary: use a drill with Ø 10 mm, drill 40 mm deep into the tolerance layer
- Only surface fixed

Insulation thickness (mm)	To allow for differences in thicknesses of build up (adhesive and existing render)		
	10	30	50
60	135 ³⁾	155 ^{2), 3)}	
80	155	175 ^{2), 3)}	195 ^{2), 3)}
100	175	195	215 ^{2), 3)}
120	195	215	235
140	215	235	255
160	235	255	275
180	255	275	295
200	275	295	315
220	295	315	335
240	315	335	355
260	335	355	375
280	355	375	395
300	375	395	415
320	395	415	435
340	415	435	455
360	435	455	
380	455		

Fastening of insulation boards

Fastening of rail systems

Fastening of brick slip systems

Fastening of ceiling insulation boards

Fastening solutions for mounted products

Fastening solutions for special applications

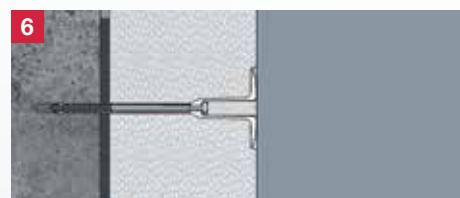
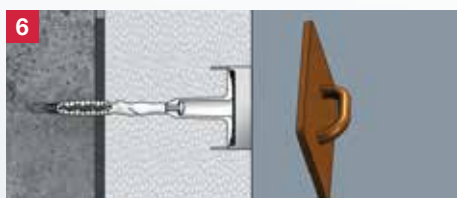
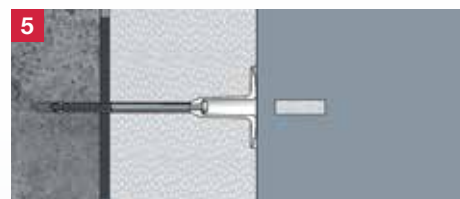
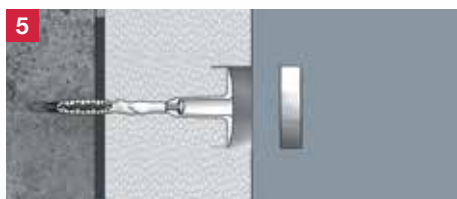
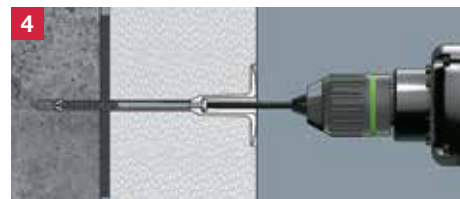
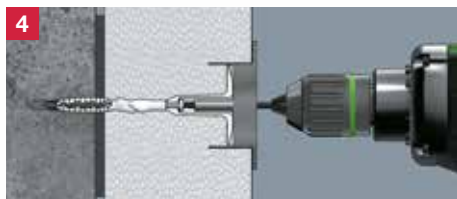
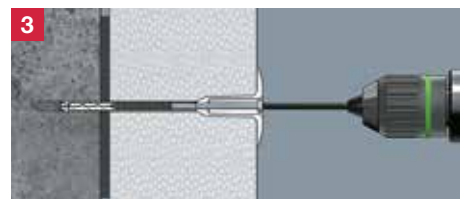
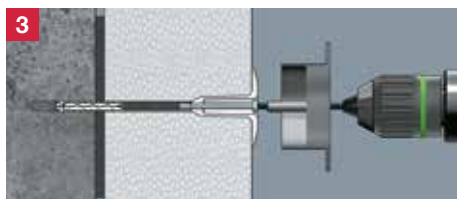
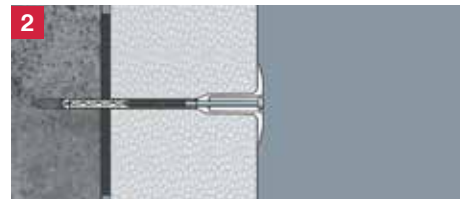
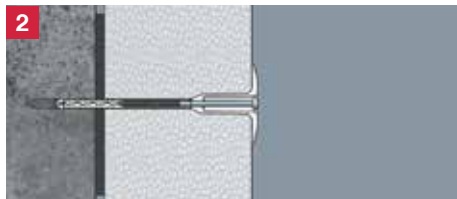
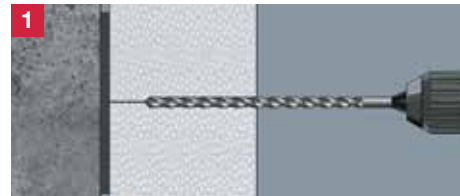
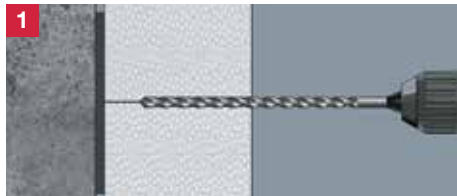
EJOT Tools

EJOT Anchor guide

ejothem STR installation

Countersunk installation using
EJOT STR principle with *ejothem* STR cap

Surface fixed installation
with *ejothem* STR plug



Installation animation
EJOT STR principle

ejotherm STR accessories

A broad range of accessories is available for the *ejotherm STR U 2G* product group



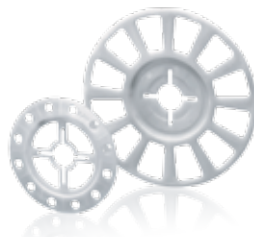
STR caps and plugs
Page 24



STR-tool 2GS and accessories
Page 25 and 73



VT 2G combi washer
Page 16



Combi washer
Page 33



STR renovation cutter
Page 27 and 75

Product range			
Product name and length (mm)	Article number	Packaging unit (pcs)	Palett unit (pcs)
ejotherm STR U 2G 115	8719 115 400	100	5,000
ejotherm STR U 2G 135	8719 135 400	100	4,000
ejotherm STR U 2G 155	8719 155 400	100	4,000
ejotherm STR U 2G 175	8719 175 400	100	3,000
ejotherm STR U 2G 195	8719 195 400	100	3,000
ejotherm STR U 2G 215	8719 215 400	100	3,000
ejotherm STR U 2G 235	8719 235 400	100	2,000
ejotherm STR U 2G 255	8719 255 400	100	2,000
ejotherm STR U 2G 275	8719 275 400	100	2,000
ejotherm STR U 2G 295	8719 295 400	100	2,000
ejotherm STR U 2G 315	8719 315 400	100	2,000
ejotherm STR U 2G 335	8719 335 400	100	2,000
ejotherm STR U 2G 355	8719 355 400	100	1,600
ejotherm STR U 2G 375	8719 375 400	100	1,600
ejotherm STR U 2G 395	8719 395 400	100	1,600
ejotherm STR U 2G 415	8719 415 400	100	1,600
ejotherm STR U 2G 435	8719 435 400	100	1,600
ejotherm STR U 2G 455	8719 455 400	100	1,600

Note: Always use in combination with the *ejotherm STR* caps or plugs.



ejothem VT 2G

Combi washer for countersunk installation in mineral wool insulation boards and phenolic boards

The *ejothem* VT 2G continues to promote the countersunk installation according to the EJOT STR principle.

By the combination with *ejothem* STR U 2G, an even and homogeneous render surface can now also be produced for the processing of mineral wool insulation systems with low lateral tensile strength and now in Kingspan Kooltherm K5 phenolic boards. The risk of anchor marks is thus clearly reduced. Countersinking of the combination washer signals secure installation into the substrate.

Processing of the *ejothem* VT 2G in combination with *ejothem* STR U 2G is carried out without additional installation tools.

- Specifically matched combination washer for *ejothem* STR U 2G for countersunk installation into all mineral wool-insulation boards with minimal lateral tensile strength WAP-zg (type WV) and phenolic board Kingspan Kooltherm K5
- For homogeneous surfaces and even redering due to the EJOT STR principle
- Low point thermal transmission (chi value 0.001 W/K)
- Reduced anchor marks
- Permanent contact pressure
- Easy installation with click-system
- No additional installation tool required
- 100% setting control



Technical data

Washer diameter	110 mm
DiBt approval	Z-21.2-1769
European Technical Approval	ETA-04/0023

Note, number of anchors

The quantity of anchors can be found in the mineral wool approvals for washers ≥ 90 mm.



ejothem[®]

B 6124

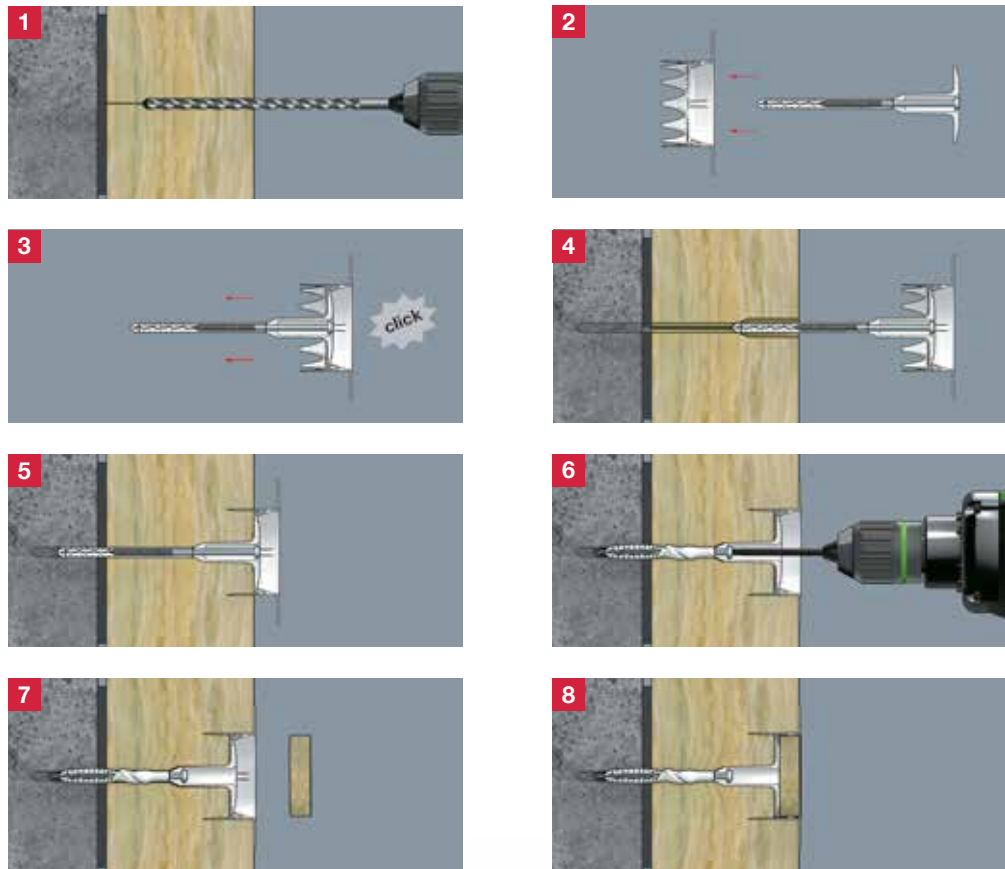


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Installation

Countersunk installation acc. to the EJOT STR principle with *ejothem* STR cap MW



Installation animation
ejothem VT 2G

Accessories

The following accessories are available for *ejothem* VT2G:



STR caps MW
Page 24



STR caps RHS
Page 24

Product range			
Product name	Article number	Packaging unit (pcs)	Palett unit (pcs)
<i>ejothem</i> VT 2G	8782 090 008	100	1,600

Note: Always use with the *ejothem* STR caps MW or STR caps RHS.



ejotherm STR H

Screw fastener for countersunk and surface fixed installation for timber and some steel substrates

- For timber and steel (max. 0.75 mm) substrates
- Countersunk installation - EJOT STR principle with *ejotherm* STR cap for homogeneous surfaces and even rendering - quick and easy without milling dust
- No pre-drilling necessary
- Surface fixed installation using *ejotherm* STR plugs
- Permanent contact pressure
- Pre-mounted screw for quick installation
- 100 % setting control: the countersunk installation of the washer indicates safe anchorage



Technical data

Screw diameter	6 mm
Washer diameter	60 mm
Screw-in depth	30 - 40 mm
Screw drive	TORX T25
Point thermal transmission χ countersunk installation in timber substrates	0.001 W/K
Point thermal transmission χ surface fixed installation in timber substrates	0.002 W/K



EJOT
STR principle

ejotherm[®]

B 6124



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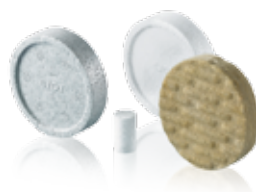
Building materials, and recommended loads

The recommended use loads are calculated with a safety factor of 3. They may differ acc. to the object.

Recommended use loads	
Wood fibreboards (thickness ≥ 17.0 mm)	0.25 kN
Chipboards (thickness ≥ 13.0 mm)	0.25 kN
Gypsum-fibreboards (thickness ≥ 12.5 mm)	0.15 kN
OSB plates (thickness ≥ 16.0 mm)	0.25 kN
Solid wood plates (thickness ≥ 27 mm)	0.25 kN

Accessories

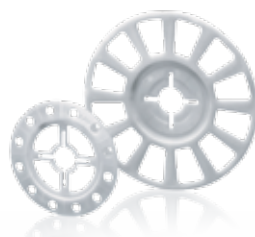
A broad range of accessories is available for the *ejothem* STR H product group:



STR caps and plugs
Page 24



STR-tool 2GS and accessories
Page 25 and 73



Combi washer
Page 33



STR renovation cutter
Page 27 and 75

Installation

See installation procedure for surface fixed and / or countersunk installation on page 22

Product range					
Countersunk installation Insulation (mm)	Surface fix installation Insulation (mm)	Product name and length (mm)	Article number	Packaging (pcs)	Palett unit (pcs)
-	40	<i>ejothem</i> STR H 080	8711 080 400	100	7,200
-	60	<i>ejothem</i> STR H 100	8711 100 400	100	7,200
80	80	<i>ejothem</i> STR H 120	8711 120 400	100	7,200
100	100	<i>ejothem</i> STR H 140	8711 140 400	100	7,200
120	120	<i>ejothem</i> STR H 160	8711 160 400	100	7,200
140	140	<i>ejothem</i> STR H 180	8711 180 400	100	4,800
160	160	<i>ejothem</i> STR H 200	8711 200 400	100	4,800
180	180	<i>ejothem</i> STR H 220	8711 220 400	100	4,800
200	200	<i>ejothem</i> STR H 240	8711 240 400	100	4,800
220	220	<i>ejothem</i> STR H 260	8711 260 400	100	3,000
240	240	<i>ejothem</i> STR H 280	8711 280 400	100	3,000
260	260	<i>ejothem</i> STR H 300	8711 300 400	100	3,000

Note: Always use in combination with *ejothem* STR caps or *ejothem* STR plugs respectively.



*ejoth*erm STR H A2

Stainless steel fastener for corrosion-resistant fixing of ETICS to timber

- With general building authorities approval
- For fastening of ETICS comprising phenolic and mineral wool insulating boards on timber substrates or wooden chipboard
- Corrosion-free fastening
- Fastener, consisting of an A2 stainless steel screw with hardened drill point
- Countersunk installation - EJOT STR principle with *ejoth*erm STR cap for homogeneous surfaces and even rendering - quick and easy without milling dust
- Countersunk installation in mineral wool insulating boards WAP-zg (Type WV) in combination with *ejoth*erm VT 2G
- Surface fixed installation using *ejoth*erm STR plugs
- No pre-drilling necessary
- Permanent contact pressure
- 100 % setting control: the countersunk installation of the washer indicates safe anchorage



Technical data

Screw diameter	6 mm
Washer diameter	60 mm
Screw-in depth	30 - 40 mm
Screw drive	TORX T25
Point thermal transmission χ countersunk installation	0.001 W/K
Point thermal transmission χ surface fixed installation	0.002 W/K
DiBt approval	Z-9.1-822



*ejoth*erm®
STR principle



Tensile strength from the substrate

Detailed information about the substrates can be found in the general building authorities approval.

The options for structural fastening can be found in the specification sheet.

Solid timber or wooden chipboard	Minimum screw-in depth	Designed load $F_{ax,90,RD}$
Solid wood, laminated timber, laminated beams or cross laminated timber made of softwood	35 mm or 24 mm (through bolted joint)	0.94 kN
OSB boards	15 mm (through bolted joint)	0.56 kN
Synthetic resin bonded chipboard	16 mm (through bolted joint)	0.56 kN
Cement bonded chipboard	16 mm (through bolted joint)	0.56 kN

Accessories

A broad range of accessories is available for the *ejotherm* STR H A2 product group:



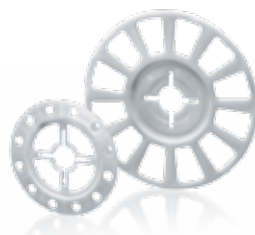
STR caps and plug
Page 24



STR-tool 2GS and accessories
Page 25 and 73



VT 2G combi washer
Page 16



Combi washer
Page 33



STR renovation cutter
Page 27 and 75

Product range				
Countersunk installation ¹⁾ Insulation (mm)	Surface fixed installation Insulation (mm)	Product name and length (mm)	Article number	Packaging (pcs)
-	40	<i>ejotherm</i> STR H A2 080	8711 080 666	100
-	60	<i>ejotherm</i> STR H A2 100	8711 100 666	100
80	80	<i>ejotherm</i> STR H A2 120	8711 120 666	100
100	100	<i>ejotherm</i> STR H A2 140	8711 140 666	100
120	120	<i>ejotherm</i> STR H A2 160	8711 160 666	100
140	140	<i>ejotherm</i> STR H A2 180	8711 180 666	100
160	160	<i>ejotherm</i> STR H A2 200	8711 200 666	100
180	180	<i>ejotherm</i> STR H A2 220	8711 220 666	100

¹⁾ The respective system / mineral wool approvals must be observed.

Note: The screw is not pre-mounted. Always use with the *ejotherm* STR cap or *ejotherm* STR plugs.

Fastening of insulation boards

Fastening of rail systems

Fastening of brick slip systems

Fastening of ceiling insulation boards

Fastening solutions for mounted products

Fastening solutions for special applications

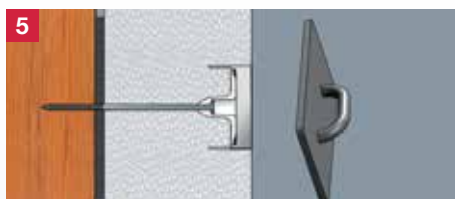
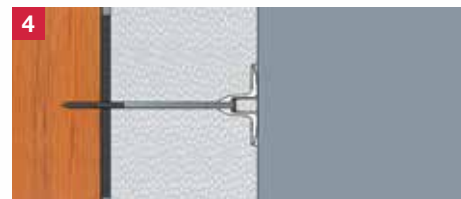
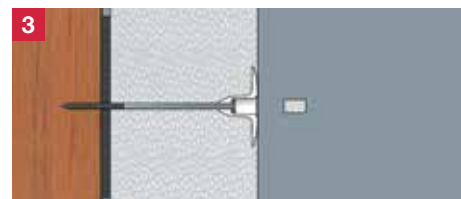
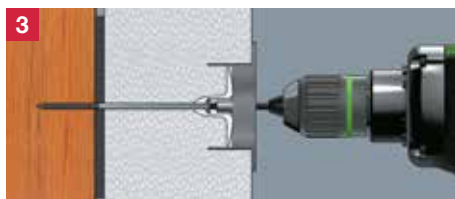
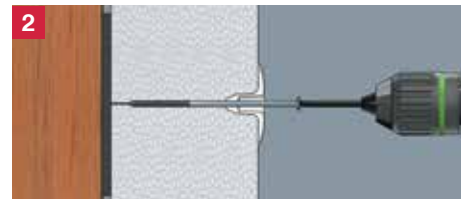
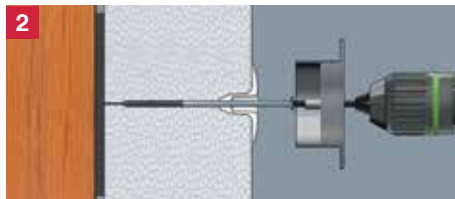
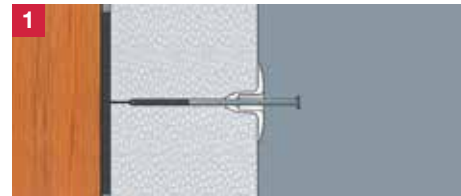
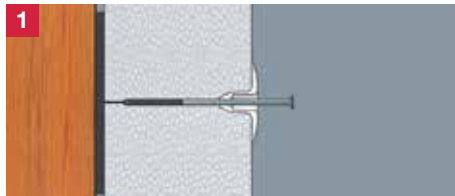
EJOT Tools

EJOT Anchor guide

Installation *ejotharm* STR H & STR H A2

Countersunk installation acc. to the EJOT STR principle with *ejotharm* STR cap

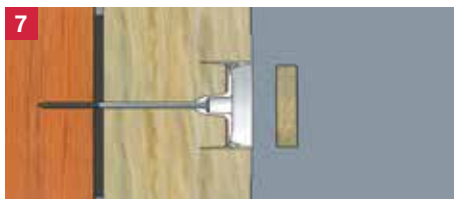
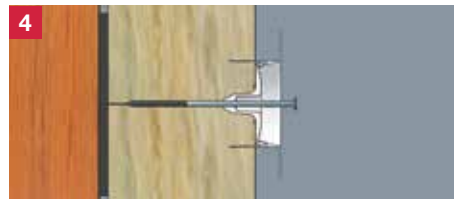
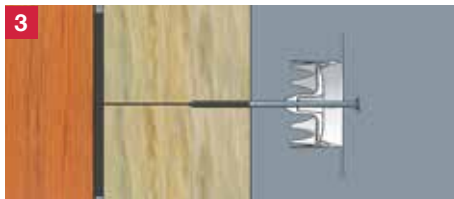
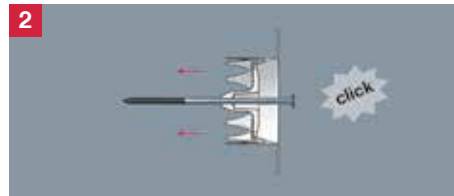
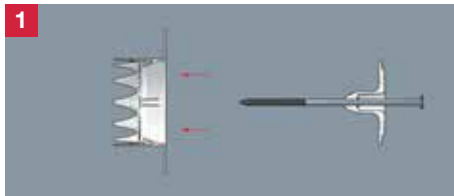
Surface fix installation with *ejotharm* STR plug



Installation animation
EJOT STR principle

Installation *ejotharm* STR H A2 & VT 2G

Countersunk installation in mineral wool insulating boards WAP-zg (Type WV)
acc. to the EJOT STR principle with *ejotharm* STR cap



Installation animation
ejotharm VT 2G



ejothem STR accessories



ejothem STR cap EPS

- Specially developed polystyrene (EPS) isolation cap
- To be used with *ejothem* STR U 2G, *ejothem* STR U, *ejothem* STR H and *ejothem* STR H A2
- Colours: white or grey

Product range

Product name	Article number	Pcs / packing	Pcs / pallet
<i>ejothem</i> STR cap EPS white	8593 000 093	100	8,000
<i>ejothem</i> STR cap EPS grey	8593 111 070	100	8,000



ejothem STR cap MW

- Specially developed mineral wool isolation cap
- To used with *ejothem* STR U 2G, *ejothem* VT 2G, *ejothem* STR U, *ejothem* STR H and *ejothem* STR H A2

Product range

Product name	Article number	Pcs / packing	Pcs / pallet
<i>ejothem</i> STR cap mineral wool (MW)	8593 000 098	100	8,000



ejothem STR cap RHS

- Special phenolic isolation cap
- To used with *ejothem* STR U 2G, *ejothem* VT 2G, *ejothem* STR U, *ejothem* STR H and *ejothem* STR H A2

Product range

Product name	Article number	Pcs / packing	Pcs / pallet
<i>ejothem</i> STR cap (RHS)	8593 112 030	100	8,000



ejothem STR-Plug

- Special polystyrene (EPS) isolation plug
- To used with *ejothem* STR U 2G, *ejothem* STR U for surface fixed installation
- *ejothem* STR H plug is included in the packaging of *ejothem* STR H

Product range

Produkt name	Article number	Pcs / packing	Pcs / pallet
<i>ejothem</i> STR plug	8709 033 000	500	96,000

ejothem STR accessories



ejothem STR-tool 2GS

- Specially developed tool for countersunk installation of *ejothem* STR U 2G
- Also compatible for use with *ejothem* STR U, STR H and STR H A2
- Adjustment shaft with hex shank for easy use with standard drill chucks
- Patented mechanism enables quick and easy adjustment to the required anchor length
- EJOT STR principle ensures a reliable installation each time
- Easy conversion from *ejothem* STR-tool 2GS for surface fixed installation
- Robust design for long service life
- Worn parts can be changed quickly
- Set comprises: *ejothem* STR-tool 2GS, additional cutting discs, offset screw driver as well as screw bits for all applications

Product range

Product name	Article number	Pcs / packing
<i>ejothem</i> STR-tool 2GS	9129 000 000	1



ejothem adjustment shaft SDS-plus

- Alternative adjustment shaft with SDS-plus holder for *ejothem* STR-tool 2GS

Product range

Product name	Article number	Pcs / packing
<i>ejothem</i> adjustment shaft SDS-plus	9129 000 005	1



ejothem adjustment shaft hex shank SW 10x160

- Replacement adjustment shaft with hex shank holder for *ejothem* STR-tool 2GS

Product range

Product name	Article number	Pcs / packing
<i>ejothem</i> adjustment shaft hex shank SW 10x160	9129 000 004	1

Fastening of insulation boards

Fastening of rail systems

Fastening of brick slip systems

Fastening of ceiling insulation boards

Fastening solutions for mounted products

Fastening solutions for special applications

EJOT Tools

EJOT Anchor guide

ejothem STR accessories



ejothem STR-tool spare kit

- To replace worn parts of the *ejothem* STR-tools 2GS
- Set contains: 3 cutting discs, 3 bits TX30 for the countersunk installation of *ejothem* STR U 2G and *ejothem* STR U

Product range

Product name	Article number	Pcs / packing
<i>ejothem</i> STR tool spare kit	9151 910 000	1



ejothem STR tool spare bits

- For the countersunk installation of *ejothem* STR U 2G and *ejothem* STR U: *ejothem* STR-Bit TX30-M8 x 52
- For surface fixed installation of *ejothem* STR U 2G and *ejothem* STR U: *ejothem* STR-Bit TX30-1/4" x 200
- For the countersunk installation of *ejothem* STR H: *ejothem* STR-Bit TX25-M8 x 31
- For surface fixed installation of *ejothem* STR H: *ejothem* STR-Bit TX25-1/4" x 70

Product range

Product name	Article number	Pcs / packing
<i>ejothem</i> STR-Bit TX30-M8 x 52	9151 900 013	1
<i>ejothem</i> STR bit TX30-1/4" x 200	9253 014 200	1
<i>ejothem</i> STR special bit TX25-M8 x 31	9151 900 012	1
<i>ejothem</i> STR bit TX30-1/4" x 70	9250 251 470	1

***ejoth*erm STR accessories**



***ejoth*erm STR renovation cutter**

- For additional anchor support in existing ETICS facades: Cost-effective retrofitting for ETICS allowing for additional anchors to be used
- Avoids the removal of the existing system, in most cases
- Using of the EJOT STR technology:
 1. cut through the existing render layer with the *ejoth*erm STR renovation cutter
 2. install the *ejoth*erm STR U 2G / STR U with the *ejoth*erm STR-tool 2GS
 3. insert the STR cap to obtain an even plaster base
 4. finish by applying the final render coat



Product range

Product name	Article number	Pcs / packing
<i>ejoth</i> erm STR renovation cutter	9151 940 000	1

Fastening of insulation boards

Fastening of rail systems

Fastening of brick slip systems

Fastening of ceiling insulation boards

Fastening solutions for mounted products

Fastening solutions for special applications

EJOT Tools

EJOT Anchor guide



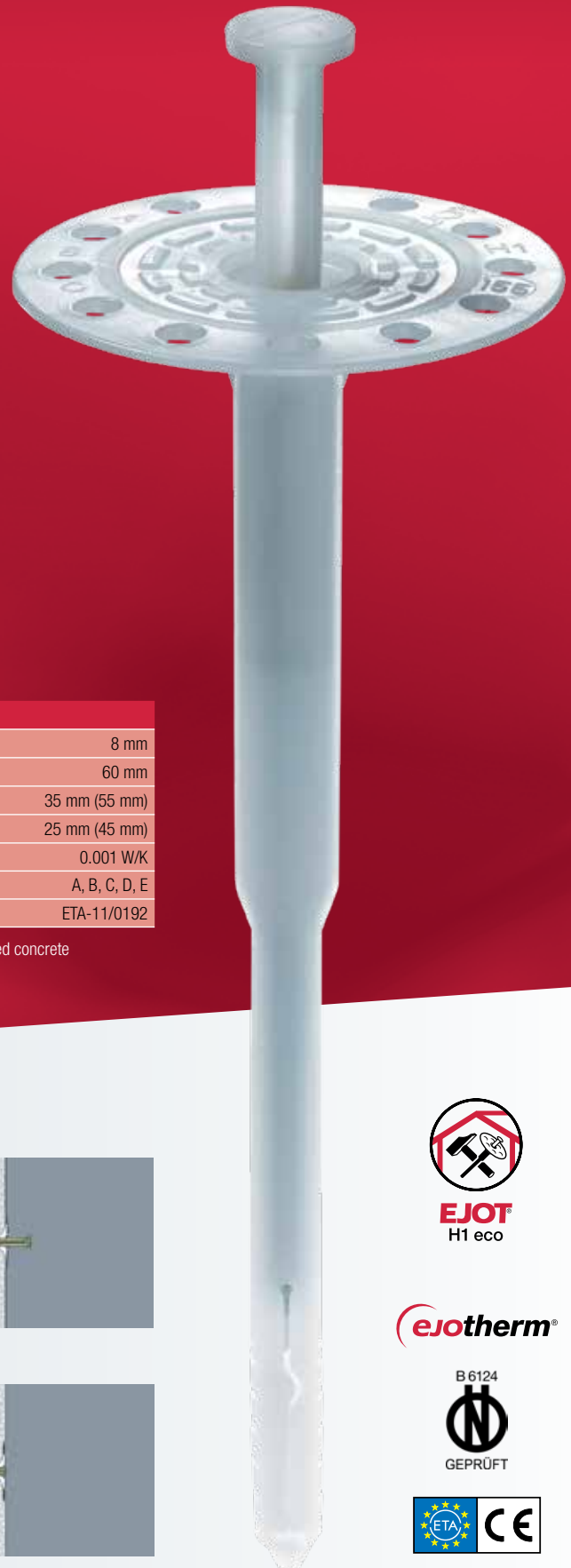
EJOT H1 eco

Universal hammer-in anchor
for all substrates

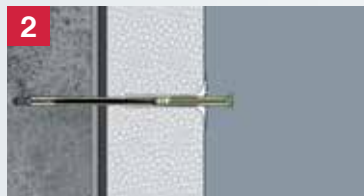
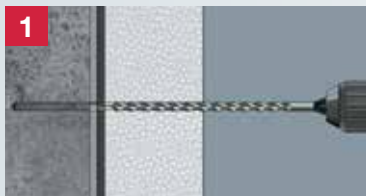
- Approved for all building material categories (A, B, C, D, E)
- Solid steel nail (break-proof)
- Low profile washer face
- Plastic injection element to reduce thermal transmission (0.001 W/K)
- Can be used with an additional spreader washer
- Short embedment depth, reduced drilling
- High loads for your security
- Economic anchor usage
- Pre-mounted nail for quick installation

Technical Data	
Anchor nominal diameter	8 mm
Washer diameter	60 mm
Drill hole depth $h_1 \geq$	35 mm (55 mm)
Embedment depth $h_{ef} \geq$	25 mm (45 mm)
Point thermal transmission	0.001 W/K
Use categories acc. to ETA	A, B, C, D, E
European Technical Assessment	ETA-11/0192

Values in parentheses: anchoring in lightweight aggregate concrete and autoclaved aerated concrete (use categories D, E)



Installation



Building materials, sorted according to use categories and design loads

For calculation of design loads the national safety factors have to be included (e.g., Germany: 3). Please observe the approval.

Minimum requirements on the raw density and compression strength of stone according to the approval.

Characteristic loads		
A	Normal weight concrete C 12/15 acc. to EN 206-1	0.9 kN
A	Normal weight concrete C 20/25 - C 50/60 acc. to EN 206-1	0.9 kN
B	Clay bricks (Mz) acc. to EN 771-1 / DIN 105	0.9 kN
B	Solid lime sandstone (KS) acc. to EN 771-2 / DIN EN 106	0.9 kN
C	Vertically perforated clay brick (Hz) acc. to EN 771-1 / DIN 105, bulk density $\geq 1.2 \text{ kg/dm}^3$	0.75 kN
C	Vertically perforated clay brick (Hz) acc. to EN 771-1 / DIN 105, bulk density $\geq 0.9 \text{ kg/dm}^3$	0.6 kN
C	Sand-lime perforated bricks (KSL) acc. to EN 771-2 / DIN EN 106	0.9 kN
D	Lightweight aggregate concrete (LAC 4 - LAC 25) acc. to EN 1520	0.9 kN
E	Autoclaved aerated concrete (AAC 4 - AAC 7) acc. to EN 771-4	0.5 kN

Application matrix with use categories A to C, embedment depth = 25 mm

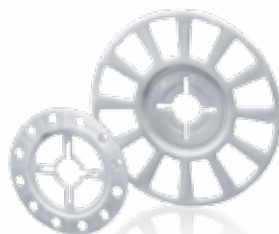
Application matrix with use categories D and E, embedment depth = 45 mm

1) If embedment depth h_{ef} 45 mm for perforated block, we recommend confirmation by on-site testing

Insulation thickness (mm)	To allow for differences in thicknesses of build up (adhesive and existing render)											
	Embedment depth = 25 mm						Embedment depth = 45 mm					
	10	30	50	70	90	110	10	30	50	70	90	110
40	095 ¹⁾	095					095					
60	095	115	135				115	135				
80	115	135	155	175	195		135	155	175	195		
100	135	155	175	195	215	235	155	175	195	215	235	
120	155	175	195	215	235	255	175	195	215	235	255	275
140	175	195	215	235	255	275	195	215	235	255	275	295
160	195	215	235	255	275	295	215	235	255	275	295	
180	215	235	255	275	295		235	255	275	295		
200	235	255	275	295			255	275	295			
220	255	275	295				275	295				
240	275	295					295					
260	295											

Accessories

The following accessories are available for the the product group EJOT H1 eco:



EJOT Combi washer
Page 33

Product range			
Product name and length (mm)	Article number	Packaging unit (pcs)	Palett unit (pcs)
EJOT H1 eco 095	8746 095 400	100	5,000
EJOT H1 eco 115	8746 115 400	100	4,000
EJOT H1 eco 135	8746 135 400	100	4,000
EJOT H1 eco 155	8746 155 400	100	3,000
EJOT H1 eco 175	8746 175 400	100	3,000
EJOT H1 eco 195	8746 195 400	100	3,000
EJOT H1 eco 215	8746 215 400	100	3,000
EJOT H1 eco 235	8746 235 400	100	2,000
EJOT H1 eco 255	8746 255 400	100	2,000
EJOT H1 eco 275	8746 275 400	100	2,000
EJOT H1 eco 295	8746 295 400	100	2,000



Installation animation
EJOT H1 eco

Fastening of insulation boards

Fastening of rail systems

Fastening of brick slip systems

Fastening of ceiling insulation boards

Fastening solutions for mounted products

Fastening solutions for special applications

EJOT Tools

EJOT Anchor guide



ejothem NTK U

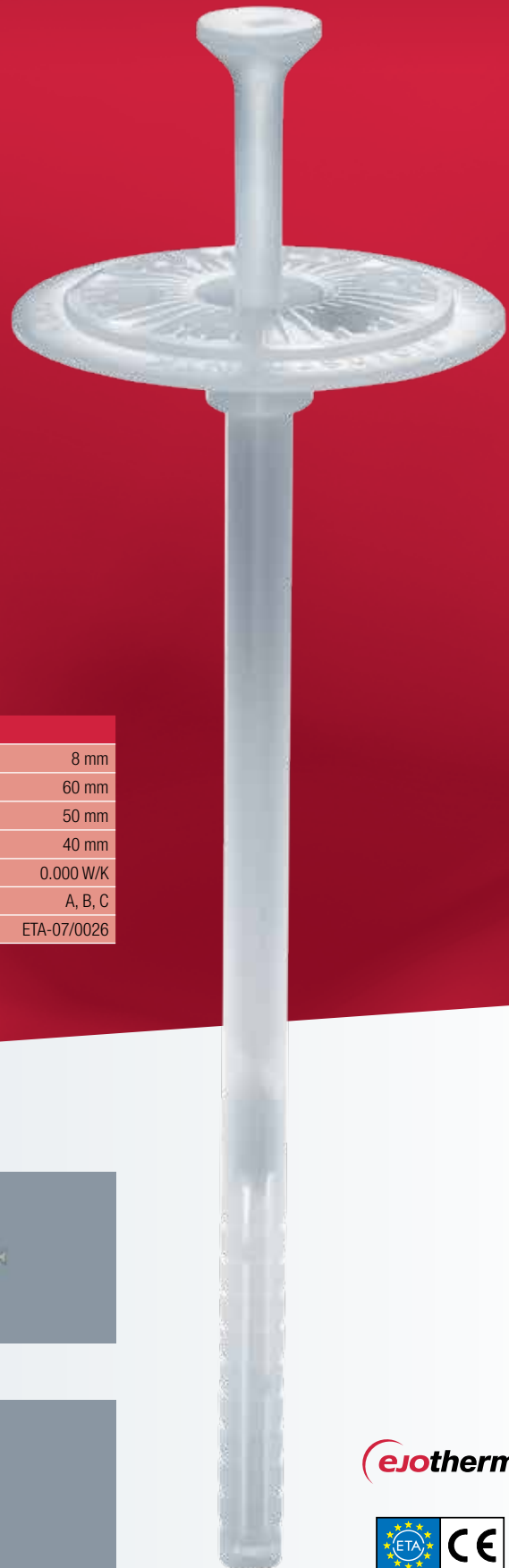
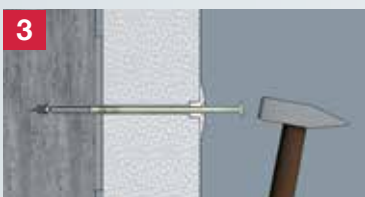
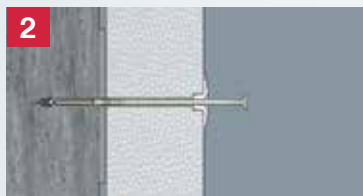
The telescope anchor with plastic pin

- Approved for concrete, solid and hollow brick
- Defined washer move-in through the EJOT telescopic effect: upon installation, the washer face de-couples from the sleeve, ensuring a flush finish with the insulation surface, whereas the expansion zone stays firmly anchored
- Safe and smooth installation with built-in setting control through the EJOT telescope effect
- Zero thermal transmission (0,000 W/K)
- Minimised risk of the nail breaking due to fibre-reinforced composites
- Pre-mounted expansion nail for quick installation
- Can be used with an additional spreader washer

Technical data

Anchor nominal diameter	8 mm
Washer diameter	60 mm
Drill hole depth $h_1 \geq$	50 mm
Embedment depth $h_{ef} \geq$	40 mm
Point thermal transmission χ	0.000 W/K
Use categories acc. to ETA	A, B, C
European Technical Approval	ETA-07/0026

Installation:



ejothem®



Building materials, sorted according to use categories and design loads

For calculation of design loads the national safety factors have to be included (e.g., Germany: 3). Please observe the approval.

Minimum requirements on the raw density and compression strength of stone according to the approval.

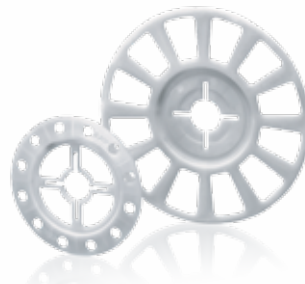
Characteristic loads		
A	Normal weight concrete C 12/15 acc. to EN 206-1	0.6 kN
A	Normal weight concrete C 16/20 - C 50/60 acc. to. EN 206-1	0.9 kN
B	Clay bricks (Mz) acc. to EN 771-4 / DIN 105	0.9 kN
B	Solid lime sandstone (KS) acc. to EN 771-2 / DIN EN 106	0.9 kN
C	Vertically perforated clay bricks (Hz) acc. to EN 771-1 / DIN 105	0.6 kN
C	Sand-lime perforated bricks (KSL) acc. to EN 771-2 / DIN EN 106	0.9 kN

Application matrix with use categories A to C, embedment depth = 40 mm

Insulation thickness (mm)	To allow for differences in thicknesses of build up (adhesive and existing render)					
	10	30	50	70	90	110
40	090	110	130	150	170	190
60	110	130	150	170	190	210
80	130	150	170	190	210	230
100	150	170	190	210	230	
120	170	190	210	230		
140	190	210	230			
160	210	230				
180	230					

Accessories

The following accessories are available for the the product group *ejotherm* NTK U:



EJOT Combi washer
Page 33

Product range			
Product name and length (mm)	Article number	Packaging (pcs)	Palett unit (pcs)
<i>ejotherm</i> NTK U 090	8777 090 100	200	6,000
<i>ejotherm</i> NTK U 110	8777 110 100	200	5,400
<i>ejotherm</i> NTK U 130	8777 130 100	200	5,400
<i>ejotherm</i> NTK U 150	8777 150 100	200	3,600
<i>ejotherm</i> NTK U 170	8777 170 100	100	3,000
<i>ejotherm</i> NTK U 190	8777 190 100	100	2,000
<i>ejotherm</i> NTK U 210	8777 210 100	100	2,000
<i>ejotherm</i> NTK U 230	8777 230 100	100	2,000

Fastening of insulation boards

Fastening of rail systems

Fastening of brick slip systems

Fastening of ceiling insulation boards

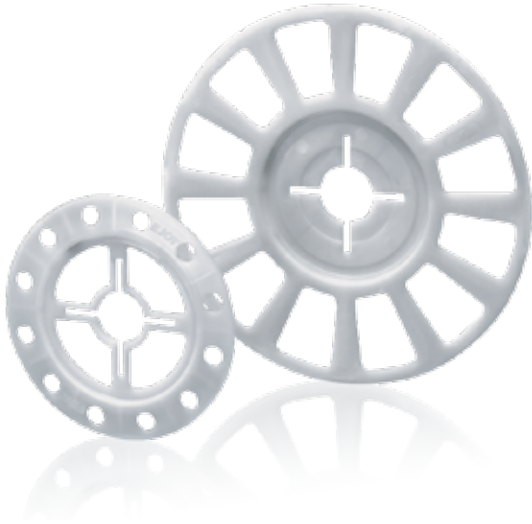
Fastening solutions for mounted products

Fastening solutions for special applications

EJOT Tools

EJOT Anchor guide

EJOT Combi washer



EJOT Combi washer

For fastening External Thermal Insulation Composite Systems with mineral wool insulating boards

The diameter of the ETICS anchor can be increased by using an additional combi washer. These washers have been designed to specifically fit our product range, as well as help meet the demands of fixing different insulation types. The type of combi washer needed for an application, will be determined by the system supplier.

When combining our combi washer with *ejothem* STR U 2G, *ejothem* STR U und *ejothem* STR H for the surface fixed installation, the special *ejothem* STR isolation plugs have to be inserted.

Note: When using combi washer VT 90 and SBL 140 plus, the EJOT STR principle cannot be used for the countersunk installation.

EJOT Combi washer

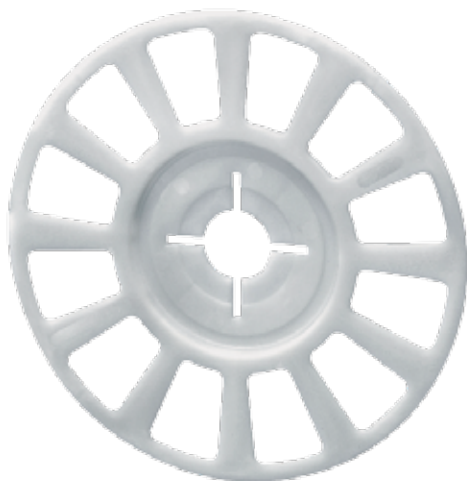


Combi washer EJOT VT 90

- Specifically for mineral wool boards with low tensile strength (please refer to the approval)
- Washer diameter: 90 mm
- The washer's high rigidity, allows for a equal compression across the face
- Flush finish

Product range

Product name	Article number	Pcs / packing	Pcs / pallet
EJOT VT 90	8781 090 008	100	14,400



Combi washer EJOT SBL 140 plus

- Specifically for mineral wool lamella boards
- Washer diameter: 140 mm
- The washer's high rigidity, allows for a equal compression across the face
- High bearing load once in contact with the render

Product range

Product name	Article number	Pcs / packing	Pcs / pallet
EJOT SBL140 plus	8716 140 008	100	5,000

Fastening of insulation boards

Fastening of rail systems

Fastening of brick slip systems

Fastening of ceiling insulation boards

Fastening solutions for mounted products

Fastening solutions for special applications

EJOT Tools

EJOT Anchor guide



With *ejotherm* on the

**rail to
success**



Fastening of insulation boards

Fastening of rail systems

Fastening of brick slip systems

Fastening of ceiling insulation boards

Fastening solutions for mounted products

Fastening solutions for special applications

EJOT Tools

EJOT Anchor guide

ejotherrm® Rail anchor

If greater tolerances of the facade have to be considered, rail systems are suitable for mounting ETICS. The dedicated *ejotherrm* anchors, allow the rails to be secured quickly and reliably.

The screw and hammer-set anchor product range are characterised by the versatility, highest loading capacity and their approval for all building material classes. The European Technical Approval gives confidence and the matching accessories efficiency.

The use of ETICS rail fastener

Such systems are preferred to be used during the renovation of old facades. Special holding rails made of plastic or aluminium are secured to the facade for this purpose, and then the insulation boards are fixed to them. In addition to the rail fastening, we also recommend that the boards are secured centrally using a washer anchor, for example, the *ejotherrm* STR U 2G. This provides additional retention.



*ejoth*erm SDK U

Screw-in anchor for rails

- For fixing holding and base rails
- Approved for all building material categories (A, B, C, D, E)
- Shortest embedment depths, minimum drill hole depths
- Highest loads for maximum safety
- Economic anchor usage
- Pre-mounted screw for quick installation
- To compensate facade tolerances use spacers EJOT AS



Technical data

Anchor nominal diameter	8 mm
Collar diameter	16 mm
Drill hole depth $h_1 \geq$	35 mm (75 mm)
Embedment depth $h_{ef} \geq$	25 mm (65 mm)
Screw drive	TORX T30
Use categories acc. to ETA	A, B, C, D, E
German DIBt Approval	Z-21.2-1769
European Technical Approval	ETA-04/0023

Values in brackets: anchoring in aerated concrete (use category E)



Building materials, sorted according to use categories and design loads

For calculation of design loads the national safety factors have to be included (e.g., Germany: 3). Please observe the approval.

Minimum requirements on the raw density and compression strength of stone according to the approval.

Characteristic loads		
A	Normal weight concrete C 12/15 acc. to EN 206-1	1.5 kN
A	Normal weight concrete C 16/20 - C 50/60 acc. to EN 206-1	1.5 kN
A	Pre-cast concrete panels C16/20 - C50/60	1.5 kN
B	Clay bricks (Mz) acc. to EN 771-1 / DIN 105	1.5 kN
B	Solid lime sandstone (KS) acc. to EN 771-2 / DIN EN 106	1.5 kN
B	Solid masonry of lightweight concrete (V) acc. to EN 771-3 / DIN 18152	0.6 kN
C	Vertically perforated clay bricks (Hz) acc. to EN 771-1 / DIN 105	1.2 kN
C	Vertical cored reference bricks (Hz) acc. to ÖNORM B 6124	0.75 kN
C	Sand-lime perforated bricks (KSL) acc. to EN 771-2 / DIN EN 106	1.5 kN
C	Lightweight concrete hollow blocks (HbL) acc. to EN 771-3 / DIN 18151	0.6 kN
D	Lightweight aggregate concrete (LAC) to EN 771-4	0.9 kN
E	Autoclaved aerated concrete (AAC 2 - AAC 4) acc. to EN 771-4	0.75 kN

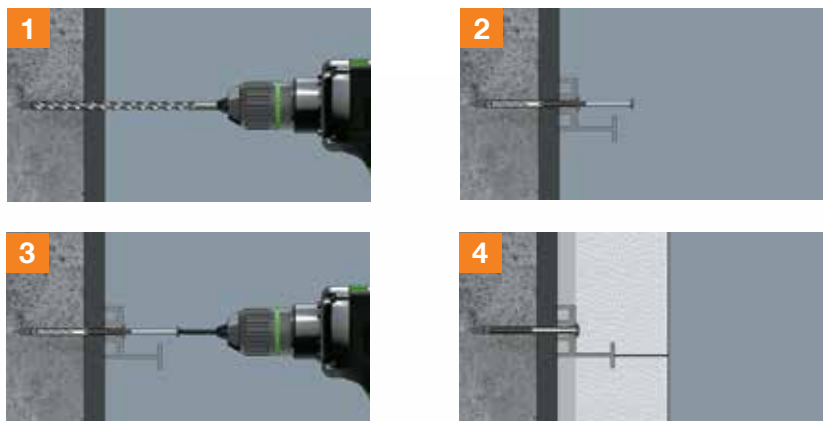
Application matrix with use categories A to D, embedment depth = 25 mm

To allow for differences in thicknesses of build up (spacers and existing render)					
(mm)	20	40	60	80	
	045	065	085	105	

Application matrix with the use category E, embedment depth = 65 mm

(mm)	-	-	20	40	
	045	065	085	105	

Installation



Accessories

A broad range of accessories is available for the *ejotharm* SDK U product group:



EJOT spacers AS
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EJOT IT-Z 60/8 K
Page 64

Product range				
Product name and length (mm)	Article number	Pcs / packing	Pcs / shipping container	Pcs / pallet
<i>ejotharm</i> SDK U 045	8798 045 400	100	1,000	24,000
<i>ejotharm</i> SDK U 065	8798 065 400	100	1,000	24,000
<i>ejotharm</i> SDK U 085	8798 085 400	100	1,000	16,000
<i>ejotharm</i> SDK U 105	8798 105 400	100	1,000	16,000

Fastening of insulation boards

Fastening of rail systems

Fastening of brick slip systems

Fastening of ceiling insulation boards

Fastening solutions for mounted products

Fastening solutions for special applications

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EJOT Anchor guide



*ejoth*erm NK U

Hammer-in anchor for rails

- For fixing of holding and base rails
- Approved for concrete, solid and perforated masonry
- Shortest embedment, minimum drill hole depths
- High load for high security
- Installation without special tools
- Pre-mounted nail for quick installation
- To compensate facade tolerances use spacers EJOT AS



Technical data

Anchor nominal diameter	8 mm
Collar diameter	16 mm
Drill hole depth $h_1 \geq$	35 mm
Embedment depth $h_{ef} \geq$	25 mm
Use categories acc. to ETA	A, B, C
European Technical Approval	ETA-05/0009

*ejoth*erm®



Building materials, sorted according to use categories and design loads

The respective national safety factors must be considered for the permissible loads (e.g., Germany: 3). Please observe the approval.

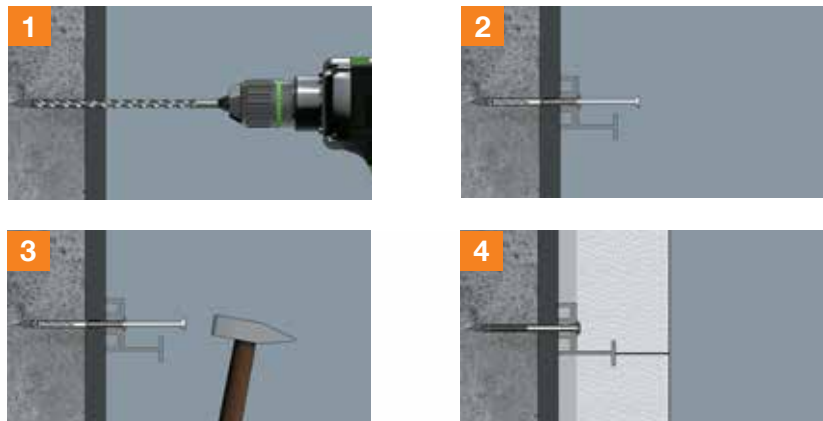
Minimum requirements on the raw density and compression strength of stone according to the approval.

Characteristic loads		
A	Normal weight concrete C 12/15 acc. to EN 206-1	1.2 kN
A	Normal weight concrete C 16/20 - C 50/60 acc. to EN 206-1	1.2 kN
B	Clay bricks (Mz) acc. to EN 771-1 / DIN 105	1.5 kN
B	Solid lime sandstone (KS) acc. to EN 771-2 / DIN EN 106	1.5 kN
B	Solid masonry of lightweight concrete (V) acc. to EN 771-3 / DIN 18152	0.5 kN
C	Vertically perforated clay bricks (Hz) acc. to EN 771-1 / DIN 105	0.9 kN
C	Sand-lime perforated bricks (KSL) acc. to EN 771-2 / DIN EN 106	1.5 kN
C	Lightweight concrete hollow blocks (HbL) acc. to EN 771-3 / DIN 18151	0.5 kN

Application matrix with use categories A to C, embedment depth = 25 mm

To allow for differences in thicknesses of build up (spacers and existing render)				
(mm)	20	40	60	
	045	065	085	

Installation



Accessories

A broad range of accessories is available for the *ejotherm* NK U product group:



EJOT spacers AS
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EJOT IT-Z 60/8 K
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Product range				
Product name and length (mm)	Article number	Pcs / packing	Pcs / shipping container	Pcs / pallet
<i>ejotherm</i> NK U 045	8797 045 400	100	1,000	24,000
<i>ejotherm</i> NK U 065	8797 065 400	100	1,000	24,000
<i>ejotherm</i> NK U 085	8797 085 400	100	1,000	16,000

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EJOT Anchor guide

Accessories



EJOT spacers AS

- For levelling out facade tolerances: lengths can be combined individually (3, 5, 8, 10, 15 mm)
- Simply clip onto the anchor between the wall and rail
- For anchor diameters 6 mm, 8 mm and 10 mm
- Sorted by colour

Product range

Product name	Article number	Pcs / packing	Pcs / shipping container	Pcs / pallet
EJOT AS 3, Colour: green	8600 725 700	100	3,000	36,000
EJOT AS 5, Colour: yellow	8601 189 710	100	2,500	30,000
EJOT AS 8, Colour: orange	8601 233 720	100		7,200
EJOT AS 10, Colour: light blue	8601 232 750	100		7,200
EJOT AS 15, Colour: black	8601 187 730	100		7,200



EJOT Profile connector PV

- For connecting profile rails
- Simply clip onto the rail elements to be connected
- Facilitates the precise adjustment of base rails
- Available lengths: 30 mm each and 1,150 mm

Product range

Product name	Article number	Pcs / packing	Pcs / shipping container	Pcs / pallet
EJOT PV 30	8792 030 770	100	2,500	60,000
EJOT PV 1150	8792 115 770	10	100	5,000

Accessories



EJOT nail anchors ND-K 6 x 60 and 8 x 75

- Pre-mounted nail anchor to mount base rails
- Diameter: 6 mm or 8 mm
- Drill hole depth h_1 : ≥ 40 mm
- Embedment depth h_{ef} : ≥ 30 mm

Product range

Product name and lenght (mm)	Article number	Pcs / packing	Pcs / shipping container	Pcs / pallet
EJOT ND-K 6 x 60	8561 660 400	100	1,000	40,000
EJOT ND-K 8 x 75	8561 875 400	100	1,000	40,000



EJOT installation set

- Special composition of frequently used accessories for installing base rails
- Set comprises:
 - 75 nail anchors EJOT ND-K 6 x 60,
 - 10 profile connectors EJOT PV 30,
 - 50 spacers EJOT AS 3

Product range

Product name	Article number	Pcs / packing	Pcs / shipping container	Pcs / pallet
EJOT installation set	8500 000 030	1	15	300

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Safe hold,
almost **invisible**



Fastening of insulation boards

Fastening of rail systems

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Fastening of ceiling insulation boards

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Brick slip system anchor

For prefabricated External Thermal Insulation Composite Systems with brick slips, EJOT offers system anchors with an extra small countersunk head and high load-carrying capacity. These ensure an inconspicuous assembly in the mortar joint of the system and a stable retention of the heavy construction. The anchors are available for concrete and masonry.

The use of brick-mounted ETICS

If the construction or renovation plans require an insulated brick facade, you can make use of the factory brick-mounted External Thermal Insulation Composite System. Due to the higher weight per unit area, this must be anchored to the facade. This can be completed easily and quickly using the EJOT brick slip system anchors. In doing so, the anchor is inserted almost invisible in the area of the joint pattern.

As an alternative, ceramic linings can also be bonded on after anchoring the insulating boards. In this case, countersunk *ejotharm* STRU 2G anchors with cap, provide a smooth bonding surface for brick slip systems.



EJOT SDF-S *plus* 8UB

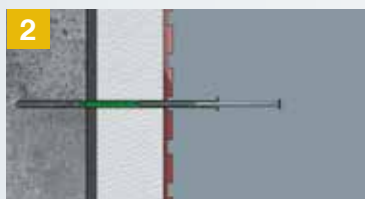
Brick slip system anchors for concrete and masonry

- Approved for concrete, solid and perforated masonry
- Anti-twist protection
- Anchor tube with small countersunk head for unobtrusive installation in the joint
- Universal expansion zone for safe anchoring
- Anchor with increased bending moment
- Pre-mounted screw for quick installation

Technical data

Anchor nominal diameter	8 mm
Diameter of countersunk head	12 mm
Drill hole depth $h_1 \geq$	80 mm
Embedment depth $h_{ef} \geq$	70 mm
Screw drive	TORX T30
Use categories acc. to ETA	A, B, C
European Technical Assessment	ETA-15/0231

Installation



Building materials, sorted according to use categories and design loads

The respective national safety factors must be considered for the permissible loads. Please observe the approval.

The approved loads specified are upper limits of the respective anchoring substrates. Minimum requirements on the raw density and compression strength of stone according to the approval.

Characteristic loads (F_{RK}) acc. to ETA-15/0231		
A	Concrete (cracked and uncracked) acc. to EN 206-1	1.5 kN
B	Clay bricks (Mz) acc. to EN 771-1	3.5 kN
B	Solid lime sandstone (KS) acc. to EN 771-2 / DIN V 106	3.5 kN
C	Vertically perforated clay bricks (Hz) acc. to EN 771-1 / DIN 105	0.75 kN
C	Sand-lime perforated bricks (KS) nach EN 771-2 / DIN V 106	2.5 kN
C	Lightweight concrete hollow blocks (HbL) acc. to EN 771-3 / DIN V 18151	0.9 kN

Application matrix with standard-utilisation¹⁾ embedment depth = 70 mm

- Standard case for surface fixed anchorage installation. All the rest assembly situations of the anchor are regarded separately.
- Please observe the position of the screw head in the insulation and possible unterlining of the insulation.

Insulation thickness ²⁾ (mm)	To allow for differences in thicknesses of build up (adhesive and existing render)					
	10	30	50	70	90	110
20	100	120	140	160	180	200
40	120	140	160	180	200	220
60	140	160	180	200	220	240
80	160	180	200	220	240	260
100	180	200	220	240	260	280
120	200	220	240	260	280	300
140	220	240	260	280	300	
160	240	260	280	300		
180	260	280	300			
200	280	300				
220	300					

Product range			
Product name and length (mm)	Article number Zinc-plated steel	Packing unit (pcs.)	Palett units (pcs.)
EJOT SDF-S plus 8UB x 100	8786 100 460	100	12,000
EJOT SDF-S plus 8UB x 120	8786 120 460	100	12,000
EJOT SDF-S plus 8UB x 140	8786 140 460	100	12,000
EJOT SDF-S plus 8UB x 160	8786 160 460	100	7,200
EJOT SDF-S plus 8UB x 180	8786 180 460	100	7,200
EJOT SDF-S plus 8UB x 200	8786 200 460	100	7,200
EJOT SDF-S plus 8UB x 220	8786 220 460	100	7,200
EJOT SDF-S plus 8UB x 240	8786 240 460	100	upon request
EJOT SDF-S plus 8UB x 260	8786 260 460	100	upon request
EJOT SDF-S plus 8UB x 280	8786 280 460	100	upon request
EJOT SDF-S plus 8UB x 300	8786 300 460	100	upon request

Fastening of insulation boards

Fastening of rail systems

Fastening of brick slip systems

Fastening of ceiling insulation boards

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EJOT Tools

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**These
cover** every requirement



Fastening of
insulation boards

Fastening of
rail systems

Fastening of
brick slip systems

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Fastening solutions for ceiling insulation

If the ceiling has to be insulated for energy or acoustic reasons, the options for insulation type may vary. EJOT offers the matching fixing solution: insulation screws are easy and quick to install and ensure for a safe retention. The additional spreader washer also holds soft insulating materials safely in position.

Use of suspended ceiling insulation

Insulating the building envelope generally includes the energy renovation of the ground floor ceiling. Acoustic reasons such as noise protection for the living rooms located above, make the lining of the ceiling necessary. EJOT provides comprehensive fixing solutions for all applications.



EJOT DDS-Z

Ceiling insulation screw with German DIBt approval and higher corrosion protection

- For the safe fastening of ceiling and acoustic insulation with German technical approval
- For installation in cracked and non-cracked concrete
- Steel screw with duplex coating and self-tapping thread for reliable fastening
- Corrosion resistance classification C1-C3
- Easy installation: drill, fasten, done!
- Minimal embedment depth
- Standard screw head colour: white
- Special service: coloured lacquering of the fastener heads according to customer request



Technical Data

Head diameter	24 mm
Drill hole diameter	6 mm
Drill hole depth $h_1 \geq$	35 mm
Embedment depth in concrete $h_{ef} \geq$	25 mm
Screw drive	TORX T30
Recommended anchoring substrate	Concrete
Building material category	A2
Corrosion resistance classification	C1 - C3
DIBt approval	Z-21.8-1980

Tensile strength

Cracked and uncracked normal weight concrete C 20/25 - C 50/60 N_{Rk}	0.9 kN
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For further specifications please refer to the technical data sheets.



Installation



Accessories

The following accessories are available for the product group EJOT DDS-Z:



EJOT DDT Ceiling insulation washer

- For combining with EJOT DDS-Z insulation screw for direct installation into concrete
- For direct assembly into concrete to increase the washer diameter for soft insulating materials
- Optimised washer geometry for improved fit of the EJOT DDS-Z insulation screw for direct installation into concrete into the washer
- Powder coated on both sides, including the edges
- Increased protection from corrosion and sharp edges
- Washer diameter: 70 mm
- White coating - RAL 9002

Product range		
Product name	Article number	Pcs / packing
EJOT DDT	8721 070 882	100

Product range				
Insulation (mm)	Product name and length (mm)	Article number	Packaging unit (pcs.)	Palett units (pcs.)
25	EJOT DDS-Z 050 ¹⁾	5929 050 682	100	8,100
50	EJOT DDS-Z 075	5929 075 682	100	8,100
60	EJOT DDS-Z 085	5929 085 682	100	8,100
75	EJOT DDS-Z 100	5929 100 682	100	8,100
85	EJOT DDS-Z 110 ¹⁾	5929 110 682	100	8,100
100	EJOT DDS-Z 125	5929 125 682	100	8,100
110	EJOT DDS-Z 135	5929 135 682	100	8,100
125	EJOT DDS-Z 150	5929 150 682	100	8,100
140	EJOT DDS-Z 165 ¹⁾	5929 165 682	100	8,100
150	EJOT DDS-Z 175	5929 175 682	100	8,100
175	EJOT DDS-Z 200	5929 200 682	100	3,600
200	EJOT DDS-Z 225 ¹⁾	5929 225 682	100	3,600
225	EJOT DDS-Z 250 ¹⁾	5929 250 682	100	3,600

1) Special lengths: availability on request

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Fastening of ceiling insulation boards

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Load bearing concepts

for the assembly of light to heavy loads before and after mounting on ETICS



If the exterior appearances play a significant role, then you are on the safe side when using the EJOT mounting elements for the attachment. As the outer shell of the building does not only carry the thermal insulation but also light to heavy mounted parts, it requires a resistant fastening concept. With our new range of products, EJOT offers high quality products and the right solution for all construction and static requirements.

From projecting roof to the house number - Retained safely using EJOT mounting elements

- For retrofitting and for the planned integration into new ETICS
- Tested and controlled quality
- Always a force-locked joint
- Reduced thermal bridging
- Minimal interference with the top layer – easy to seal
- Protects against damage and renovations

Fastening of insulation boards

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Mounting instructions

Choosing the right mounting products:

The EJOT mounting products offer a practical selection depending on the requirements on-site. Select the matching product depending on the load required and mounting conditions on the facade.



- | | | | | |
|---|---|-------------------|--------------------------------|---------------------------------------|
| 1) Jalousie with guide rail in the reveal | 4) Sliding roller shutter guide rail | 8) Motion sensors | 12) Letter box | 15) Folding shutter locking mechanism |
| 2) Balcony railing | 5) French balcony | 9) Door Bell | 13) Hand rail on the staircase | 16) Awning |
| 3) Pipe brackets | 6) House number | 10) Canopy | 14) Trellis | |
| | 7) Folding shutters in front of windows | 11) Wall light | | |

Fastenings



In our special catalogue "Fastening solutions for mounted products", you will find detailed information and all technical specifications for this range of products.
Request now: wdvs@ejot.de

For the perfect connection

In order to fasten light to medium mounted elements permanently to the facade, Spiral anchor and the Dart-Set are a perfect solution. Using these products allows for limited impact to the ETICS, however the connection remains sustainable and can be sealed simply and effectively.

Assembly onto existing ETICS (unplanned)

EJOT Spiral anchor

- Application: door bell plates, house numbers, light signs, etc.
- Insulating materials: EPS, mineral wool, HWF (after drilling)
- Loads: up to max. 5 kg for each fixing point

6 9



EJOT Dart-Set

- Application: downpipe brackets, signs, letterboxes, lights, folding shutter locking mechanisms, etc.
- Insulating materials: EPS, mineral wool, mineral foam

3 6
8 9
11 12
14 15



For the perfect integration

Disc, Zylinder, Power-Bloc and consoles can be integrated into the ETICS in an ideal manner. They allow for the perfect load transmission, even with heavy loads. Selected materials resistant to corrosion ensure for a sustained and durable function.

Assembly before mounting the ETICS (planned)

EJOT Disc

- Application: door bell plates, house numbers, light signs, etc.
- Insulating material: EPS
- Loads: up to max. 11 kg

1 6
8 9



EJOT Zylinder

- Application: door bell plates, house numbers, light signs, etc.
- Insulating material: EPS
- Loads: up to max. 15 kg (accurate calculation is required)

3 6
9 11
12 14



EJOT Power-Bloc

- Application: consoles for e.g., air conditioning units, projecting signs, etc.
- Insulating material: independent of the type of insulation

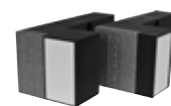
10 13
14



EJOT Trawik-Set

- Application: consoles for e.g., air conditioning units, railings, etc.
- Insulating material: independent of the type of insulation

2 4
5 7



EJOT SLK-Set

- Application: consoles for e.g., air conditioning units, railings, etc.
- Insulating material: independent of the type of insulation

2 10
16



Fastening of insulation boards

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Mounting elements for unplanned fitting



EJOT Spiral anchor

Spiral-shaped plastic assembly anchor including sealing washer and integrated threaded sleeve. The EJOT spiral anchor is the optimum fastening solution of light attachment parts to ETICS facades, for example:

- Lightweight signs
- House numbers
- Letterboxes
- Lights

The recommended service load for each fixing point is max. 5 kg

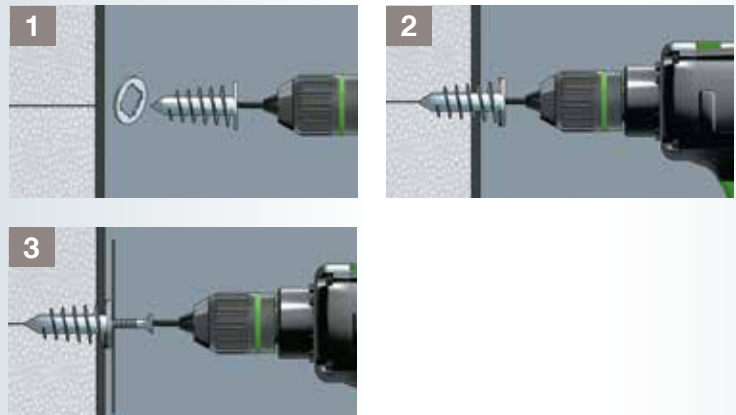
Product advantages:

- Zero thermal transmission
- Easy and safe installation
- No pre-drilling necessary
- Commercially available assembly tool

Installation

Retro-fit installation through the render layer possible:

simply screw the EJOT Spiral anchor through the final render into the insulation (drive Torx T40, usually without pre-drilling), then screw in the Ø 4-5 mm screw and secure the mounted parts with a battery powered screwdriver.



Mounting elements for unplanned fitting



EJOT Dart-Set

The EJOT Dart-Set is a fastening system comprising one installation bush made of glass fibre reinforced plastic incl. high-quality EPDM sealing washer and one facade anchor (Ø 8 mm).

EJOT Dart-Set for the retro-fit of light to medium heavy mounted parts to ETICS facades made of EPS, mineral wool and mineral foam.

EJOT Dart-Set enables the fastening of mounted products by uptaking a standard coarse thread screw Ø 9 mm / a hanger bolt Ø 9 mm with neck thread M10, e.g.:

- Downpipe brackets
- Signs and billboards
- Lighting
- Folding shutter locking mechanism
- etc.

Product advantages:

- High load-bearing capacity by anchoring to the substrate
- Reduces the thermal transmission by thermal decoupling (chi-value 0.002 W/K acc. to TR025)
- Waterproofing against the plaster shell by high-quality EPDM sealing washer. Verification of driving rain security in conformity to DIN EN 19050
- Easy and safe installation

EJOT facade anchor

Drill hole diameter	8 mm
Drill hole depth $h_1 \geq$ in substrate	80 mm
Screw drive	TORX T30

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Mounting elements for planned fitting



EJOT Disc

Fixation annular blank is made of high quality plastic (PE) for fastening light attachment parts.

Application

- Mounting rails for signage
- Lightweight signs
- Temperature sensor
- Pipe brackets
- Lock and casement fastener
- Billboard



EJOT Cylinder

Assembly cylinder made of EPS with high mass density and wave-shaped circumferential surface for the fastening of light attachment parts.

Application

- Pipe brackets
- Lock and casement fastener
- Clothes hook holder
- Blind housing
- Stop for window shutters



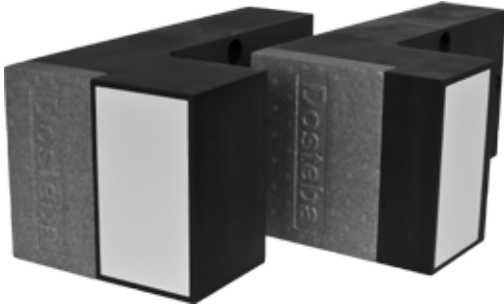
Assembly cuboid EJOT Power-Bloc

Assembly cuboid made of EPS with high mass density for the fastening of light attachment parts. Moreover, the EJOT Power-Bloc is suitable as compression underlay.

Application

- Pipe brackets
- Billboards
- Lock and casement fastener
- Clothes hook holder

Mounting elements for
planned fitting



EJOT Trawik-Set L & Trawik-Set F

Supporting angle comprising PU hard foam with foamed-in inserts made of steel, aluminium and a compact plate (HPL), that guarantee an optimum pressure distribution on the surface.

Application

- Blocks for window shutters
- Guide rails for sliding shutters
- Railings (French balconies)
- Railing assembly on building corners



EJOT SLK-Set

Heavy-duty consoles comprising PU hard foam with foamed-in inserts made of steel, aluminium, fibre-reinforced plastic and a compact plate (HPL).

Application

- Railings
- Porches
- Awnings

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Special cases

in safe hands



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Fastening solutions for special applications

Tasks that do arise every day require special solutions. If the facade places particular demands on the fixing of the ETICS, EJOT is at your side with a diverse range of solutions. Here you will find products which are focused on dealing with structural integrity, problematic substrates or attachment. All renovation anchors or special washers are highly-functional, technologically well thought-out and permanently effective.

Special cases in practical application

Time and time again, old facades represent a particular challenge for the subsequent mounting of ETICS. This particularly applies if the substrate is problematic due to material technology reasons or has damage.

These tasks occur regularly in practice:

- Doubling-up older ETICS systems
- Restoring the structural integrity of decking sheets and external wall panels made of concrete on prefabricated buildings
- Restoring the structural integrity of damaged ETICS

For each of these, EJOT can help.



EJOT VSD 8U-V

Renovation anchor

The EJOT VSD 8U-V double expansion renovation anchor enables the subsequent renovation of masonry cavity walls. Advanced corrosion or a complete lack of brick ties can lead to decreased stability of the outer wall and possibly cause considerable injury.

In particular curtain walls made before 1979 should be subject to further inspection.

When renovating the outer facade the stability of the curtain wall must be verified. Here we recommend the installation of the EJOT VSD 8U-V with a galvanically zinc-plated steel screw as a particularly cost-effective solution for subsequent installation on buildings in an industrial atmosphere and near to the sea.

- Anchor approved by the building authorities for renovating masonry cavity walls
- Very cost-effective restoring of the structural integrity
- Double expansion wall anchor: simultaneous embedment in both the inner and outer walls
- Universal expansion zone: secure installation into concrete load-bearing walls, solid and perforated brick masonry
- Clean and fast installation (no mortar required)
- 100% installation control
- Temperature-independent installation
- Can already be installed at 0°C

Note

After renovation of the outer leaf, an additional facade system with thermal insulation (e.g., ETICS) with a thickness of at least 60 mm has to be applied. It also has to be ensured that no ventilation takes place behind the outer wall.

Technical Data

Drill hole depth $h_1 \geq$	80 mm
Drill hole diameter	8 mm
Embedment depth $h_{ef} \geq$	70 mm
Screw drive	TORX T25
German DiBt approval	Z-21.2-1652



Building materials, sorted according to use categories and permissible loads

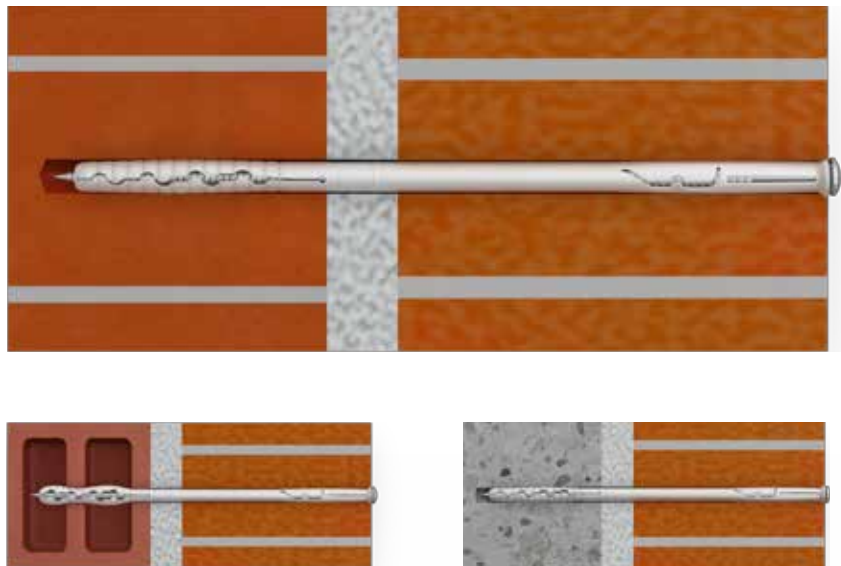
The permissible loads specified correspond with the applicable German design specifications. National safety factors are already considered. Please observe the approval.

Minimum requirements on the raw density and compression strength of stone according to the approval.

Permissible loads according to Z-21.2-1652		
A	Normal weight concrete C 12/15 acc. to EN 206-1	1.0 kN
B	Clay brick (Mz) acc. to EN 771-1 / DIN 105	0.4 kN
B	Solid lime sandstone (KS) acc. to EN 771-2 / DIN EN 106	0.4 kN
B	Solid masonry of lightweight concrete (V) acc. to EN 771-3 / DIN 18152	0.2 kN
C	Vertically perforated clay bricks (Hz) acc. to EN 771-1 / DIN 105	0.25 kN
C	Sand-lime perforated bricks (KSL) acc. to EN 771-2 / DIN EN 106	0.25 kN
C	Lightweight concrete hollow blocks (HbL) acc. to EN 771-3 / DIN 18151	0.15 kN

Installation

The installation of the EJOT VSD 8U-V is each carried out in the middle of the stone of the decking bricks.



Our service for you:

Restoring the structural integrity of a decking sheet must be measured by an engineer for safety reasons.

Our application technology service consults you in the selection of the matching renovation solution and provides you with all details necessary.

The existing wall construction can be determined by using an endoscope. The applicable permissible loads in the backing wall can be determined by performing anchor pull-out tests.

Product range					
Minimum thickness of the outer leaf (mm)	Distance between inner and outer shell (mm)	Product name and length (mm)	Article number	Packaging unit (pcs.)	Palett units (pcs.)
115	0-20	EJOT VSD 8U-V x 205	8765 205 400	100	7,200
115	20-40	EJOT VSD 8U-V x 225	8765 225 400	100	7,200
115	40-60	EJOT VSD 8U-V x 245	8765 245 400	100	7,200
115	60-80	EJOT VSD 8U-V x 265	8765 265 400	100	2,400
115	80-100	EJOT VSD 8U-V x 285	8765 285 400	100	2,400
115	100-120	EJOT VSD 8U-V x 305	8765 305 400	100	2,400

Fastening of insulation boards

Fastening of rail systems

Fastening of brick slip systems

Fastening of ceiling insulation boards

Fastening solutions for mounted products

Fastening solutions for special applications

EJOT Tools

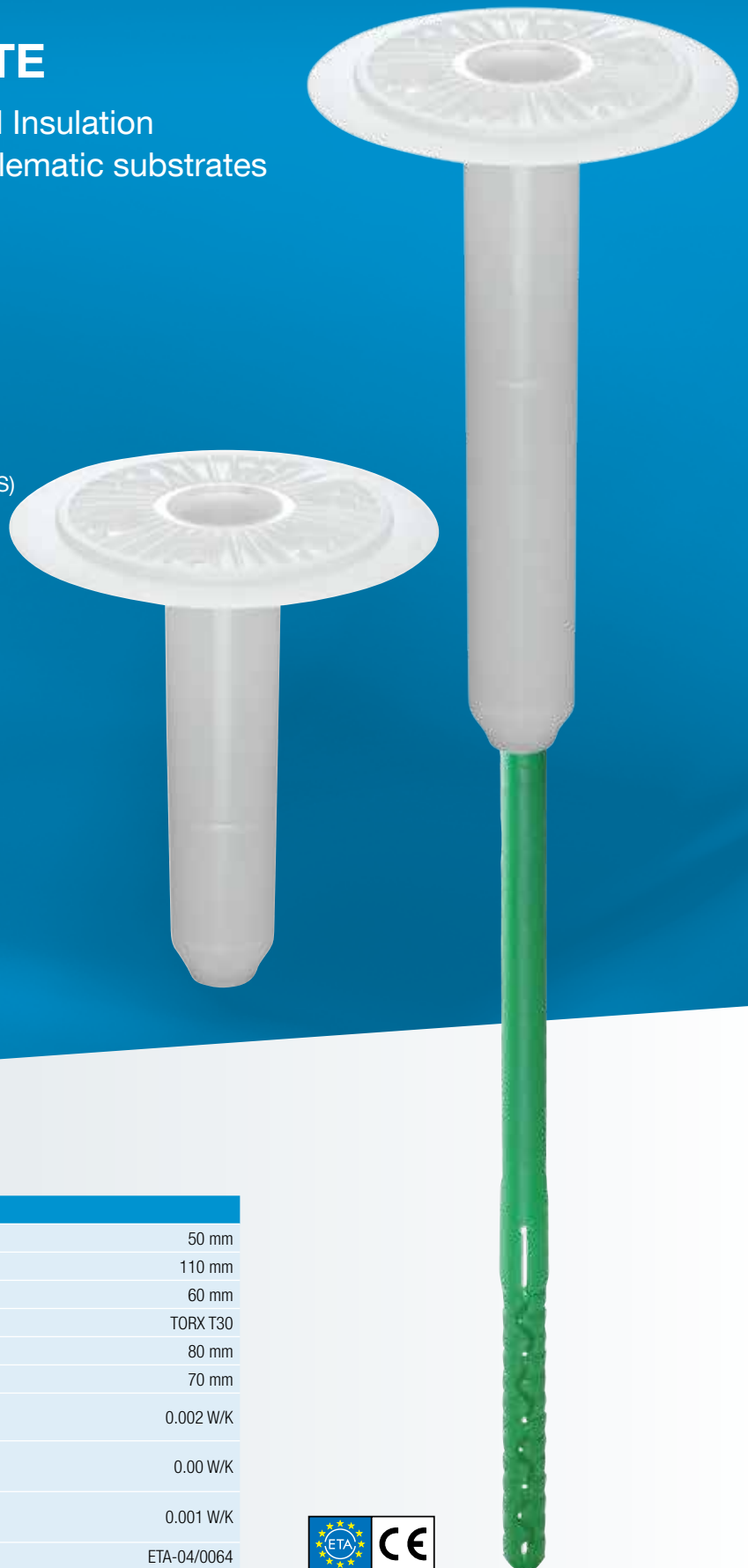
EJOT Anchor guide



EJOT Tube washer TE

For fastening External Thermal Insulation Composite Systems with problematic substrates

- To combine with EJOT SDF-S plus 8UB
- Available in two lengths
- With European Technical Assessment
- For surface fixed installation
- Can be combined with additional washers EJOT SBL 140 *plus* and EJOT VT 90
- Washer diameter: 60 mm
- Special sealing plug made of polystyrene (EPS) included in the scope of supply



Technical Data

Shaft length EJOT TE 60/50	50 mm
Shaft length EJOT TE 60/110	110 mm
Washer diameter	60 mm
Screw drive	TORX T30
Drill hole depth $h_1 \geq$	80 mm
Embedment depth $h_{ef} \geq$	70 mm
Point thermal transmission χ EJOT TE 60/50 with insulation thicknesses 60 - 180 mm	0.002 W/K
Point thermal transmission χ EJOT TE 60/110 with insulation thicknesses 120 - 150 mm	0.00 W/K
Point thermal transmission χ EJOT TE 60/110 with insulation thicknesses 150 - 240 mm	0.001 W/K
European Technical Assessment	ETA-04/0064



Building materials, sorted according to use categories and permissible loads

The loads specified apply only in combination with EJOT SDF-S plus 8UB.

The respective national safety factors must be considered for the permissible loads (e.g., Germany: 3). Please observe the approval.

Minimum requirements on the raw density and compression strength of stone according to the approval.

Characteristic loads		
A	Normal weight concrete C 12/15 acc. to EN 206-1	1.5 kN
A	Normal weight concrete C 16/20 - C 50/60 acc. to EN 206-1	1.5 kN
B	Clay bricks (Mz) acc. to EN 771-1 / DIN 105	1.5 kN
B	Solid lime sandstone (KS) acc. to EN 771-2 / DIN EN 106	1.5 kN
B	Solid masonry of lightweight concrete (V) acc. to EN 771-3 / DIN 18152	0.9 kN
C	Vertically perforated clay bricks (Hz) acc. to EN 771-1 / DIN 105	1.2 kN
C	Sand-lime perforated bricks (KSL) acc. to EN 771-2 / DIN EN 106	1.5 kN
C	Lightweight concrete hollow blocks (HbL) acc. to EN 771-3 / DIN 18151	0.75 kN
E	Autoclaved aerated concrete AAC 4 acc. to EN 771-4 / DIN V 4165-1	0.6 kN

Application matrix with standard applications EJOT TE 60/50 in combination with EJOT SDF-S plus 8UB

Use categories A, B, C, E
Embedment depth = 70 mm

¹⁾Anchor length of EJOT SDF-S plus 8UB

Insulation thickness (mm)	Anchor length ¹⁾ with possible tolerance compensation (adhesive and existing render)					
	10	30	50	70	90	110
60	100	120	140	160	180	200
80	120	140	160	180	200	220
100	140	160	180	200	220	
120	160	180	200	220		
140	180	200	220			
160	200	220				
180	220					

Application matrix with standard applications EJOT TE 60/110 in combination with EJOT SDF-S plus 8UB

Use category A, B, C, E
Embedment depth = 70 mm

¹⁾Anchor length of EJOT SDF-S plus 8UB

Insulation thickness (mm)	Anchor length ¹⁾ with possible tolerance compensation (adhesive and existing render)					
	10	30	50	70	90	110
120	100	120	140	160	180	200
140	120	140	160	180	200	220
160	140	160	180	200	220	
180	160	180	200	220		
200	180	200	220			
220	200	220				
240	220					

Product range		
Product name and length (mm)	Article number	Packaging unit (pcs.)
EJOT TE 60/50	8533 050 000	100
EJOT TE 60/110	8533 110 000	100

Note: always use the enclosed plugs.

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EJOT insulation washer



EJOT insulation washer

Due to their flat under-head geometry, the EJOT insulation washers can be used at all locations where it is difficult to pull the washer into the insulating material.

A safe fix is established by using the corresponding fastener or anchor.

Insulation washer IT-Z 60/8 K

- To combine with *ejothem* SDK U and *ejothem* NK U
- Hole diameter: 8.2 mm
- Washer diameter: 60 mm
- Colour: blue

Product range

Product name	Article number	Pcs / packing	Pcs / pallet
EJOT IT-Z 60/8 K	8501 402 750	100	15,000

Insulation washer IT-Z 60/8 S

- To combine with EJOT SDF-S plus 8UB
- Hole diameter: 8.2 mm
- Washer diameter: 60 mm
- Colour: blue

Product range

Product name	Article number	Pcs / packing	Pcs / pallet
EJOT IT-Z 60/8 S	8745 000 751	100	15,000

EJOT insulation washer



Insulation washer IT 60/5 H

- To combine with wood screws
- Hole diameter: 5.4 mm
- Washer diameter: 60 mm
- Colour: yellow ochre

Product range

Product name	Article number	Pcs / packing	Pcs / pallet
EJOT IT 60/5 H	8501 054 710	100	15,000

EJOT capped tube washer



Anchor washer SBH-T 65/25

- To combine with wood or Dabo screws
- Hole diameter: 5.2 mm
- Washer diameter: 65 mm
- Isolated washer with an integral cap

Product range

Product name	Article number	Pcs / packing	Pcs / pallet
EJOT SBH-T 65/25	8519 035 001	100	7,200

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Efficiency for professionals



Tools

Using the EJOT precision tools, you save time and money when installing anchors. The entire range of products makes it easier when mounting insulation boards which are thick as well as when renovating ETICS facades.

All tools are made of high-quality materials, have been perfectly matched to the EJOT anchor and dimensioned for many application cycles.

Fastening of
insulation boards

Fastening of
rail systems

Fastening of
brick slip systems

Fastening of ceiling
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tools

EJOT
Anchor guide

EJOT drillX

Drill extension

Due to increasingly thicker insulating materials and renovations of existing External Thermal Insulation Composite Systems, longer and more expensive drills are needed.

With the specifically designed drill extension EJOT drillX and the coordinated hard metal hammer drill, the EJOT drill, you can decrease tooling costs.

The combination of EJOT drillX with EJOT drill can lower your drill costs by 20% to 40% from anchor lengths of 155 mm upwards. EJOT drill, in effective lengths of 100, 150 and 250 mm, also features a long service life in hard building material.

- Decreased drilling costs when drilling using anchors longer than 155 mm
- Improved transfer of the hammer vibration from the drill over the drill extension
- Easier installation of additional layers of ETICS
- The geometry of the drill extension expands the old render layer which facilitates anchor installation



Animation
EJOT drillX

Product range		
Product name and total length (mm)	Article number	Pieces / packing
EJOT drillX 200	9151 950 001	1
EJOT drillX 270	9151 950 002	1



Accessories

A broad range of accessories is available for EJOT drillIX:



EJOT hard metal hammer drill
Page 71



EJOT stepdrill
Page 71



EJOT drillIX spare parts kit (cone expeller)
Page 71

Selection matrix for drill tools „additional layers“

The allowed thickness of the new system is stated in the valid system approval.

- Effective length SDS hammer drill
- Effective length in combination with 200 mm drill extension
- Effective length in combination with 270 mm drill extension
- ▨ For thick old render systems use conical stepdrill in combination with the 200 mm drill extension if necessary

Thickness new system incl. adhesive		Thickness old system incl. tolerance compensation and render						
(mm)		40	50	60	70	80	90	100
50	Surface fixed installation	150	200	200	100	▨	▨	▨
70		200	100	100	100	▨	▨	▨
90	Countersunk and surface fixed installation	100	▨	▨	▨	▨	▨	▨
110		100	100	100	100	▨	▨	▨
130		100	100	100	100	100	100	100
150		100	100	100	100	100	▨	▨
170		100	100	100	100	100	100	100
190		100	100	100	100	100	150	150
210		100	100	100	150	150	150	150
230		100	150	150	150	150	150	150
250		150	150	150	150	150	250	250
270		150	150	150	250	250	250	250
290	150	250	250	250	250	250	250	

Respective anchor lengths - use categories A, B, C, D

Thickness new system incl. adhesive	Thickness old system incl. tolerance compensation and render						
(mm)	40	50	60	70	80	90	100
50	115	135	135	155	155	175	175
70	135	155	155	175	175	195	195
90	155	175	175	195	195	215	215
110	175	195	195	215	215	235	235
130	195	215	215	235	235	255	255
150	215	235	235	255	255	275	275
170	235	255	255	275	275	295	295
190	255	275	275	295	295	315	315
210	275	295	295	315	315	335	335
230	295	315	315	335	335	355	355
250	315	335	335	355	355	375	375
270	335	355	355	375	375	395	395
290	355	375	375	395	395	415	415

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Fastening of ceiling insulation boards

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EJOT drillX drill extension

Selection matrix drill tools "large insulation thicknesses"

- Effective length SDS hammer drill
 - Effective length in combination with 200 mm drill extension
 - Effective length in combination with 270 mm drill extension
 - Step drill in combination with 200 mm drill extension
- * surface fixed installation only

Insulation thickness (mm)	Thickness old system including tolerance compensation and render				
	10	30	50	70	90
60*	100	100	150	100	
80	100	150	100		
100	150	100	100	100	
120	100	100	100	100	100
140	100	100	100	100	100
160	100	100	100	100	100
180	100	100	100	100	100
200	100	100	100	100	150
220	100	100	100	150	150
240	100	100	150	150	150
260	100	150	150	150	250
280	150	150	150	250	250
300	150	150	250	250	250
320	150	250	250	250	250
340	250	250	250	250	250
360	250	250	250	250	
380	250	250	250		
400	250	250			
420	250				

Associated anchor lengths - Use categories A, B, C, D

* surface fixed installation only

Insulation thickness (mm)	Thickness old system including tolerance compensation and render				
	10	30	50	70	90
60*	115	115	135	155	175
80	115	135	155	175*	195*
100	135	155	175	195	215*
120	155	175	195	215	235
140	175	195	215	235	255
160	195	215	235	255	275
180	215	235	255	275	295
200	235	255	275	295	315
220	255	275	295	315	335
240	275	295	315	335	355
260	295	315	335	355	375
280	315	335	355	375	395
300	335	355	375	395	415
320	355	375	395	415	435
340	375	395	415	435	455
360	395	415	435	455	
380	415	435	455		
400	435	455			
420	455				

EJOT drill & stepdrill



EJOT drill hard metal drill

- Universally applicable hard metal drill with cone holder
- For use in combination with EJOT drillIX
- For drilling into all substrates using impact and rotary hole drilling
- High service life, also in hard construction materials
- Nominal drill diameter: 8 mm

Product range

Product name	Total / usable length (mm)	Article number	Pcs / packing
EJOT drill 100	160 / 100	9200 080 100	10
EJOT drill 150	210 / 150	9200 080 150	10
EJOT drill 250	310 / 250	9200 080 310	10



EJOT stepdrill

- Special step drill for drilling through old systems with thicker layers and for special applications
- For use in combination with EJOT drillIX
- Nominal drill diameter: 8 mm / 19 mm

Product range

Product name	Usable length (mm)	Article number	Pcs / packing
EJOT stepdrill 150	150	9200 080 109	1

EJOT drillIX spare kit



EJOT drillIX spare kit

- Cone expeller for EJOT drillIX
- Set comprises 3 cone expellers

Product range

Product name	Article number	Pcs / packing
EJOT drillIX spare kit (cone expeller)	9151 950 003	3

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Special drill



EJOT special drill for perforated bricks

- For drilling anchor holes without lumps in perforated bricks (e.g. vertical cored bricks)
- Aggressive cutting angle for fast drilling without percussion
- Avoids bursting drill holes
- With SDS-plus adaptor
- Nominal drill diameter: 8 mm

Product range

Product name total length / use length (mm)	Article number	Pcs / packing
EJOT special drill 210 / 150	9200 000 075	1
EJOT special drill 260 / 200	9200 000 069	1
EJOT special drill 310 / 250	9200 000 087	1
EJOT special drill 450 / 400	9200 000 076	1

ejothem STR-tool 2GS & accessories



ejothem STR-tool 2GS

- Specially developed tool for countersunk installation of *ejothem* STR U 2G
- Also compatible for use with *ejothem* STR U, STR H and STR H A2
- Adjustment shaft with hex shank for easy use with standard drill chucks
- Patented mechanism enables quick and easy adjustment to the required anchor length
- EJOT STR principle ensures a reliable installation each time
- Easy conversion from *ejothem* STR-tool 2GS for surface fixed installation
- Robust design for long service life
- Worn parts can be changed quickly
- Set comprises: *ejothem* STR-tool 2GS, additional cutting discs, offset screw driver as well as screw bits for all applications

Product range

Product name	Article number	Pcs / packing
<i>ejothem</i> STR-tool 2GS	9129 000 000	1



ejothem adjustment shaft SDS-plus

- Alternative adjustment shaft with SDS-plus holder for *ejothem* STR-tool 2GS

Product range

Product name	Article number	Pcs / packing
<i>ejothem</i> adjustment shaft SDS-plus	9129 000 005	1



ejothem adjustment shaft hex shank SW 10x160

- Replacement adjustment shaft with hex shank holder for *ejothem* STR-tool 2GS

Product range

Product name	Article number	Pcs / packing
<i>ejothem</i> adjustment shaft hex shank SW 10x160	9129 000 004	1

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ejotherm STR accessories



ejotherm STR-tool spare kit

- As a replacement for wear parts of the *ejotherm* STR-tools 2GS
- Set comprises: 3 cutting blades, 3 screw bits T30 for the countersunk installation of *ejotherm* STR U 2G and STR U

Product range

Product name	Article number	Pcs / packing
<i>ejotherm</i> STR tool spare kit	9151 910 000	1



ejotherm STR-spare bits

- For the countersunk installation of *ejotherm* STR U 2G and *ejotherm* STR U: *ejotherm* STR-Bit TX30-M8 x 52
- For surface fixed installation of *ejotherm* STR U 2G and *ejotherm* STR U: *ejotherm* STR-Bit TX30-1/4" x 200
- For the countersunk installation of *ejotherm* STR H: *ejotherm* STR-Bit TX25-M8 x 31
- For surface fixed installation of *ejotherm* STR H: *ejotherm* STR-Bit TX25-1/4" x 70

Product range

Product name	Article number	Pcs / packing
<i>ejotherm</i> STR-Bit TX30-M8 x 52	9151 900 013	1
<i>ejotherm</i> STR bit TX30-1/4" x 200	9253 014 200	1
<i>ejotherm</i> STR special bit TX25-M8 x 31	9151 900 012	1
<i>ejotherm</i> STR bit TX30-1/4" x 70	9250 251 470	1

ejotherm STR accessories



ejotherm STR renovation cutter

- For additional anchor support in existing ETICS facades: Cost-effective retrofitting for ETICS allowing for additional anchors to be used
- Avoids the removal of the existing system, in most cases
- Using of the EJOT STR technology:
 1. cut through the existing render layer with the *ejotherm* STR renovation cutter
 2. install the *ejotherm* STR U 2G / STR U with the *ejotherm* STR-tool 2GS
 3. insert the STR cap to obtain an even plaster base
 4. finish by applying the final render coat



Product range

Product name	Article number	Pcs / packing
<i>ejotherm</i> STR renovation cutter	9151 940 000	1

EJOT renovation cutter



EJOT renovation cutter

- For use when adding additional EJOT surface fixed anchors to existing ETICS
- For milling from wall protection panels

Product range

Product name	Article number	Pcs / packing
EJOT renovation cutter	8593 000 082	1





Getting there faster with knowledge

The most important answers to your basic questions

Irrelevant as to which challenges you have to master, EJOT always offers you the optimum anchor. In order to make sure you stay on the road to success right from the beginning, you will find a guide. for the "Fastening of External Thermal Insulation Composite Systems" over the next pages. There you will find a summary of the most important criteria that will give you valuable tips and food for thoughts.

We will show you the optimum way to the perfect fastening:

- Why mechanical fastening?
- How can I anchor perfectly?
- What do I have to observe with regard to building laws?

Why should I use anchors at all?

Because that is the safe way



EJOT anchors offer the highest load-carrying capacity on old facades

ETICS systems are predominantly used for the energy renovation of older buildings.

The risks from old plaster are significant:

- exposed to weather and emissions over decades
- soot, dirt and old paint films reduce the load-carrying capacity of the adhesive
- individual components are incompatible with the adhesive
- structural-physical influences may lead to changes in the load-carrying capacity, even after many years
- facade cleaning is extensive and expensive
- waste water containing harmful substances must be collected and disposed of professionally
- the old plaster is soaked through by a thorough cleaning

Residues from formwork oil on concrete may even cause a problem in the area of new buildings when bonding the new ETICS systems.

The benefits with the additional mechanical fastening:

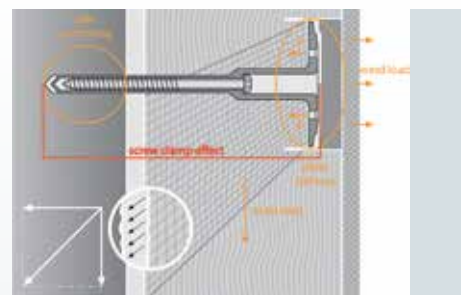
- no special pre-treatment of the facade
- loose plaster points, efflorescence and peeling coats of paint only have to be roughly removed
- possible points of failure only have to be rendered-over

Briefly: EJOT anchors ensure for safe retention.

EJOT anchors offer high structural integrity

The dead weight of an ETICS is transferred only by bonded ETICS systems only via adhesion forces between the adhesive and insulating material as well as adhesive and old facade. Thus, the adhesive used is the only joint between the wall and insulating material.

Thanks to the stable anchor washer and the high load bearing capacity in the substrate, the *ejotherm* washer anchors give your facade a safe hold. Due to the additional pressure generated, the friction between the surface of the facade and the ETICS system is permanently ensured.



The benefits of ETICS anchors with steel screw or steel nail:

- high stability of the complete system
- permanent friction locking between the adhesive and substrate
- high safety under wind loads
- higher safety margin in case of fire

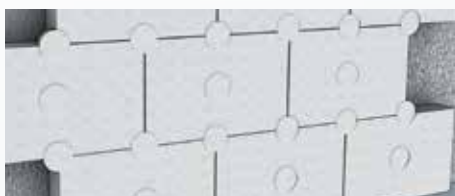


EJOT anchors ensure for higher safety compared with hygrothermal influences

Temperature fluctuations and material-related shrinkage leads to tension that has a negative effect to the rigid adhesive connection. This can lead to a failure in the bonding surface and the related loss of adhesion to the substrate.

With the sole bonding of the ETICS system, there is also the

- latent danger of bulging
- cupping of the insulation boards as a result of missing possibilities for expansion



Advantages of the additional anchoring in the area of the panel joints and the middle of the panel:

- reduction of the bulging of insulation boards
- reduction of the cupping of insulation boards
- risk minimizing of plaster cracks

EJOT anchors offer high safety against wind loads

Wind loads act vertically to the surface of the facade. They ensure for a vertical tensile load to the adhesive surfaces. Particular importance is placed on the transitions between the wall / adhesive (new buildings) or old plaster / adhesive (renovations) and adhesive / insulating material.



Higher wind loads typically occur

- on higher buildings
- on the edges of buildings
- on free-standing buildings
- with exposed locations on coastal regions as well as on islands

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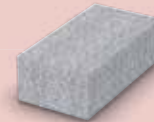





How can I anchor perfectly?

Follow our route step by step



1 First assess the substrate

The expansion zone of an anchor has to be attuned to the wall material found on the building. This is the only way the anchor can fulfil its function optimally in the ETIC System. The correct assessment of the substrate is also extremely important. The ETAG 014 (Guideline for plastic anchors in ETICS systems) used as the EAD (European Assessment Document) used categorises the common construction materials / wall materials into so-called use categories.

Construction materials and their use categories					
Category	A	B	C	D	E
material	Normal weight concrete	Clay bricks	Vertically perforated clay bricks	Lightweight aggregate concrete	Autoclaved aerated concrete
					
	Pre-cast concret panel	Solid lime sandstone	Sand-lime perforated bricks		
					
		Solid masonry of lightweight concrete	Lightweight concrete hollow blocks		
					

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2

Select the optimum anchor

As anchors have been tested and approved for a certain use category with the European Technical Assessment (ETA), this allocation is easy. The following cases are possible:

Case 1: The anchor is approved for the building material category determined. The building material identified corresponds with the specifications from the ETA with regard to the stone geometry, gross density and compressive strength.

The anchors can therefore be used on the building without further tests. Use the loads specified in the approval for determining the required length. If necessary, consider the national safety margin.

An example for this: we have determined a solid lime sand brick as wall material. This corresponds with the use category B. The anchor is equipped with an ETA for the use categories A and B. In the ETA, a characteristic load of 1.2 kN is specified for the substrate KS. National application guidelines require a safety margin of 3 for the use category B. Thus you can attribute the anchor with a permissible load of $1.2 \text{ kN} : 3 = 0.4 \text{ kN}$ without carrying out tests on the building.

Requirement for this is that the stone geometry, gross density and compressive strength correspond with the specifications from the ETA.

Case 2: The anchor is approved for the building material category determined. The building material identified is not specified in the ETA of the anchor.

You can use the anchor if you can verify the suitability by carrying out test on the building. For this purpose, determine the building-specific characteristic load by performing pull-out tests, as described in the ETA. It is essential to consider the national safety margin when deriving from the permissible loads.

An example for this: we have determined a perforated lime sand brick of use category C as wall material. The anchor is equipped with an ETA for the use categories A, B, C, D and E. The corresponding ETA specifies a characteristic load of 1.5 kN for this use category. The substrate KSL is however not expressly mentioned in the ETA. Their pull-out tests on the building with this anchor result in a characteristic load of 1.5 kN. National application guidelines require a safety margin of 3 for the use category C. Thus, attribute the anchor with a permissible load of $1.5 \text{ kN} : 3 = 0.5 \text{ kN}$.

Case 3: The anchor is approved for the building material category determined. The building material identified is specified in the ETA of the anchor but the gross density and / or the compressive strength of the stone deviate from the specifications in the approval.

The suitability for the anchor embedment must be verified by performing pull-out tests on the building.

Case 4: The anchor does not have an approval for the building material category determined.

The anchor must not be used on the building - even if the suitability is verified by pull-out tests.

An example for this: we have determined a vertically perforated brick as wall material. This corresponds with use category C. Unfortunately you cannot use an anchor that only has an approval for the use categories A and B.

Special case: CAUTION

Rain screens made of concrete (slab buildings) correspond with the use category A. The characteristic loads of the *ejotherm* anchor are included in the approval in some cases. If this is not the case, simply determine the loads by performing tests on the building.

EJOT recommends:

- *ejothem* STR U 2G (as anchor washer) as well as *ejothem* SDK U (for rail fixing) dispose of an ETA for all building material classes. Several building materials have already been tested and are listed in the ETA.
- If tests are necessary on the construction site, use the EJOT Service from our field employees.



Our tip: Combi washers will help you further

Depending on the application case, combine the EJOT ETICS anchor with combi washer – they are easy to use and are available in different diameters. Push this onto an anchor washer just like a washer. The type of anchor washer that you can use when depends on the respective insulation material and system structure. The key factors are the specifications of the system manufacturer.



EJOT combi washers are system components of the anchor. They have been tested accordingly and are described in the approval of the anchor washer.

More ways for selecting the optimum anchor

If several anchor types come in question for the application in the building material found, you can call upon further criteria for assessment.

Example <i>ejothem</i> STR U 2G	
100% installation control	✓ ¹⁾
Homogeneous insulation material surface	✓
Uniform plaster application	✓
Permanent contact pressure	✓
Reduced workload thanks to pre-mounted expanding element	✓
Assembly behaviour	++
Loads	++
Thermal bridge reduction	++
Range of applications ²⁾	++
Embedment depth ³⁾	++

- 1) When using the EJOT STR principle for countersunk installation
- 2) A greater range of applications offers higher safety with deviating building material qualities and mixed brickwork
- 3) Please note the differences between effective and nominal embedment depths when you compare with other products.

Fastening of insulation boards

Fastening of rail systems

Fastening of brick slip systems

Fastening of ceiling insulation boards

Fastening solutions for mounted products

Fastening solutions for special applications

EJOT Tools

EJOT Anchor guide

3 Determine the necessary anchor length

The correct determination of the anchor length is an important requirement in order to achieve the highest possible safety. In doing so, consider the building-specific conditions. It couldn't be simpler:

effective embedment depth h_{ef}
 + tolerance compensation t_{tol}
 + insulation thickness h_D

= required anchor length l_D

The tolerance compensation consists of:

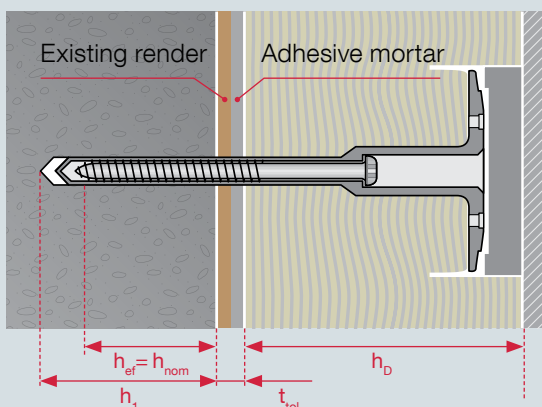
non-load-bearing layers

thickness of existing render, wood-wool lightweight boards, brick strip tiles etc., existing render is often 20 mm thick

+ **thickness of the adhesive mortar layer after pressing the insulating material onto the wall**^{*)} (generally, approx. 10 mm)
 + **additional compensation of uneven facade surfaces**^{*)}

= tolerance compensation t_{tol}

Please note: If no other specifications are given, the nominal embedment depth h_{nom} is equal to the effective embedment depth h_{ef} .



If larger uneven surfaces have to be compensated on the facade in the course of the energy renovation, it may be necessary to use different anchor lengths.

Please note: The calculation of the anchor length also applies to the countersunk installation of *ejotherrm* STR U 2G / STR U.

^{*)} Facade tolerances are eventually compensated through the actual total thickness of the adhesive mortar layer.

h_1 = drill hole depth

h_{ef} = effective embedment depth

h_{nom} = nominal embedment depth ($\geq h_{ef}$)

t_{tol} = tolerance compensation

h_D = insulation thickness



Fastening of insulation boards
Fastening of rail systems
Fastening of brick slip systems
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4 Determine the number of anchors required

The correct number of anchors must be determined individually for each building. According to the applicable European and national wind load standards (Eurocode 1 and national Annex), different factors are included. The following, amongst others, are included in the fundamental external influence factors:

- the building construction (height, floor plan, profile)
- the position of the building

Exposed locations generally lead to significantly higher wind loads:

- near to coast lines / on islands
- on mountains
- outside closed housing constructions

Details and current maps with wind load zones can be obtained in the respective set of rules.

Important:

on the system side, the anchor consumption is influenced by the load bearing capacity of the insulating boards used as well as by the characteristic load and the washer strength of the anchor used. For this purpose, always observe the processing guidelines of the ETICS supplier.

Generally:

the higher the building and the more exposed the position, the larger the wind load is that must be applied and thus, also, generally the necessary number of anchors. On the other hand, high-quality anchors from EJOT frequently lead to a more favourable number of anchors per square metre. This allows you to save material costs and processing time.

In Austria, please not the respective ÖNORM: B 6400, B 6410, B 6124

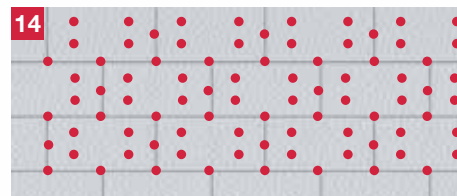
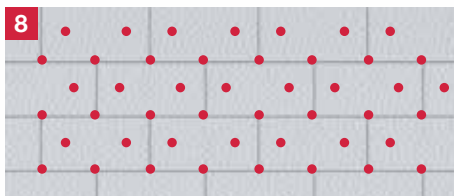
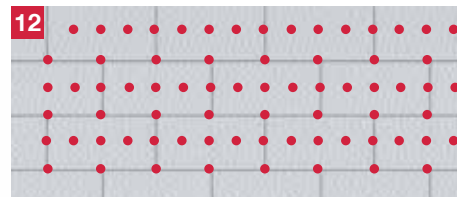
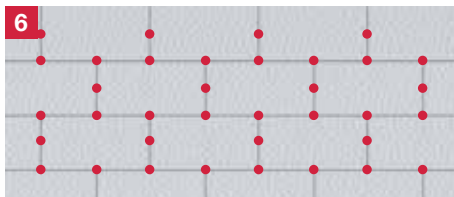
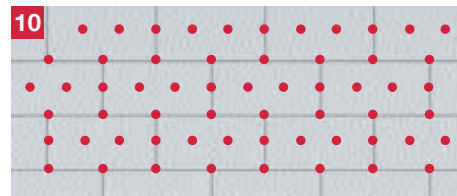
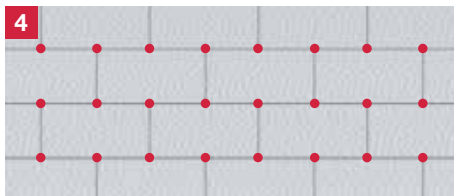
5 Always process the anchor correctly

That is decisive for the function of the anchor. The position of the anchors will come from the ETICS system supplier or from the respective ETICS system approval. Always install the anchor in the area of the adhesive in order to assist the function of the bonding joint via the contact pressure.

In the following, several common anchor arrangements for insulation board formats:

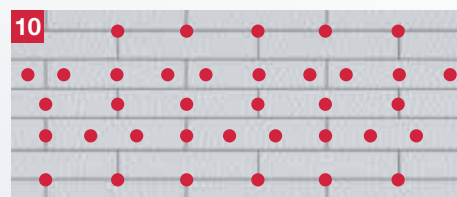
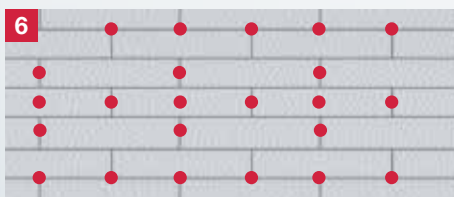
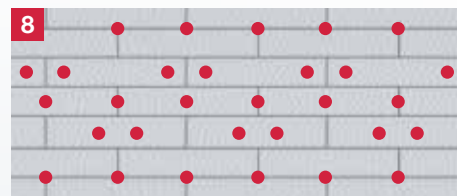
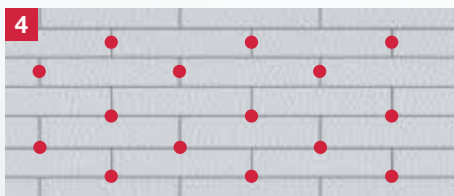
- 1000 x 500 mm (e.g., polystyrene hard foam boards)
- 800 x 625 mm (e.g., mineral wool boards)

00 = Anchor quantity/m²



- 1000 x 200 mm (e.g., mineral wool lamella boards)

00 = Anchor quantity/m²





In Austria, the ÖNORM specifies the right way.

Selection of the anchor according to ÖNORM B 6124

The anchors must comply with ÖNORM B 6124. The following points should be considered:

- substrate
- anchor length, the layers to be bridged such as existing render, sheathing boards, etc.
- thickness of the insulating boards
- type of installation
- observe the structural-physical requirements (e.g., one-dimensional thermal bridge)



Anchor schema W

Number of anchors

The anchors must be distributed equally per m² according to their quantity. The anchor is set through the adhesive or in the immediate vicinity of the adhesive. The anchor schema W and T are represented in the figures.

Caution: for mineral wool insulation boards, the T anchorage is not permitted in Austria. All other types of insulation boards are anchored according to manufacturer specifications.

The sketches represent the positions of the anchors for 6/8/10/12 anchors per m² (anchor on the surface and for the edge area) according to the processing guideline (VAR 2011) of the quality group External Thermal Insulation Composite Systems. The determination for the edge area is carried out by the planning engineer in accordance with ÖNORM EN 1991-1-4.

For buildings higher than 35 metres and with a ratio of height to width of > 2 as well as for ETICS with an area weight > 50 kg, the planning engineer must conduct a separate verification for the anchorage.



Anchor schema T

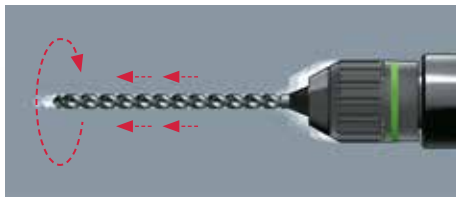
The classification (classification of the thermal insulation material) in a system load class is carried out according to ÖNORM B 6400. It is verified by the system holder and can be obtained in the technical documentation. The minimum number of anchors is 6 pieces per m², the highest, 12 pieces per m².

6 Select the matching drilling method

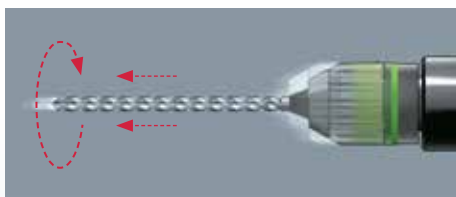
Possible drilling methods:



Rotary drilling:
without percussion



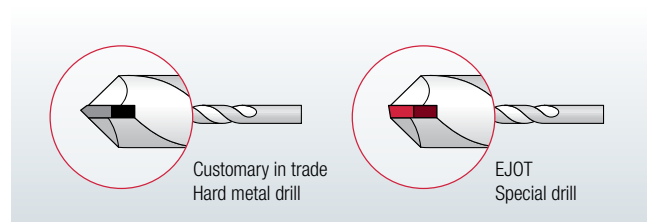
Percussion drilling:
many percussions with low energy



Hammer drilling:
few percussions with high energy

EJOT recommends:

- With rotary hole drilling, use the EJOT special drill in order to achieve a clean bore hole with simultaneous short drilling time and high load-bearing capacity.



- Drills are wearing parts. Amongst others, their service life depends on the number of holes drilled and the strength of the substrate: the more solid the substrate, the higher the wear. In order to achieve an optimum drilling result and an economic processing speed, change the drill bit at regular intervals.
- When producing the drill hole, carefully maintain the installation parameters specified for the respective anchor type (in particular, the minimum drill hole depth).
- The precise drill hole geometry is important for the load bearing capacity of an anchor. Always drill at right angles and never change direction during the drilling. This particularly applies for soft building materials.
- Before inserting the anchor, clean the drill hole from drilling dust by pulling the drill out several times.

Use category and matching drilling method	
Use category	Drilling method
A Normal weight concrete Pre-cast concrete	Percussion / hammer drilling
B Clay bricks Solid lime sandstone Solid masonry of lightweight	Percussion / hammer drilling
C Vertically perforated clay bricks Sand-lime perforated bricks Lightweight concrete hollow blocks	Rotary hole drilling without percussion
D Lightweight aggregate concrete	Rotary hole drilling without percussion
E Autoclaved aerated concrete	Rotary hole drilling without percussion

Scenarios when installing washer anchors:



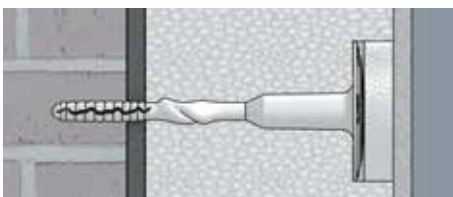
Incorrect:

Anchor has been over driven



Incorrect:

Anchor is not deep enough



Perfect:

Installation of *ejothem* STR U 2G with cap

EJOT recommends:

- For washer anchors the washer is either installed countersunk into the insulation board according to **EJOT STR principle** or in a surface fixed installation to the insulation material surface.

For the surface fixed installation it has to be ensured that the washer face is neither too proud or too deep within the insulation. If the washer is pulled-in too far the depression has to be rendered-over before applying the reinforcing material. This leads to thick render layers over the washer anchor. This is considered a risk for render cracking and anchor marks. If the washer is not installed far enough a thicker reinforcement has to be applied over the whole facade in order to reach the minimum render thickness. This leads to higher unit costs.

When using the **EJOT STR principle** the anchor washer is countersunk fast and easy into the insulation and then covered with *ejothem* STR caps. This creates an even and smooth insulation material surface as basis for an even more even render layer. There is no additional work for levelling out the anchor washer is needed. The anchor washers are also uncoupled from the render layer.



EJOT
STR principle

What do I have to observe?

Know the most important regulations

Even if you are not a lawyer, it is still a good idea to know the most important legal guidelines. Here they are:

European Technical Assessment (ETA) / European Assessment Document (EAD)

A European Technical Assessment is issued on the basis of a European Assessment Document and serves as verification for the usability of a construction product.

The ETA enables the manufacturer to place the CE marking on the construction product and thus access to the European market. With the CE marking the manufacturer confirms that he has carried out the prescribed verification method and that the conformity of the product is given with the approval.

Moreover, a Declaration of Performance - DOP must be submitted for a construction product that has been manufactured on the basis of a harmonised standard or disposes of a European Technical Assessment (ETA). This Declaration of Performance represents the fundamental characteristics for the end customer.



General building authorities approvals

These are granted for construction products and types of construction in the field of application of the State Building Code for which there are no generally acknowledged rules of technology, DIN standards in particular, or which deviate considerably from them.



The approvals are granted by the Deutsche Institut für Bautechnik (DIBt) for all federal states. They are an assessment of the usability or applicability of the approval subject with regards to the building authorities requirements.

ÖNORM

The standards published by the Austrian Standards Institute are volunteer standards that have been processed in standards committees. ÖNORMEN are either suggested by interested parties or taken over in the scope of the international standardisation as national standard.





Schweizerischer Ingenieur und Architektenverein SIA [Swiss Engineers and Architects Association]

The SIA - Swiss Engineers and Architects Association - manages the Swiss set of standards for the construction industry. The standards are recognised codes of building practice. In the area of the ETICS, the current valid version of the rules is "SIA 243: Roughcast external heat insulation" must be used.

Paragraph 5.4 Fixing

The following recommendation applies as a general implementation recommendation of all system owners of the EPS Association Switzerland. The system guidelines of the respective system owner must always be observed.

1. Extract from the standard SIA 243:2008 Paragraph 5.4.3

If the bonding strength of the substrate is insufficient or if it is required by the system, the thermal insulation boards must be fixed mechanically in addition to the bonding. In particular the loading from frequently recurring strong wind loads must be accounted for.

2. General implementation recommendations:

- the mechanical fixings must each be countersunk into the insulating layer and covered by ring washers from the same insulating material, where possible.

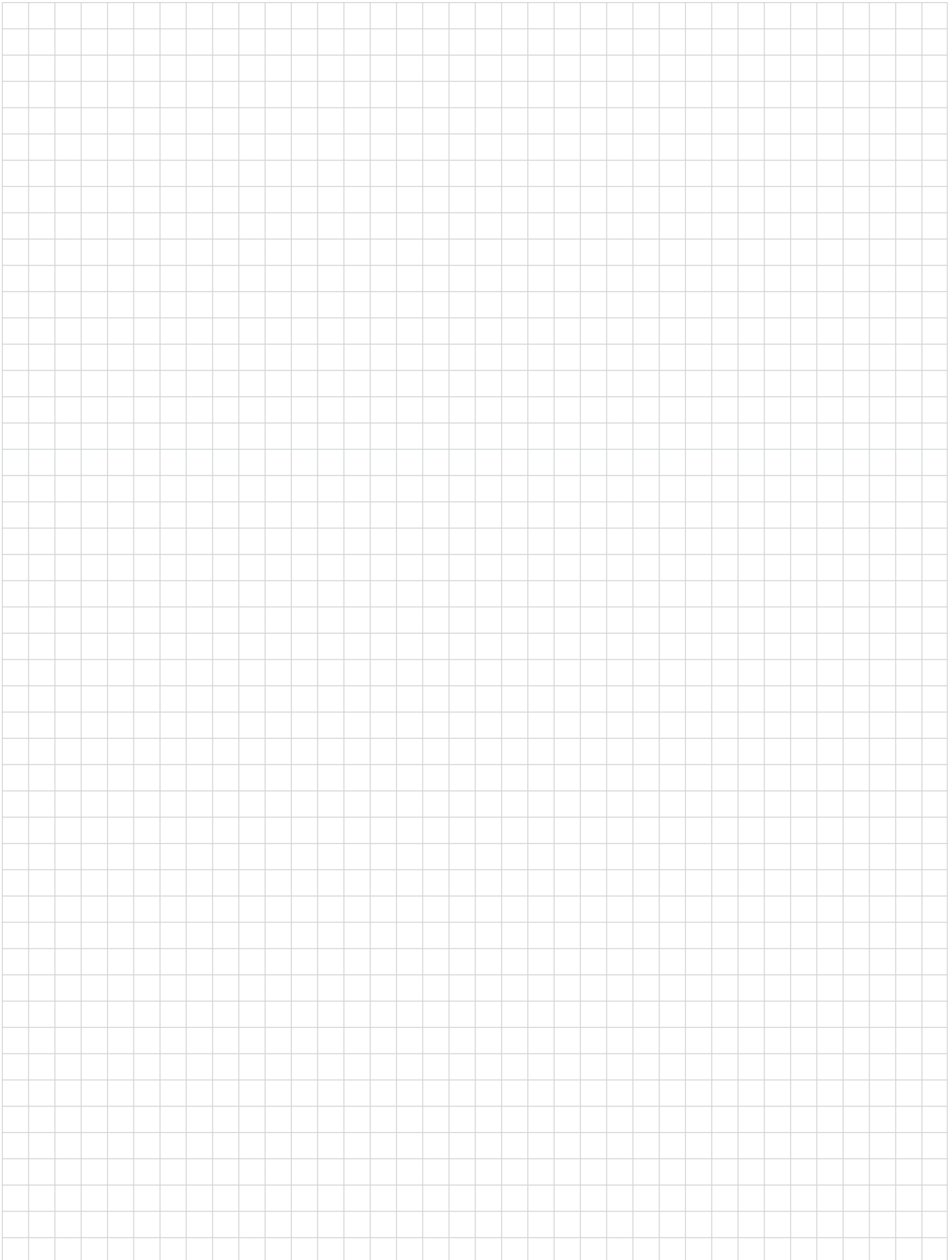
- generally, 6 anchors are set per m².
- the attachment of mechanical fastenings is carried out from the second day after bonding the insulating layer. sub-layers are anchored immediately.
- The edge zones must be anchored reinforced against recurring strong wind loads.
- With rock wool insulation, a mechanical fastening is recommended from an eaves height of > 8m.
- Basically, only ETA- approved anchor systems must be used.

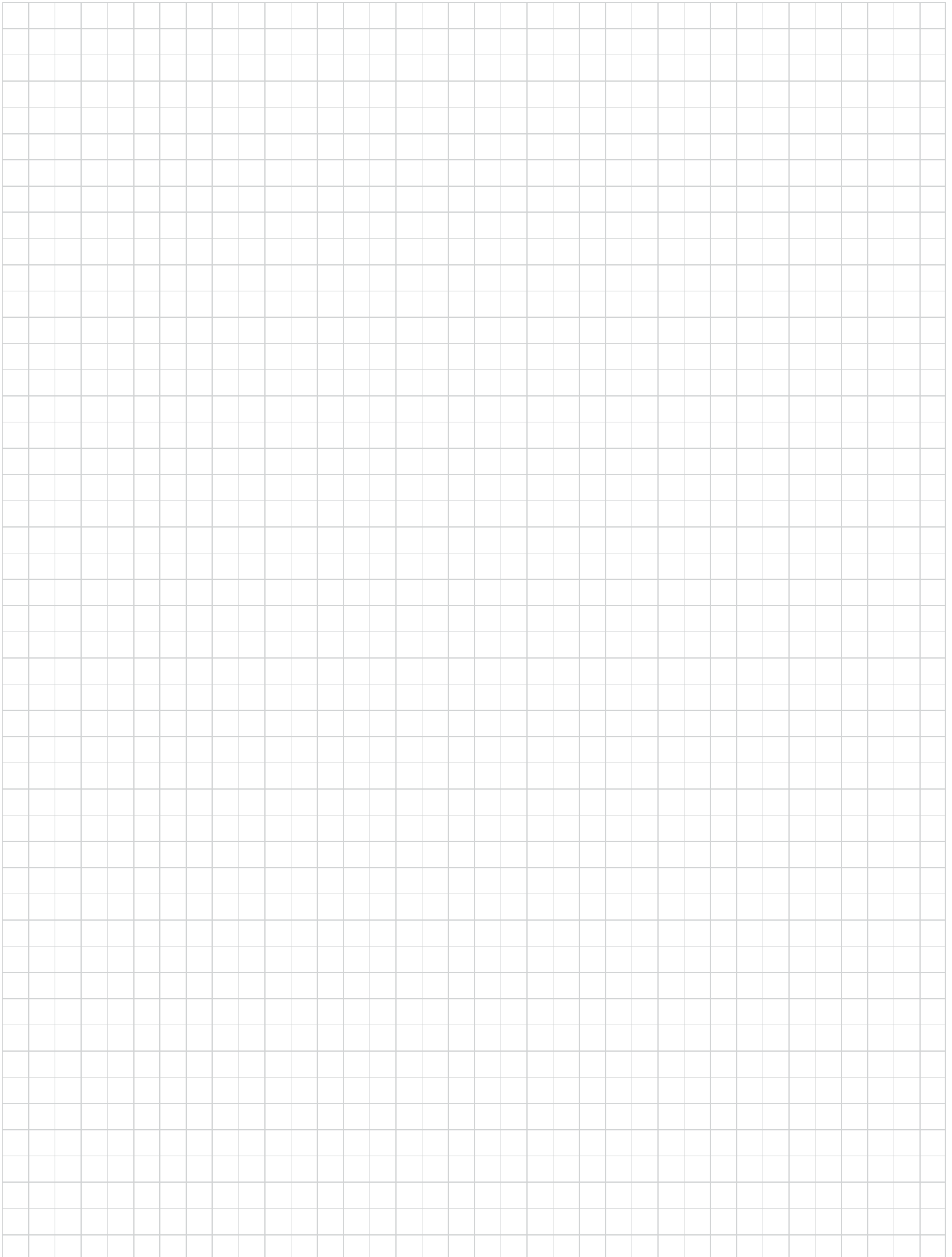
3. Implementation recommendation for new buildings

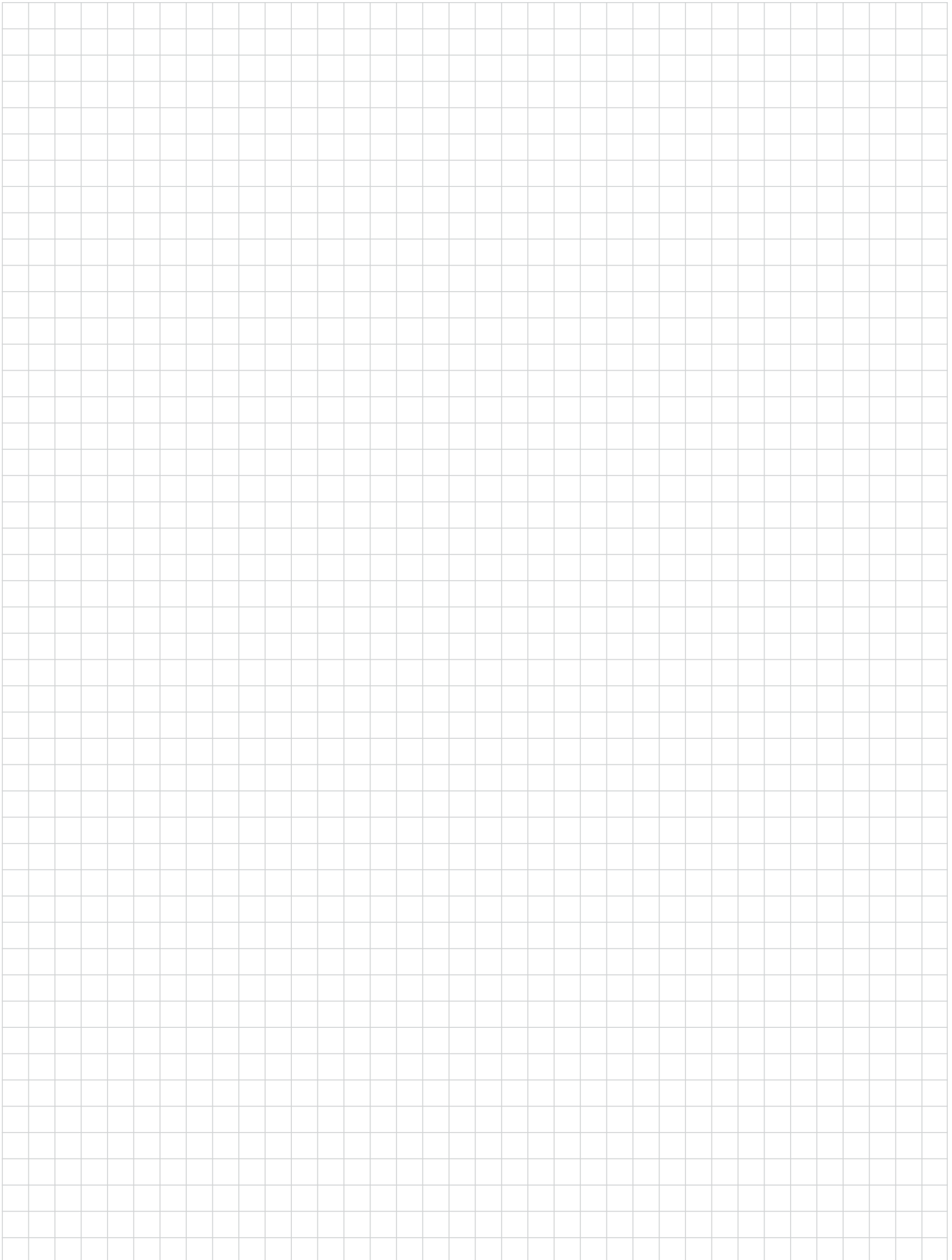
- A mechanical fastening is not absolutely essential on clean load bearing masonry substrates and concrete. Exception: rock wool insulation from an eaves height of > 8m.
- Porous concrete and sub-layers should always be secured mechanically.

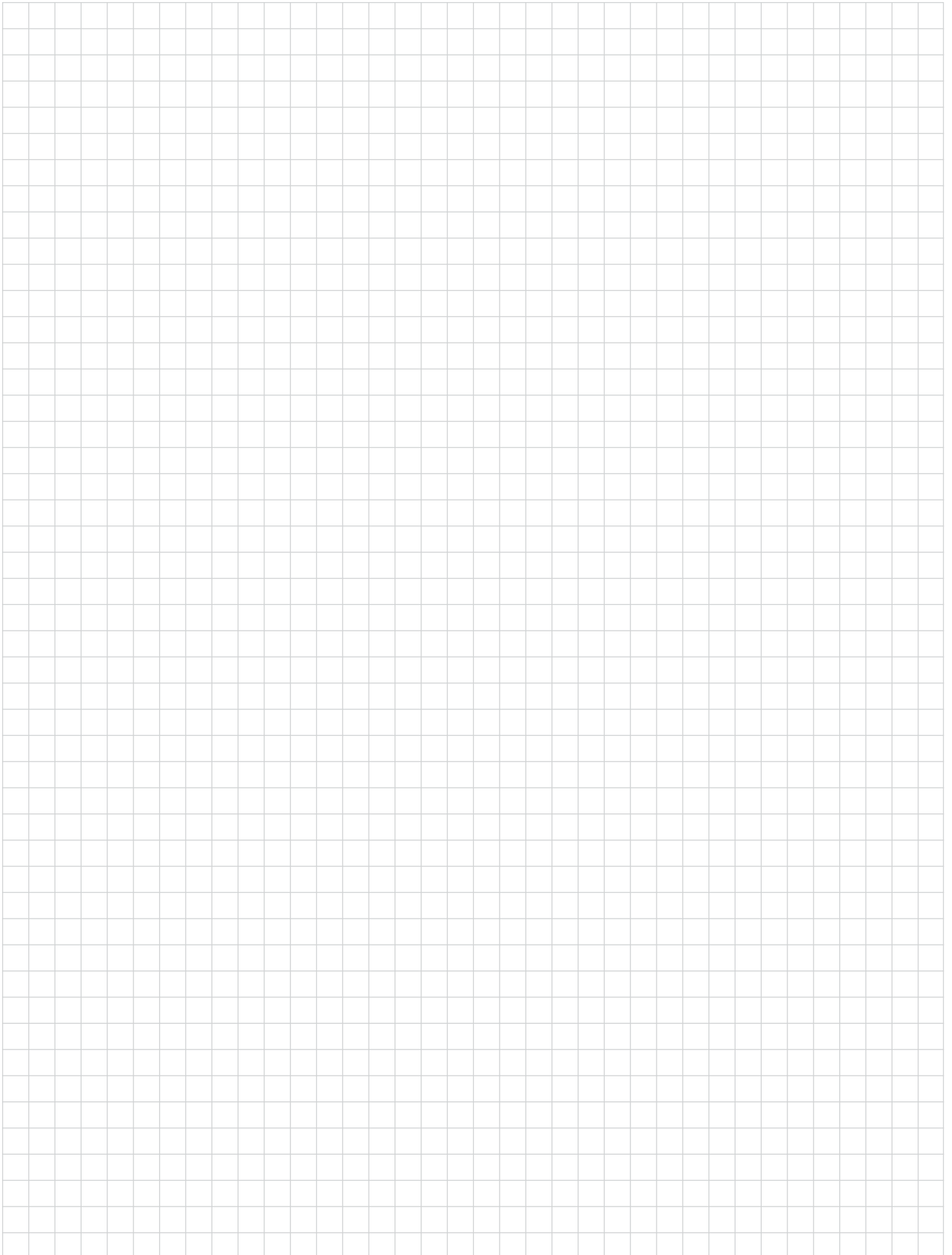
4. Implementation recommendation for renovations

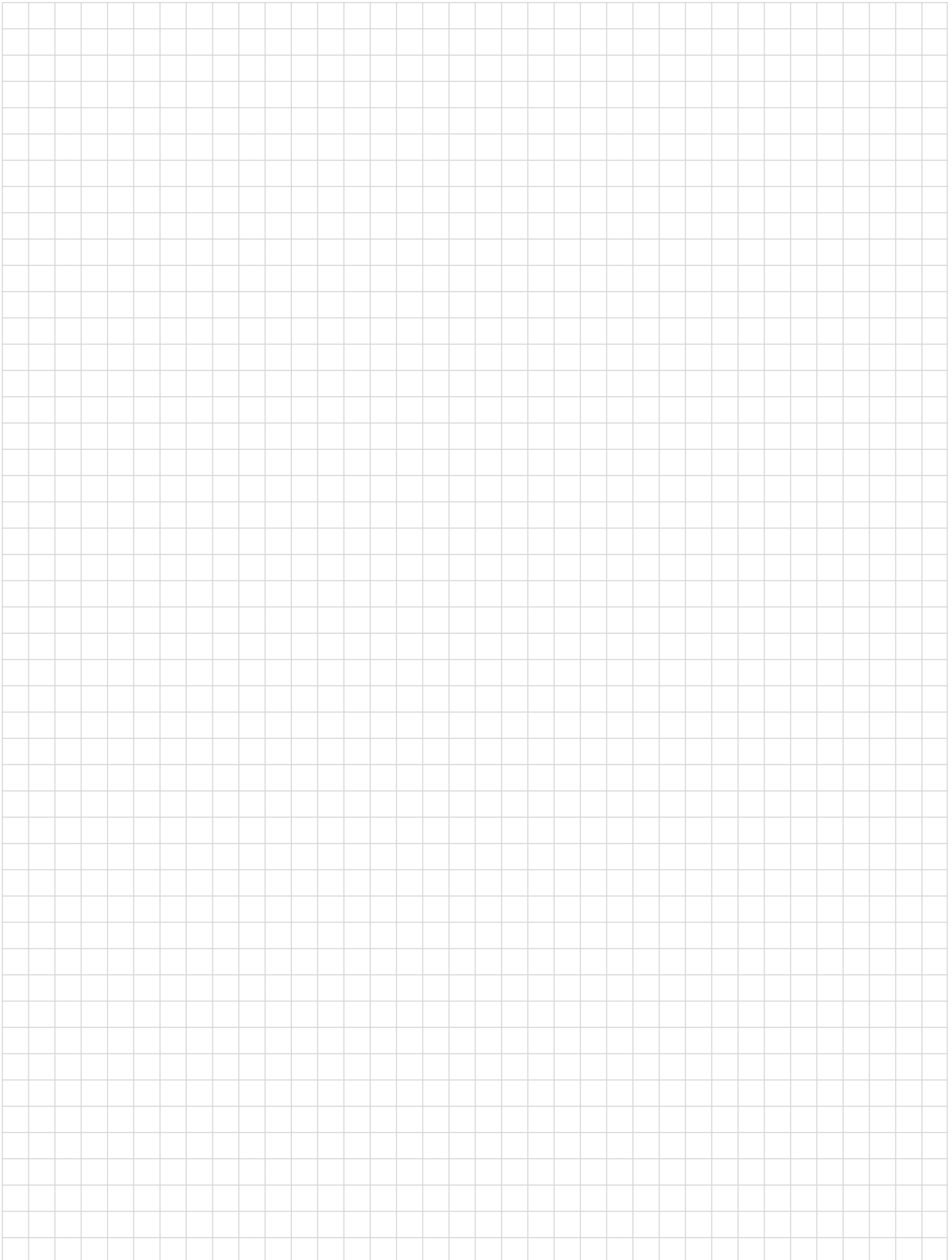
For renovations, a mechanical fastening is generally recommended on all substrates and with every system structure.

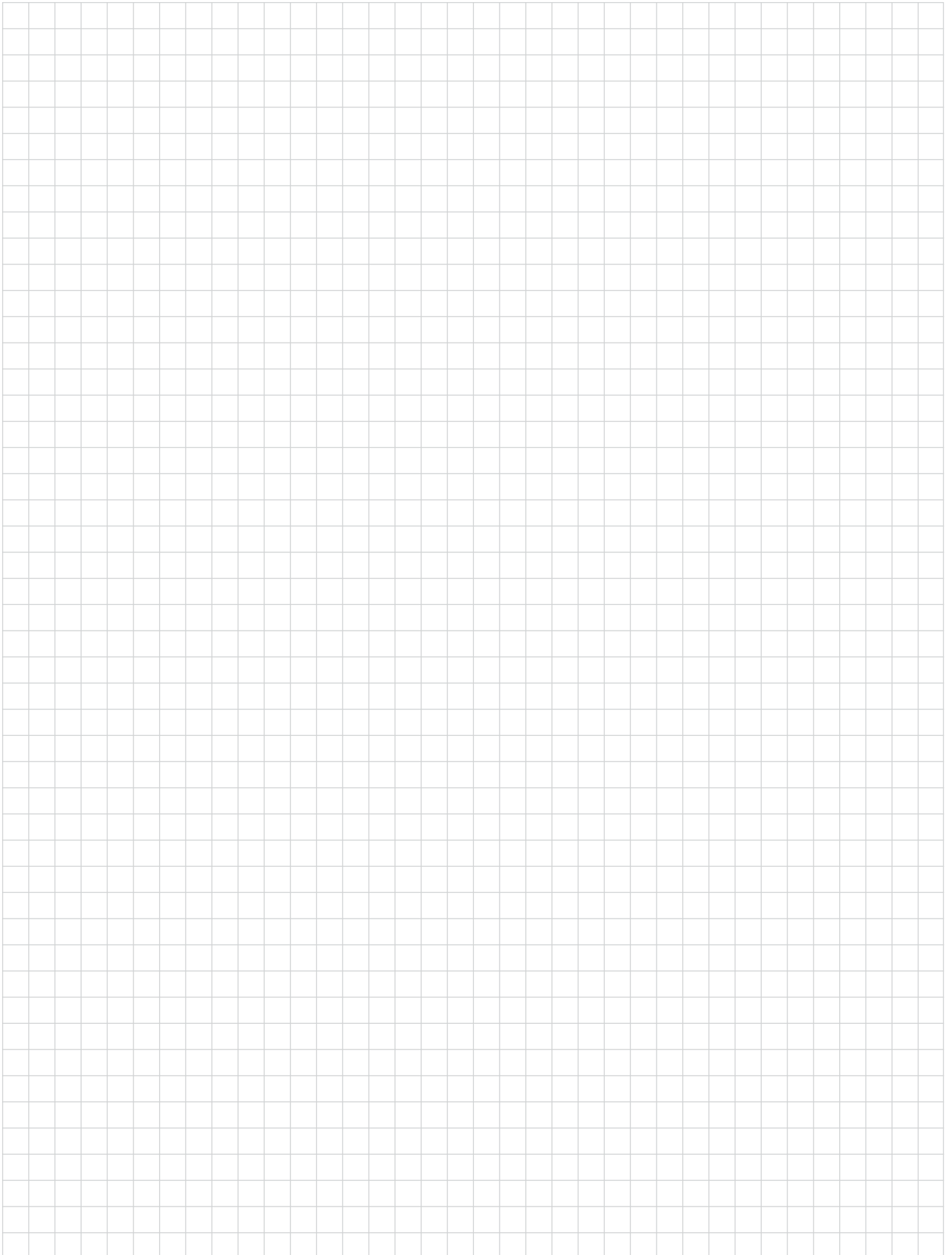












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