



HILTI HIK-T Distance Fixing System Instruction Manual

[Home](#) » [HILTI](#) » HILTI HIK-T Distance Fixing System Instruction Manual 

Contents

- [1 HILTI HIK-T Distance Fixing System](#)
- [2 Product Information](#)
- [3 Product Usage Instructions](#)
- [4 General Part](#)
- [5 SPECIFIC PART OF THE EUROPEAN TECHNICAL ASSESSMENT](#)
- [6 Performance of the Product](#)
- [7 Technical Details](#)
- [8 Product description](#)
- [9 Intended use](#)
- [10 Performances](#)
- [11 FAQ](#)
- [12 Documents / Resources](#)
 - [12.1 References](#)
- [13 Related Posts](#)



HILTI HIK-T Distance Fixing System



Product Information

Specifications

- **Product Name:** Hilti HIK-T Distance Fixing System
- **Model Numbers:** HIK-T 12, HIK-T 16
- **Manufacturer:** HILTI Corporation
- **Manufacturing Plant:** HILTI plants
- **Intended Use:** Fixings through an ETICS into the loadbearing wall of heavy-duty fixtures

Product Usage Instructions

Technical Description

The HILTI HIK-T 12 and HIK-T 16 are postinstalled anchor systems placed into predrilled holes in concrete, masonry, and anchored by bonding.

Intended Use

The system is used for distance installations in insulated base materials for heavy-duty fixtures like awnings, French balconies, canopies, satellite dishes, etc.

Installation Temperature

The minimum and maximum installation temperature are specified by the manufacturer within the specified range.

Performance Conditions

The performances of the product are valid only if used in compliance with the specifications and conditions given in Annex B1 to B5 of the manual.

Warnings

Ensure no debris or remaining ETICS/inulations influence the load-bearing capacity in the base material when using the product in ETICS or insulations.

General Part

Technical Assessment Body issuing the ETA and designated according to Article 29 of the Regulation (EU) No 305/2011: ETA-Danmark A/S

Technical Assessment Body issuing the ETA and designated according to Article 29 of the Regulation (EU) No 305/2011: ETA-Danmark A/S	
Trade name of the construction product:	Hilti HIK-T 12 Hilti HIK-T 16
Product family to which the above construction product belongs:	Distance fixing system
Manufacturer:	HILTI Corporation Feldkircherstrasse 100 9494 Schaan Principality of Liechtenstein
Manufacturing plant:	HILTI plants
This European Technical Assessment contains:	30 pages including 24 annexes which form an integral part of the document
This European Technical Assessment is issued in accordance with Regulation (EU) No 305/2011, on the basis of:	EAD 331985-01-0604 – Distance fixing system
This version replaces:	The ETA with the same number issued on 2022-11-07

Translations of this European Technical Assessment in other languages shall fully correspond to the original issued document and should be identified as such.

Communication of this European Technical Assessment, including transmission by electronic means, shall be in full (except the confidential Annexes referred to above). However, partial reproduction may be made, with the written consent of the issuing Technical Assessment Body. Any partial reproduction has to be identified as such.

SPECIFIC PART OF THE EUROPEAN TECHNICAL ASSESSMENT

Technical description of product

Technical description of the product

HILTI HIK-T 12 and HILTI HIK-T 16 are post-installed anchor systems placed into predrilled holes in concrete, in masonry and anchored by bonding.

HILTI HIK-T 12 or HILTI HIK-T 16 distance fixing systems consist of a M12 or M16 threaded rod made from carbon steel or stainless steel and a thermal separation module made from polyamide. The fixing system is placed into a pre-drilled hole perpendicular to the surface (maximum deviation 5°) in masonry or concrete, and anchored by bonding the threaded rod element to the wall of the drilled hole.

The product description is given in Annex A.

Specification of the intended use in accordance with the applicable European Assessment Document (hereinafter EAD)

The intended use is fixings through an ETICS into the loadbearing wall of heavy-duty fixtures such as awnings, French balconies, canopies, satellite dishes, etc.

The system is used for distance installations in the following insulated base materials:

- Normal weight cracked or non-cracked concrete (base material group a)
- Solid masonry bricks (base material group b)
- Perforated or hollow bricks (base material group c)
- autoclaved aerated concrete (base material group d)

Reference to base material group in EAD 330499-02-0601 and EAD 330076-00-0604.

Anchorage subject to: Static or quasi-static loads.

Temperature range:

- T1: -40°C to +40°C (max. short term temperature +40°C and max. long-term temperature +24°C)
- T2: -40 °C to +80 °C (max long term temperature +50 °C and max short term temperature +80 °C)

The minimum and the maximum installation temperature are specified by the manufacturer within the above range.

Use categories in respect of use:

- Category d/d: Use in dry masonry and concrete Category
- w/w: Use in wet masonry only.

This ETA applies only where concrete or masonry members in which the distance fixing systems are embedded are subject to static or quasi static actions in tension, pressure, shear or combined tension and shear or pressure and shear or bending.

In case of a product use in ETICS or insulations, it must be ensured that no debris and remaining of ETICS or insulations influence the load bearing capacity in the base material.

- The performances given in Section 3 are only valid if the anchor is used in compliance with the specifications and conditions given in Annex B1 to B5.
- The provisions made in this European Technical Assessment are based on an assumed intended working life of

the anchor of 50 years.

- The indications given on the working life cannot be interpreted as a guarantee given by the producer or Assessment Body but are to be regarded only as a means for choosing the right products in relation to the expected economically reasonable working life of the works.

Performance of the Product

Performance of the product and references to the methods used for its assessment

Characteristics of product

Safety in case of fire (BWR 2):

Essential characteristic	Performance
Reaction to fire	A1 for metal parts and bonding material
Façade fire performance	No performance assessed

Safety in use (BWR4):

Resistance of the M12 resp. M16 anchor rod fixed with anchor adhesive in the base material masonry: The M12 or M16 rod with material specification as stated in annex A5 are covered by the following ETAs which provide the relevant performances:

- ETA-13/1036 for Hilti HIT-HY 270
- ETA-19/0160 for Hilti HIT-HY 270
- ETA-15/0197 for Hilti HIT-HY 170
- ETA-19/0161 for Hilti HIT-HY 170
- ETA-16/0239 for Hilti HIT-MM Plus

Resistance of the M12 or M16 anchor rod fixed with anchor adhesive in the base material concrete: The M12 resp. M16 rod with material specification as stated in annex A5 are covered by the following ETAs which provide the relevant performances:

For cracked and uncracked concrete

- ETA-11/0354 for Hilti HIT-CT 1
- ETA-14/0457 for Hilti HIT-HY 170
- ETA-19/0465 for Hilti HIT-HY 170
- ETA-11/0493 for Hilti HIT-HY 200-A
- ETA-12/0084 for Hilti HIT-HY 200-R
- ETA-19/0601 for Hilti HIT-HY 200-A/R V3

For uncracked concrete:

- ETA-17/0199 for Hilti HIT-MM Plus

Resistance of the plastic part

- Characteristic resistance of the plastic part transferring load to failure under tension loading
- Characteristic resistance of the plastic part transferring load to failure under pressure loading
- Characteristic resistance of the plastic part transferring load to failure under shear loading
- Characteristic resistance to failure under pressure load and displacement (buckling of cantilever arm)
- Characteristic resistance to failure under combined shear and pressure load and displacements (buckling of cantilever arm)
- Characteristic resistance under shear loads and displacements (failure of plastic part transferring load, cantilever arm)
- Maximum installation torque moment

The above essential characteristics are detailed in Annex C.

Energy economy and heat retention (BWR6)

- Point thermal transmittance
- Equivalent thermal conductivity

The above essential characteristics are detailed in Annex C.

Durability

The verification of durability is part of testing of the essential characteristics. Durability is only ensured if the specifications of intended use according to Annex B are taken into account.

Methods of assessment

The assessment of fitness of the anchor for the intended use in relation to the requirements for mechanical resistance and stability and safety in use in the sense of the Basic Requirements 4 has been made in accordance with the EAD 331985- 01-0604 – Distance fixing system.

Assessment and verification of constancy of performance (AVCP)

AVCP system

According to the decision 97/463/EC of the European Commission, the system(s) of assessment and verification of constancy of performance (see Annex V to Regulation (EU) No 305/2011) is 2+.

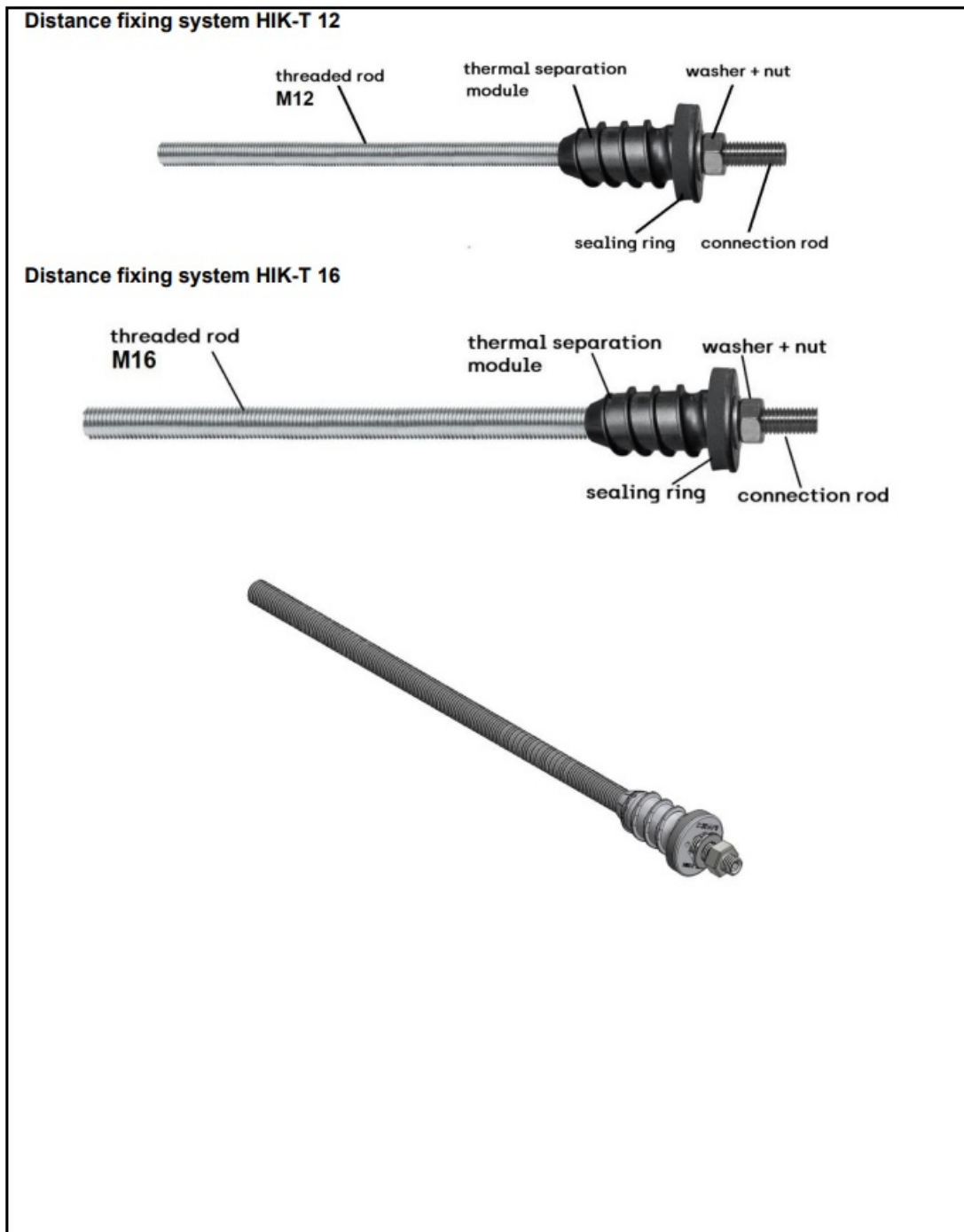
Technical Details

Technical details necessary for the implementation of the AVCP system, as foreseen in the applicable EAD

Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited at ETA-Danmark prior to CE marking.

Issued in Copenhagen on 2023-07-24 by

Thomas Bruun Managing Director, ETA-Danmark

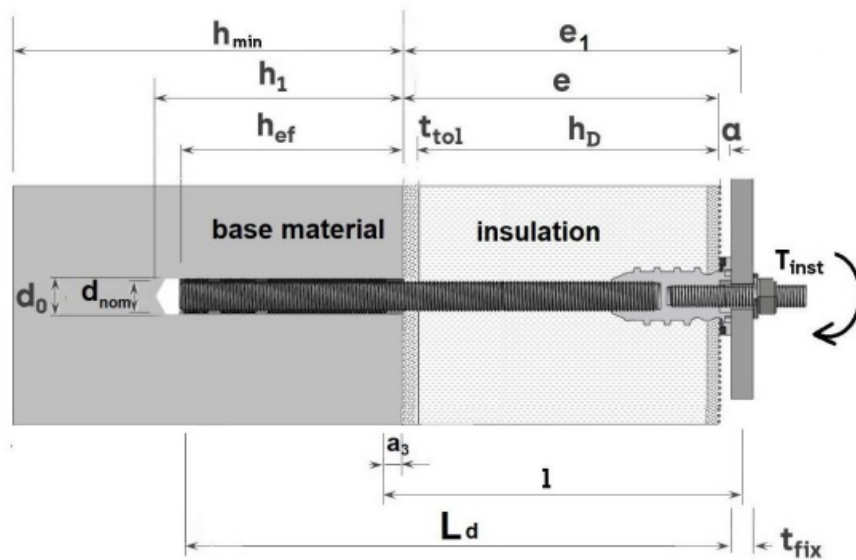


Product description

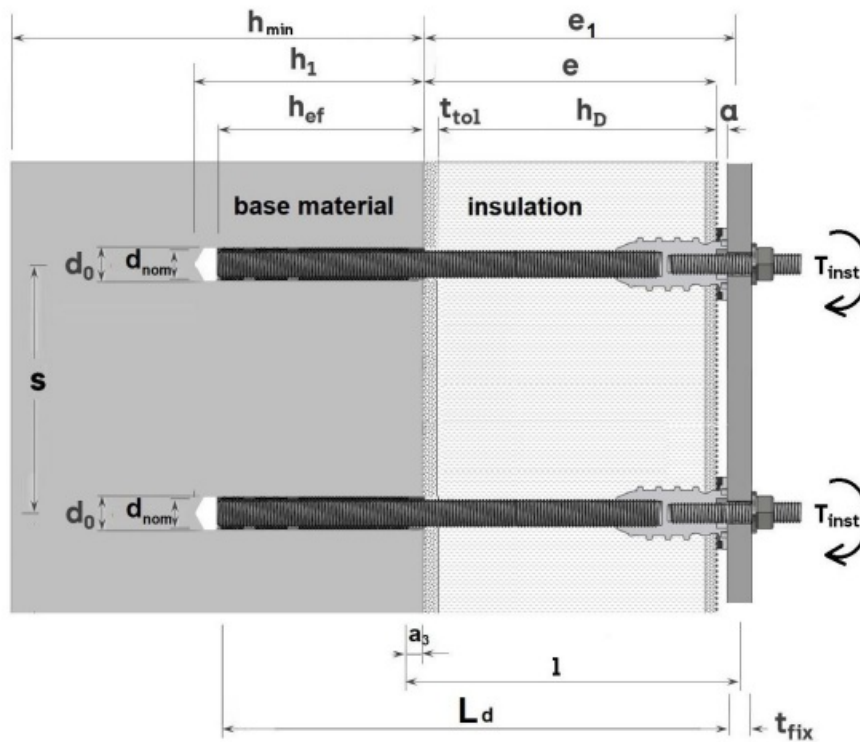
View and profile of the products

HIK-T 12 and HIK-T 16 installed conditions

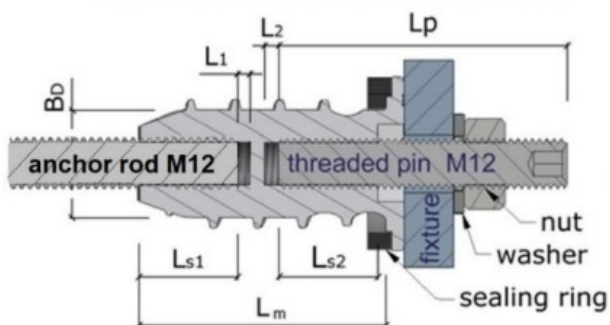
Single fixing – anchor's free end is rotatable under an acting shear load



Multiple fixing – anchor's free end is not rotatable under an acting shear load, provided that the fixed baseplate is sufficiently rigid



HIK-T 12 installed conditions



HIK-T 16 installed conditions

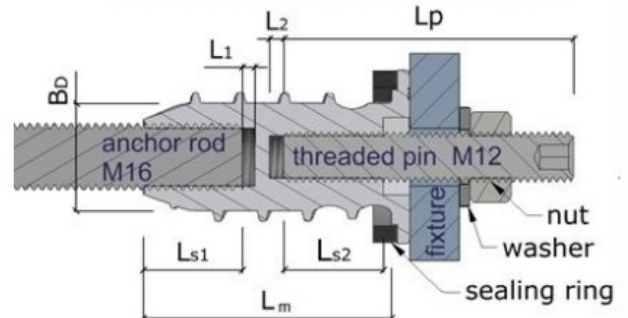
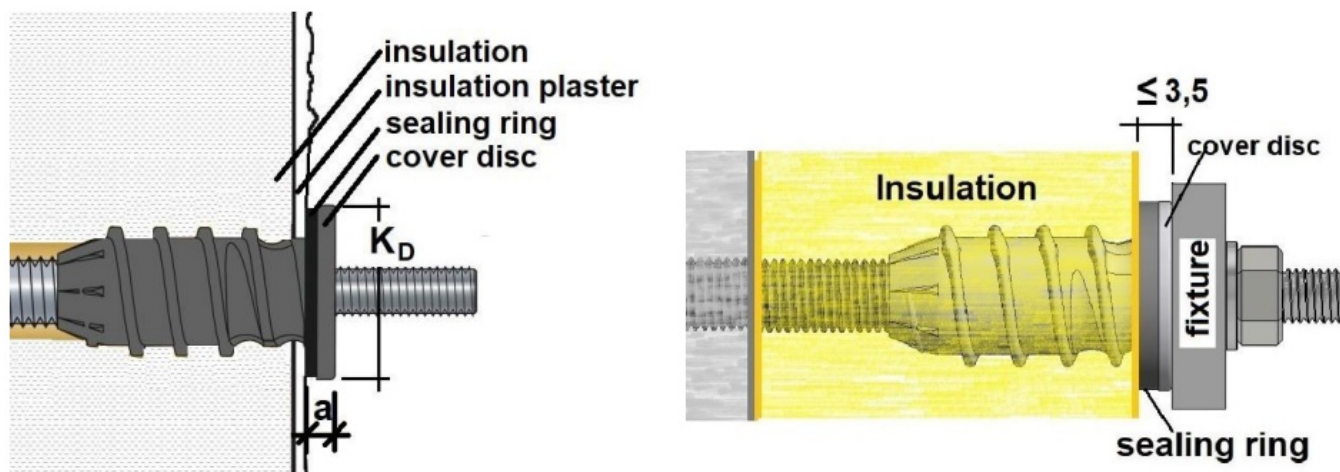


Table A3.1: Specifications for the installation

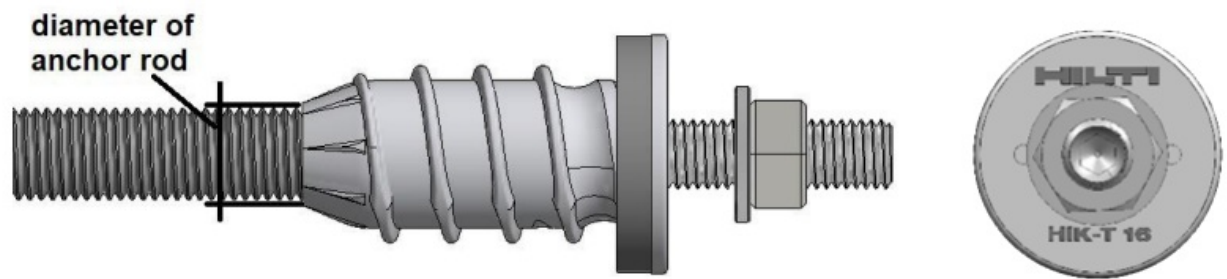
			HIK-T 12	HIK-T 16
Total length incl. anchor rod	L_d	[mm]	≤ 302	≤ 392
Length of the thermal separation module	L_m	[mm]	60	
Core diameter of the thermal separation module	B_D	[mm]	26	
Diameter cover disc	K_D	[mm]	42	
Diameter of anchor rod	d_{nom}	[mm]	12	16
Thickness of non-load bearing plaster, adhesive or similar materials	t_{tol}	[mm]	optional	optional
Insulation thickness (incl. insulation plaster)	h_D	[mm]	60 - 220	60 - 300
Lever arm for shear load for calculation of shear load with lever arm	l	[mm]	$a_3 + e_1$	
Distance between surface of base material to the plaster surface (nonbearing materials)	e	[mm]	$h_D + t_{tol}$	
Distance between shear load and surface of the base material	e_1	[mm]	$e + a + t_{fix}/2$	
Gap between plaster surface and fixture	a	[mm]	3 - 3,5	
Additional length for lever arm	a_3	[mm]	$0,5 \times d_{nom}$	
Min. screw-in depth M12 resp. M16 anchor rod	L_{s1}	[mm]	24	
Min. screw-in depth M12 (pin)	L_{s2}	[mm]	24	
Adjusting length M12 resp. M16 anchor rod (base material side)	L_1	[mm]	3	
Adjusting length M12 pin (fixture side)	L_2	[mm]	3,5	
Spacing between anchor rods	s	[mm]	in accordance with ETA of anchor adhesive	

HIK-T 12, HIK-T 16 installed conditions to ensure sealing against driving rain (watertightness in accordance with EN 1027 – method 1A)



Installation with max. distance of plaster to fixture to ensure water tightness ($a \leq 3,5$ mm)

Marking:



Marking:	Brand	Type	diameter of anchor rod
Example:	HILTI	HIK-T	16 resp. 12

HIK-T 12, HIK-T 16 single parts and materials



Accessories:



Pos 3a



Pos 7

Table A 5.1: Parts and Materials

Pos	Designation	Material
1	Anchor rod M12 or Anchor rod M16	Steel zinc plated galvanized $\geq 5\mu\text{m}$ in accordance with EN ISO 4042:2018 property class EN-ISO 898-1:2013, $f_{yk} \geq 640 \text{ N/mm}^2$, $f_{uk} \geq 800 \text{ N/mm}^2$ or stainless steel A4 in accordance with EN 10088-3:2014, material 1.4401 or 1.4571, $f_{yk} \geq 450 \text{ N/mm}^2$, $f_{uk} \geq 700 \text{ N/mm}^2$, strength class 70
2	Thermal separation module	Polyamide PA 6 with glass fiber
3	Threaded pin M12	Stainless steel A4 in accordance with EN 10088-3:2014, material 1.4401 or 1.4571, $f_{yk} \geq 450 \text{ N/mm}^2$, $f_{uk} \geq 700 \text{ N/mm}^2$)
	or alternative	
3a	reduction threaded pin M12/M10	
3b	or M12 screw	
4	sealing ring	Material: EPDM (min. $41,5 \times 37,5 \times 6 \text{ mm}^3$)
5	Hexagon nut M12	Stainless steel A4 in accordance with EN 10088-3:2014, material 1.4401 or 1.4571, nut in accordance with DIN EN ISO 4032)
6	Washer	Stainless steel A4 in accordance with DIN 125 or 440
7	Optional: distance washer for M12, in accordance with DIN 9021	Polyamide, $37 \times 13 \times 3 \text{ mm}$ (white or black)

Specification of intended use

Anchorage subject to:

Static and quasi-static actions in tension, pressure, shear or combined tension and shear or combined pressure and shear load. The anchor shall not be used for the transmission of dead loads of the thermal insulation composite system.

Base material:

Masonry – in accordance with ETAs

- ETA-13/1036 for Hilti HIT-HY 270
- ETA-19/0160 for Hilti HIT-HY 270
- ETA-15/0197 for Hilti HIT-HY 170
- ETA-19/0161 for Hilti HIT-HY 170
- ETA-16/0239 for Hilti HIT-MM Plus

Cracked and uncracked concrete – in accordance with ETAs

- ETA-11/0354 for Hilti HIT-CT 1
- ETA-19/0465 for Hilti HIT-HY 170
- ETA-14/0457 for Hilti HIT-HY 170
- ETA-11/0493 for Hilti HIT-HY 200-A
- ETA-12/0084 for Hilti HIT-HY 200-R
- ETA-19/0601 for Hilti HIT-HY 200-A/R V3

Uncracked concrete – in accordance with ETAs for uncracked concrete

- ETA-17/0199 for Hilti HIT-MM Plus based

Temperature Range for use – if not restricted by injection adhesive ETA:

Masonry

- Ta: – 40°C to + 40°C (max. temperature: short-term +40°C and long-term +24°C)
- Tb: – 40°C to + 80°C (max. temperature: short-term +80°C and long-term +50°C)

Concrete

- T1: – 40°C to + 40°C (max. temperature: short-term +40°C and long-term +24°C)
- T2: – 40°C to + 80°C (max. temperature: short-term +80°C and long-term +50°C)

Use conditions (Environmental conditions)

The use conditions for the base materials are given in the above-mentioned ETAs for the respective substrates.

Steel parts in respect of installation and application conditions:

The intended use regarding environmental conditions of anchors with components made of stainless steel, results from their corrosion resistance class in accordance with (CRC) to EN 1993-1-4:2006+A1:2015,

Table A.3 in connection with EN 1993-1-4:2006+A1:2015, Table A.2 and A.1.

- The fastener consisting of exterior and interior parts made of stainless-steel class A4 in accordance with Annex A5, table A5.1: CRC III.
- The fastener consisting of exterior parts made of stainless-steel class A4 in accordance with Annex A5, table A5.1 and interior parts made of galvanized carbon steel in accordance with annex A5, table A5.1: CRC III, provided that the anchor and sealing ring is installed in accordance with annex A4 and a displacement less than 1.0 mm under tension loads and less than 3.0 mm under shear loads, and with a render with a maximum grain size K3.
- Furthermore, it is required that the ETICS or insulation is designed to avoid accumulation of humidity. The fastener consisting of exterior parts made of stainless-steel class A4 in accordance with Annex A5, table A5.1 and interior parts made of galvanized carbon steel in accordance with annex A5, table A5.1: CRC III, provided that other suitable sealing measures are taken, such as a hybrid joint compound or e.g., a sheet metal cover is applied

Use conditions in respect of installation and use

Masonry base material – if not restricted by the ETA for the anchor adhesive:

- Category d/d: Installation and use in dry masonry
- Category w/w: Installation and use in wet or dry masonry (incl. w/d installation in wet masonry and use in dry masonry)

Concrete base material – if not restricted by the ETA for the anchor adhesive:

- I1: installation in dry or wet (water saturated) concrete and use in dry or wet concrete
- I2: installation in water-filled drill holes (not sea water) and use in dry or wet concrete

- D3: downward and horizontal and upwards (e.g. overhead) installation

Design:

- The anchorages are to be designed under the responsibility of an engineer experienced in anchorages and masonry work with the applicable safety factors.
- Verifiable calculation notes and drawings shall be prepared taking account of the loads to be anchored, the nature and strength of the base materials and the dimensions of the anchorage members as well as of the relevant tolerances. The position of the anchor is indicated on the design drawings.
- The fastener is anchored in the substrate of concrete or masonry. Any other layer e.g., tolerance levelling layers, adhesives, plaster covering the substrate or outside plasters are considered as to be non-load bearing.
- The anchorage design shall be done in accordance with EOTA TR 077:2022.
- $\alpha_{\text{pressure}} = 1$ for compression load for solid base material and for hollow base material with more than 4 penetrated webs.

Installation:

- Dry or wet structures
- Anchor Installation carried out by appropriately qualified personnel and under the supervision of the person responsible for technical matters of the site.
- Hole drilling in concrete by hammer or compressed air drill mode
- Temperature of the anchor system at installation from -20°C to + 40°C.
- Exposure to UV due to solar radiation of the plastic part not protected ≤ 6 weeks.

Table B 2.1: Installation parameters in base material (see drawing in Annex A2)

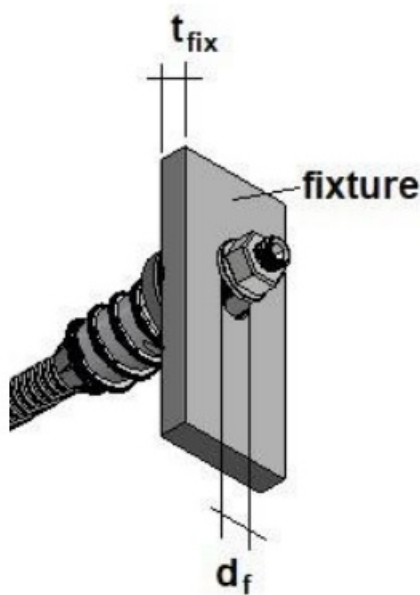
Anchor type			HIK-T 12	HIK-T 16
Insulation thickness incl. insulation plaster	h_D	[mm]	60 - 220	60 - 300
Min. thickness of member	h_{min}	[mm]	in accordance with anchor adhesive ETA	
Effective anchorage depth	$h_{ef} \geq$	[mm]		
Drill hole diameter	d_0	[mm]		
Depth of drill hole in the base material	$h_1 \geq$	[mm]		
Diameter of clearance hole in the fixture for the M12 threaded pin	$d_f \geq$	[mm]	13	
Diameter of clearance hole in the fixture for the M12/M10 threaded pin	$d_f \geq$	[mm]	11	
Length of threaded pin	$L_p \geq$	[mm]	50	
Thickness of fixture	t_{fix}	[mm]	0 – 24 ^{a)} max. 200 ^{b)}	
Installation torque to fix the fixture*	$T_{inst} \leq$	[Nm]	19	25

For hollow base material a perforated sleeves must be used for the anchor adhesive, in accordance with ETA of anchor adhesive.

* T_{inst} = 19 Nm resp. 25 Nm are valid for the thermal separation module. Max. T_{inst} given in ETAs of anchor adhesive must also be observed.

a) as delivered with threaded pin M12 or with reduction threaded pin M12/M10

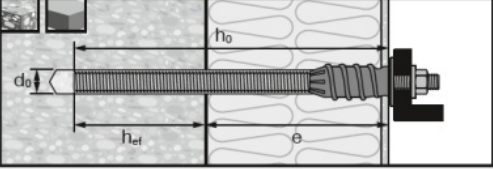
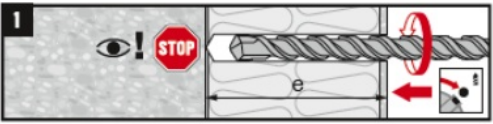
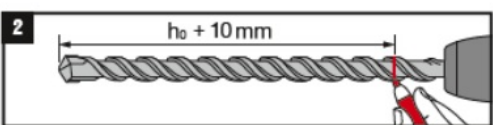
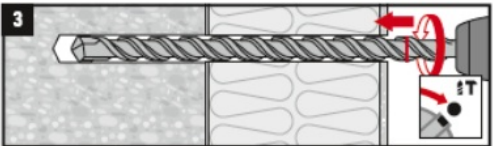
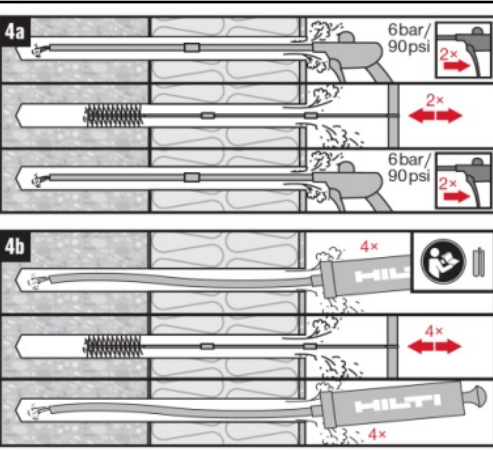
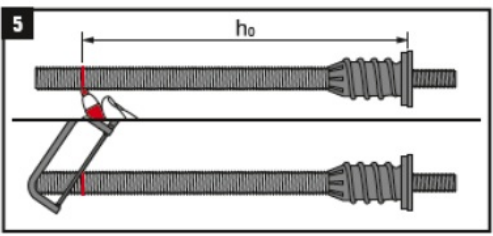
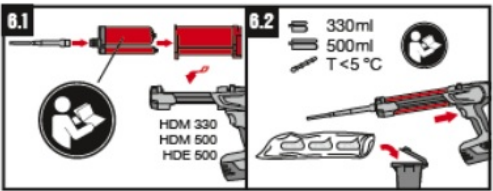
b) with any longer threaded rod, washer and nut which complies to the specifications given in table A 5.1 position 3 and 3a. The introduction of bending moment is not allowed. Constructive measures must be applied to exclude any bending moment.

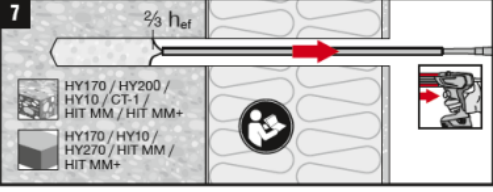
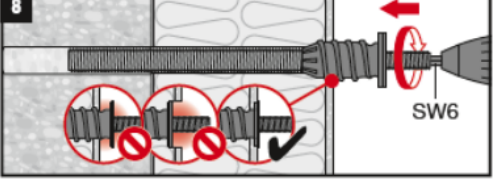
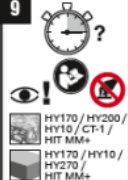
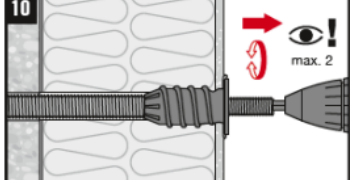
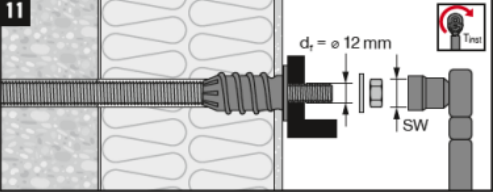


Intended use

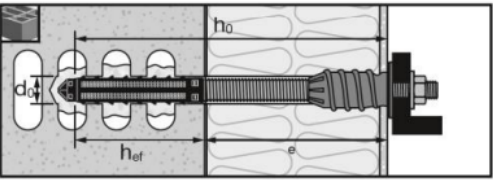
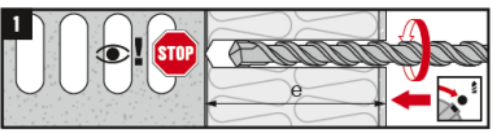
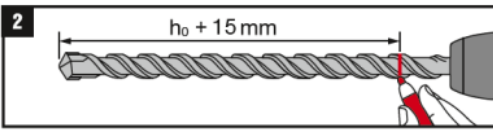
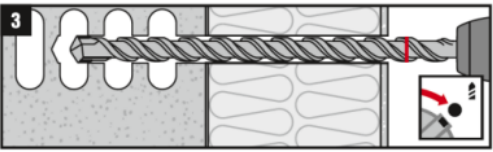
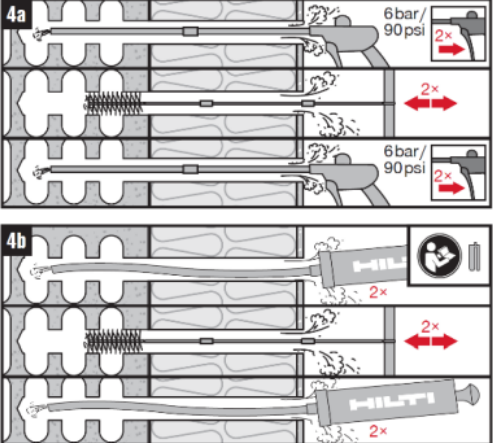
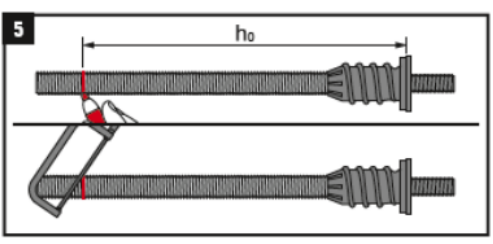
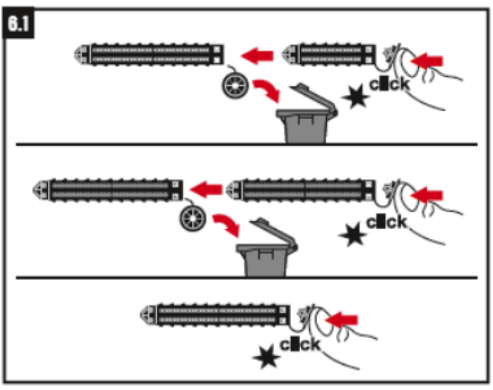
Installation parameters

HIK-T 12, HIK-T 16: Installation instruction (in concrete or solid masonry)

	<p>Important dimension for proper installation h_0...minimum bore hole depth, h_{ef}...effective embedment depth, e...insulation thickness including tolerance layer and rendering $h_0 = e + h_{ef}$</p>
	<p>Switch the drill to rotary mode (no hammer action)! Drill a hole through plaster, insulation and tolerance layer until the drill bit touches the base material!</p>
	<p>Consider a plus tolerance of 10mm to h_0 and mark required drilling depth on the drill bit!</p>
	<p>Switch the drill to hammer drilling mode! Drill a hole to the required drilling depth indicated by the mark!</p>
	<p>Properly clean the borehole according to the relevant Hilti Injection Technology mortar ETA, for the respective base material.</p>
	<p>Mark the length h_0! Cut the anchor system to length h_0!</p>
	<p>Study Instruction for Use of the anchor adhesive and apply the advised steps accordingly!</p>

<p>7</p>  <p>HY170 / HY200 / HY10 / CT-1 / HIT MM / HIT MM+</p> <p>HY170 / HY10 / HY270 / HIT MM / HIT MM+</p>	<p>Inject the adhesive starting at the back of the hole, slowly withdrawing the mixer! Fill approximately 2/3 of the drill hole!</p>
<p>8</p>  <p>SW6</p>	<p>Use an electric screwdriver and a hexagonal drive of size SW6 to screw-in the anchor system! Drive it carefully and not too fast to ensure proper seat of the plastic collar with sealing ring!</p>
<p>9</p>  <p>HY170 / HY200 / HY10 / CT-1 / HIT MM+</p> <p>HY170 / HY10 / HY270 / HIT MM / HIT MM+</p> <p>10</p>  <p>max. 2</p>	<p>After curing time in accordance with information given in the Instruction for Use of the anchor adhesive, the exterior rod of the anchor system may be adjusted by turning it out maximum two turns.</p>
<p>11</p>  <p>$d_s = e 12 \text{ mm}$</p> <p>SW</p>	<p>Attach the fixture and fasten it with the washer and the nut! Apply the torque in accordance with the information given in table B2.1 and in the Instructions for Use of anchor adhesive! The lower value is applicable.</p>

HIK-T 12, HIK-T 16: Installation instruction (in hollow masonry)

	<p>Important dimension for proper installation h_0...minimum bore hole depth, h_{ef}...effective embedment depth, e...insulation thickness including tolerance layer and rendering $h_0 = e + h_{ef}$</p>
	<p>Switch the drill to rotary mode (no hammer action)! Drill a hole through plaster, insulation and tolerance layer until the drill bit touches the base material!</p>
	<p>Consider a plus tolerance of 15mm to h_0 and mark required drilling depth on the drill bit accordingly!</p>
	<p>Switch the drill to rotary mode (no hammer action) respectively remain in rotary mode! Drill a hole to the required drilling depth indicated by the mark!</p>
	<p>Properly clean the borehole according to the relevant Hilti Injection Technology mortar ETA, for the respective base material.</p>
	<p>Mark the length h_0! Cut the anchor system to length h_0!</p>
	<p>Discard the superfluous plug if plugging together sieve sleeve to cover the required embedment depth! Plug in the plug if sieve sleeve is used solitarily.</p>

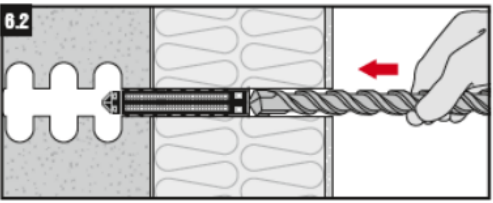
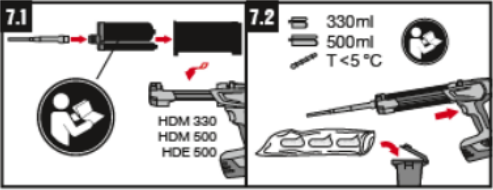
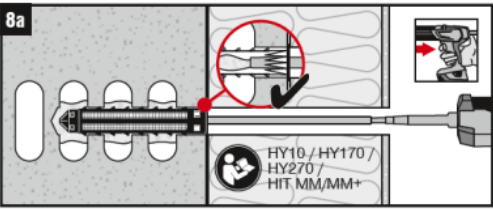
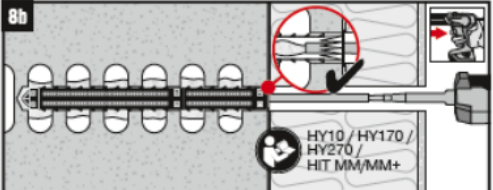
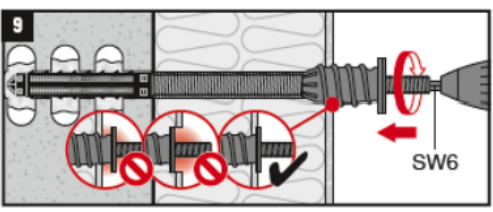
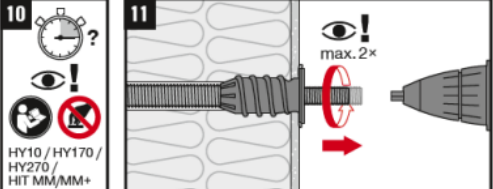
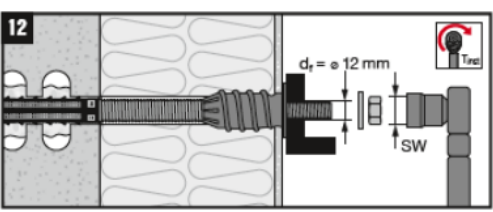
	<p>Push in the sieve sleeve by using the drill bit!</p>
	<p>Study Instruction for Use of the anchor adhesive and apply the advised steps accordingly!</p>
	<p>When using one sieve sleeve only: Insert the mixer approximately 1 cm through the lid! Inject required amount of adhesive! Note: Adhesive must emerge through the lid.</p>
	<p>When using two sieve sleeves: Insert the mixer approximately 1 cm through the lid of the first sieve sleeve! Inject required amount of adhesive! Note: Adhesive must emerge through the lid.</p>
	<p>Use an electric screwdriver and a hexagonal drive of size SW6 to screw-in the anchor system! Drive it carefully and not too fast to ensure proper seat the plastic collar with sealing ring!</p>
	<p>After curing time in accordance with information given in the Instruction for Use of the anchor adhesive, the exterior rod of the anchor system may be adjusted by turning it out maximum two turns.</p>
	<p>Attach the fixture and fasten it with the washer and the nut! Apply the torque in accordance with the information given in table B2.1 and in the Instructions for Use of the anchor adhesive! The lower value is applicable.</p>

Table B9.1 Conditions for proper installation and additional advice for installation

Note: Driving rain resistance must be designed in accordance with the provisions given in annex B2 for fasteners with an interior part made of galvanized steel.

HIK-T 12, HIK-T 16					
ETICS* with insulation panels made of					
		XPS EPS	Mineral wool, compression strength $\geq 5 \text{ kPa}^{**}$	wood fiber, raw density $\leq 230 \text{ kg/m}^3$ and compression strength $\leq 100 \text{ kPa}$	wood fiber, raw density $> 230 \text{ kg/m}^3$ or compression strength $> 100 \text{ kPa}$
ETICS rendered with plaster	$\leq 8 \text{ mm}$ rendering thickness	Standard installation in accordance with annex B5, B6, B7 and B8			Drill the hole through the insulation and in the base material with a regular drill bit. Afterwards, enlarge the hole in the plaster and insulation to diameter 26 mm to a depth of 60 mm. For this purpose a wood drill bit may be used.
	$> 8 \text{ mm}$ rendering thickness	Drill the hole through the insulation and in the base material with a regular drill bit. Afterwards, enlarge the hole in the plaster to $d=26 \text{ mm}$ by using e.g., a wood drill bit.			

External Thermal Insulations Composite Systems (ETICS) or rendered insulation with reinforced plaster which are glued only or glued and mechanically fixed.

** ≥ 5 kPa is a guideline value that the thermal separation module can apply sufficient pre-tensioning force in the insulation panel to ensure the compression of the sealing ring.

The values stated are to be understood as guideline values in order to give the user the highest possible application safety

Table C1.1: Characteristic tensile load resistance $N_{Rk,s}$ of the anchor rods

HIK-T 12, HIK-T 16				
Type	Cross section of anchor rod	Nominal tensile strength of anchor rod	Char. tensile load resistance	Safety factor
	A_s	f_{uk}	$N_{Rk,s}$	γ_{Ms}^*
	[mm ²]	[N/mm ²]	[kN]	[-]
HIK-T 8.8 12 (M12 rod 8.8, carbon steel)	84,3	800	67,4	1,50
HIK-T A4 12 (M12 rod A4-70)	84,3	700	59,0	1,87
HIK-T 8.8 16 (M16 rod 8.8, carbon steel)	157,0	800	125,6	1,50
HIK-T A4 16 (M16 rod A4-70)	157,0	700	109,9	1,87

$$N_{Rk,s} = A_s \times f_{uk}$$

*In absence of other national regulations

Table C1.2: Characteristic shear load resistance $V_{Rk,s}$ without lever arm and characteristic bending resistance $M_{Rk,s}$ of the anchor rods

HIK-T 12, HIK-T 16			
Type	Char. shear load resistance	Char. bending resistance	Safety factor
	$V_{Rk,s}$	$M_{Rk,s}$	γ_{Ms}^*
	[kN]	[Nm]	[-]
HIK-T 8.8 12 (M12 rod 8.8, carbon steel)	33,7	104,7	1,25
HIK-T A4 12 (M12 rod A4-70)	29,5	91,6	1,56
HIK-T 8.8 16 (M16 rod 8.8, carbon steel)	62,8	265,5	1,25
HIK-T A4 16 (M16 rod A4-70)	55,0	232,3	1,56

$$V_{Rk,s} = 0,5 \times A_s \times f_{uk}$$

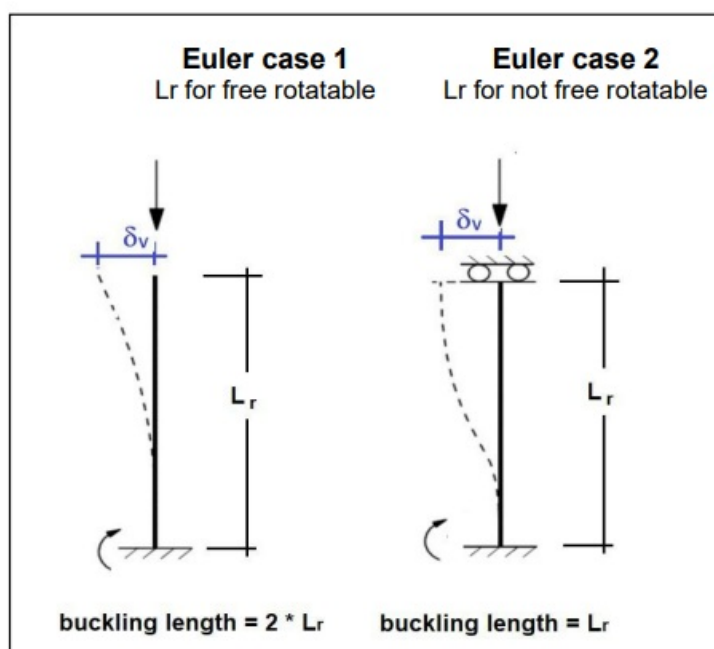
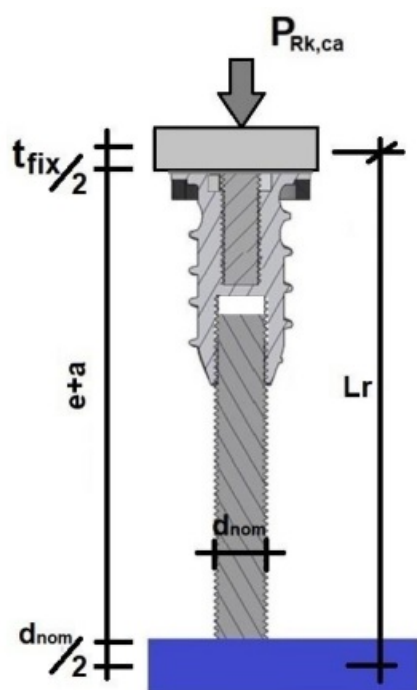
$$M_{Rk,s} = 1,2 \times W_{el} \times f_{uk}$$

$$\text{for M16: } d_s = 14,14 \text{ mm}$$

$$\text{with } W_{el} = \pi \times d_s^3 / 32$$

$$\text{for M12: } d_s = 10,36 \text{ mm}$$

Table C2.1: Characteristic buckling load resistance $P_{Rk,ca}$ for the system of threaded rod and thermal separation module under pressure load with or without shear load displacement δ_v



HIK-T 12, HIK-T 16						
				Free rotatable (Euler case 1)	Not free rotatable (Euler case 2)	
Type	Insulation thickness (incl. insulation plaster and t_{tol})	Max. shear load displacement		Char. buckling load resistance	Char. buckling load resistance	Safety factor
	h_D	δ_V	L_r	$P_{Rk,ca}$	$P_{Rk,ca}$	γ_{Mca}^*
	[mm]	[mm]	[mm]	[kN]	[kN]	[-]
HIK-T 12	60 - 120	5	136,4	$\geq 15,8^{**}$	$\geq 25,2$	1,3
HIK-T 12	121 - 160	5	176,4	$\geq 9,4^{**}$	$\geq 25,2$	1,3
HIK-T 12	161 - 220	5	236,4	$\geq 5,2^{**}$	$\geq 21,0^{**}$	1,3
HIK-T 16	60 - 220	5	238,4	$\geq 17,9^{**}$	$\geq 22,7$	1,3
HIK-T 16	221 - 300	5	318,4	$\geq 10,0^{**}$	$\geq 22,7$	1,3

* γ_{Mca} for buckling in accordance with EOTA TR 077

**calculated values in accordance with Euler cases were decisive for the determination of performance

Performances

Characteristic buckling load under pressure load

Table C3.1: Characteristic tensile load resistance $N_{Rk,tk}$ against short- and long-term acting loads for the thermal separation module

HIK-T 12, HIK-T 16		
Type	24°C/40°C and 50°C/80°C	Safety factor
	$N_{Rk,tk}$	γ_{Mtk}^*
	[kN]	[-]
HIK-T 12	18	2,5
HIK-T 16	16	2,5

* γ_{Mtk} for plastic material polyamide in accordance with EOTA TR 077

The min. screw in depths of the rods (Ls1, Ls2) must be observed

Table C3.2: Characteristic pressure load resistance $P_{Rk,tk}$ against short- and long-term acting loads for thermal separation module

HIK-T 12, HIK-T 16		
Type	24°C/40°C and 50°C/80°C	safety factor
	$P_{Rk,tk}$	γ_{Mtk}^*
	[kN]	[-]
HIK-T 12	18	2,5
HIK-T 16	18	2,5

* γ_{Mtk} for plastic material polyamide in accordance with EOTA TR 077

Pressure load in base material must be considered

Table C4.1: Characteristic shear load resistance $V_{Rk,tk}$ against short- and long-term acting loads for a single thermal separation module – free end rotatable

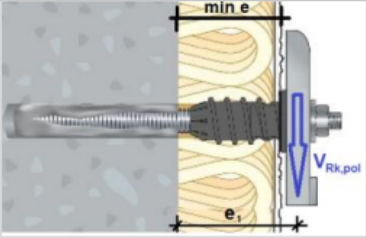
HIK-T 12, HIK-T 16					
					
	short-term 24°C/40°C	long-term 24°C/40°C	short-term 50°C/80°C	long-term 50°C/80°C	Safety factor
	$V_{Rk,tk}$	$V_{Rk,tk}$	$V_{Rk,tk}$	$V_{Rk,tk}$	γ_{Mtk}
Type	[kN]	[kN]	[kN]	[kN]	[-]
HIK-T 12	5,0	5,0	5,0	3,5	2,5
HIK-T 16	6,5	6,5	6,5	4,5	2,5

Table C4.2: Characteristic shear load resistance $V_{Rk,tk}$ against short- and long-term acting loads for a single thermal separation module – free end not rotatable

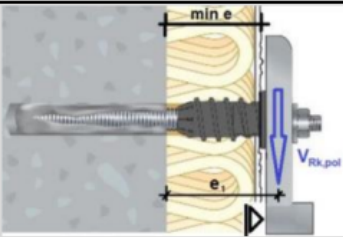
HIK-T 12, HIK-T 16					
					
Type	short-term 24°C/40°C	long-term 24°C/40°C	short-term 50°C/80°C	long-term 50°C/80°C	Safety factor
	$V_{Rk,tk}$	$V_{Rk,tk}$	$V_{Rk,tk}$	$V_{Rk,tk}$	γ_{Mtk}
	[kN]	[kN]	[kN]	[kN]	[-]
HIK-T 12	5,0	5,0	5,0	3,5	2,5
HIK-T 16	7,5	7,5	7,5	5,0	2,5

Table C5.1: Shear load V values for a single HIK-T 12 for displacements $w = 1, 2, 3, 4$ or 5 mm – free end rotatable, under short-term acting load

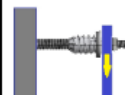
HIK-T 12 (free end rotatable, short-term acting load)										
For insulation thickness incl. insulation's plaster and t_{tol} if applicable	Temp. 24°C / 40°C					Temp. 50°C / 80°C				
	Shear load V					Shear load V				
	[kN]					[kN]				
[mm]	Deviation w					Deviation w				
	1 mm	2 mm	3 mm	4 mm	5 mm	1 mm	2 mm	3 mm	4 mm	5 mm
60	0,55	0,90	1,25	1,43	1,43	0,55	0,90	1,25	1,43	1,43
80	0,35	0,60	0,85	1,10	1,35	0,35	0,60	0,85	1,10	1,35
100	0,24	0,42	0,61	0,78	0,96	0,24	0,42	0,61	0,78	0,96
120	0,12	0,24	0,36	0,46	0,56	0,12	0,24	0,36	0,46	0,56
140	0,10	0,20	0,31	0,39	0,48	0,10	0,20	0,31	0,39	0,48
160	0,08	0,17	0,25	0,32	0,40	0,08	0,17	0,25	0,32	0,40
180	0,07	0,13	0,20	0,26	0,31	0,07	0,13	0,20	0,26	0,31
200	0,05	0,10	0,14	0,19	0,23	0,05	0,10	0,14	0,19	0,23
220	0,03	0,06	0,09	0,12	0,15	0,03	0,06	0,09	0,12	0,15



Intermediate values can be interpolated. Data are limited due to ultimate limit state verifications of the performance given in Annex C4 under consideration of γ_M M=2.5 and γ_{FF} =1.4

Table C5.2: Shear load V values for a single HIK-T 12 for displacements w = 1, 2, 3, 4 or 5 mm – free end rotatable, under long-term acting load

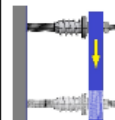
HIK-T 12 (free end rotatable, long-term acting load)										
For insulation thickness incl. insulation's plaster and t_{tol} if applicable	Temp. 24°C / 40°C					Temp. 50°C / 80°C				
	Shear load V					Shear load V				
	[kN]					[kN]				
[mm]	Deviation w					Deviation w				
	1 mm	2 mm	3 mm	4 mm	5 mm	1 mm	2 mm	3 mm	4 mm	5 mm
60	0,55	0,90	1,25	1,43	1,43	0,39	0,63	0,88	1,00	1,00
80	0,35	0,60	0,85	1,10	1,35	0,25	0,42	0,60	0,77	0,95
100	0,24	0,42	0,61	0,78	0,96	0,16	0,29	0,42	0,55	0,67
120	0,12	0,24	0,36	0,46	0,56	0,08	0,17	0,25	0,32	0,39
140	0,10	0,20	0,31	0,39	0,48	0,07	0,14	0,21	0,27	0,33
160	0,08	0,17	0,25	0,32	0,40	0,06	0,12	0,18	0,23	0,28
180	0,07	0,13	0,20	0,26	0,31	0,05	0,09	0,14	0,18	0,22
200	0,05	0,10	0,14	0,19	0,23	0,03	0,07	0,10	0,13	0,16
220	0,03	0,06	0,09	0,12	0,15	0,02	0,04	0,06	0,08	0,11



Intermediate values can be interpolated. Data are limited due to ultimate limit state verifications of the performance given in Annex C4 under consideration of γ_M M=2.5 and γ_{FF} =1.4

Table C6.1: Shear load V values for a single HIK-T 12 for displacements w = 1, 2, 3, 4 or 5 mm – free end not rotatable, under short-term acting load

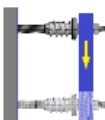
HIK-T 12 (free end not rotatable; short-term acting load)										
For insulation thickness incl. insulation's plaster and t_{tol} if applicable	Temp. 24°C / 40°C					Temp. 50°C / 80°C				
	Shear load V					Shear load V				
	[kN]					[kN]				
[mm]	Deviation w					Deviation w				
	1 mm	2 mm	3 mm	4 mm	5 mm	1 mm	2 mm	3 mm	4 mm	5 mm
60	1,30	1,43	1,43	1,43	1,43	1,30	1,43	1,43	1,43	1,43
80	0,77	1,43	1,43	1,43	1,43	0,77	1,43	1,43	1,43	1,43
100	0,57	1,09	1,43	1,43	1,43	0,57	1,09	1,43	1,43	1,43
120	0,36	0,70	1,01	1,27	1,43	0,36	0,70	1,01	1,27	1,43
140	0,31	0,59	0,85	1,07	1,29	0,31	0,59	0,85	1,07	1,29
160	0,25	0,48	0,69	0,88	1,06	0,25	0,48	0,69	0,88	1,06
180	0,20	0,37	0,54	0,68	0,82	0,20	0,37	0,54	0,68	0,82
200	0,14	0,27	0,38	0,48	0,59	0,14	0,27	0,38	0,48	0,59
220	0,08	0,16	0,22	0,29	0,35	0,08	0,16	0,22	0,29	0,35



Intermediate values can be interpolated. Data are limited due to ultimate limit state verifications of the performance given in Annex C4 under consideration of γ_M M=2.5 and γ_{FF} =1.4

Table C6.2: Shear load V values for a single HIK-T 12 for displacements w = 1, 2, 3, 4 or 5 mm – free end not rotatable, under long-term acting load

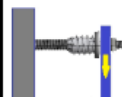
HIK-T 12 (free end not rotatable; long-term acting load)										
For insulation thickness incl. insulation's plaster and t_{tol} if applicable	Temp. 24°C / 40°C					Temp. 50°C / 80°C				
	Shear load V					Shear load V				
	[kN]					[kN]				
[mm]	Deviation w					Deviation w				
	1 mm	2 mm	3 mm	4 mm	5 mm	1 mm	2 mm	3 mm	4 mm	5 mm
60	1,30	1,43	1,43	1,43	1,43	0,91	1,00	1,00	1,00	1,00
80	0,77	1,43	1,43	1,43	1,43	0,54	1,00	1,00	1,00	1,00
100	0,57	1,09	1,43	1,43	1,43	0,40	0,76	1,00	1,00	1,00
120	0,36	0,70	1,01	1,27	1,43	0,25	0,49	0,71	0,89	1,00
140	0,31	0,59	0,85	1,07	1,29	0,21	0,41	0,60	0,75	0,91
160	0,25	0,48	0,69	0,88	1,06	0,18	0,34	0,49	0,61	0,74
180	0,20	0,37	0,54	0,68	0,82	0,14	0,26	0,38	0,48	0,58
200	0,14	0,27	0,38	0,48	0,59	0,10	0,19	0,27	0,34	0,41
220	0,08	0,16	0,22	0,29	0,35	0,06	0,11	0,16	0,20	0,25



Intermediate values can be interpolated. Data are limited due to ultimate limit state verifications of the performance given in Annex C4 under consideration of γ_M M=2.5 and γ_{FF} =1.4

Table C7.1: Shear load V values for a single HIK-T 16 for displacements w = 1, 2, 3, 4 or 5 mm – free end rotatable, under short-term acting load

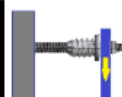
HIK-T 16 (free end rotatable; short-term acting load)										
For insulation thickness incl. insulation's plaster and t_{tol} if applicable	Temp. 24°C / 40°C					Temp. 50°C / 80°C				
	Shear load V					Shear load V				
	[kN]					[kN]				
[mm]	Deviation w					Deviation w				
	1 mm	2 mm	3 mm	4 mm	5 mm	1 mm	2 mm	3 mm	4 mm	5 mm
60	0,58	1,06	1,59	1,86	1,86	0,58	1,06	1,59	1,86	1,86
80	0,50	0,96	1,38	1,76	1,86	0,50	0,96	1,38	1,76	1,86
100	0,39	0,74	1,06	1,37	1,66	0,39	0,74	1,06	1,37	1,66
120	0,29	0,52	0,75	0,97	1,19	0,29	0,52	0,75	0,97	1,19
140	0,24	0,44	0,63	0,82	1,00	0,24	0,44	0,63	0,82	1,00
160	0,20	0,36	0,52	0,67	0,82	0,20	0,36	0,52	0,67	0,82
180	0,15	0,28	0,41	0,52	0,64	0,15	0,28	0,41	0,52	0,64
200	0,13	0,25	0,36	0,46	0,56	0,13	0,25	0,36	0,46	0,56
220	0,11	0,22	0,31	0,40	0,49	0,11	0,22	0,31	0,40	0,49
240	0,10	0,18	0,26	0,34	0,42	0,10	0,18	0,26	0,34	0,42
250	0,09	0,17	0,24	0,31	0,38	0,09	0,17	0,24	0,31	0,38
260	0,08	0,15	0,21	0,28	0,34	0,08	0,15	0,21	0,28	0,34
280	0,06	0,12	0,17	0,22	0,27	0,06	0,12	0,17	0,22	0,27
300	0,05	0,08	0,12	0,16	0,19	0,05	0,08	0,12	0,16	0,19



Intermediate values can be interpolated/ Data are limited due to ultimate limit state verifications of the performance given in Annex C4 under consideration of γ_M M=2.5 and γ_{FF} =1.4

Table C7.2: Shear load V values for a single HIK-T 16 for displacements w = 1, 2, 3, 4 or 5 mm – free end rotatable, under long-term acting load

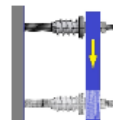
HIK-T 16 (free end rotatable; long-term acting load)										
For insulation thickness incl. insulation's plaster and t_{tol} if applicable	Temp. 24°C / 40°C					Temp. 50°C / 80°C				
	Shear load V					Shear load V				
	[kN]					[kN]				
[mm]	Deviation w					Deviation w				
	1 mm	2 mm	3 mm	4 mm	5 mm	1 mm	2 mm	3 mm	4 mm	5 mm
60	0,58	1,06	1,59	1,86	1,86	0,41	0,75	1,11	1,30	1,30
80	0,50	0,96	1,38	1,76	1,86	0,35	0,67	0,97	1,23	1,30
100	0,39	0,74	1,06	1,37	1,66	0,27	0,52	0,74	0,96	1,16
120	0,29	0,52	0,75	0,97	1,19	0,20	0,36	0,52	0,68	0,83
140	0,24	0,44	0,63	0,82	1,00	0,17	0,31	0,44	0,58	0,70
160	0,20	0,36	0,52	0,67	0,82	0,14	0,25	0,36	0,47	0,57
180	0,15	0,28	0,41	0,52	0,64	0,10	0,20	0,28	0,37	0,45
200	0,13	0,25	0,36	0,46	0,56	0,09	0,17	0,25	0,32	0,39
220	0,11	0,22	0,31	0,40	0,49	0,08	0,15	0,22	0,28	0,34
240	0,10	0,18	0,26	0,34	0,42	0,07	0,13	0,18	0,24	0,29
250	0,09	0,17	0,24	0,31	0,38	0,06	0,12	0,17	0,22	0,27
260	0,08	0,15	0,21	0,28	0,34	0,06	0,10	0,15	0,19	0,24
280	0,06	0,12	0,17	0,22	0,27	0,04	0,08	0,12	0,15	0,19
300	0,05	0,08	0,12	0,16	0,19	0,03	0,06	0,08	0,11	0,14



Intermediate values can be interpolated/ Data are limited due to ultimate limit state verifications of the performance given in Annex C4 under consideration of γ_M M=2.5 and γ_{FF} =1.4

Table C8.1: Shear load V values for a single HIK-T 16 for displacements w = 1, 2, 3, 4 or 5 mm – free end not rotatable, under short-term acting load

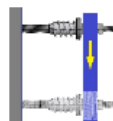
HIK-T 16 (free end not rotatable; short-term acting load)										
For insulation thickness incl. insulation's plaster and t_{tol} if applicable [mm]	Temp. 24°C / 40°C Shear load V [kN]					Temp. 50°C / 80°C Shear load V [kN]				
	Deviation w					Deviation w				
	1 mm	2 mm	3 mm	4 mm	5 mm	1 mm	2 mm	3 mm	4 mm	5 mm
60	1,94	2,14	2,14	2,14	2,14	1,94	2,14	2,14	2,14	2,14
80	1,30	2,14	2,14	2,14	2,14	1,30	2,14	2,14	2,14	2,14
100	0,99	1,82	2,14	2,14	2,14	0,99	1,82	2,14	2,14	2,14
120	0,68	1,28	1,84	2,14	2,14	0,68	1,28	1,84	2,14	2,14
140	0,55	1,04	1,49	1,89	2,14	0,55	1,04	1,49	1,89	2,14
160	0,42	0,79	1,15	1,46	1,76	0,42	0,79	1,15	1,46	1,76
180	0,29	0,55	0,80	1,04	1,27	0,29	0,55	0,80	1,04	1,27
200	0,25	0,49	0,71	0,92	1,12	0,25	0,49	0,71	0,92	1,12
220	0,22	0,42	0,61	0,79	0,97	0,22	0,42	0,61	0,79	0,97
240	0,18	0,35	0,51	0,67	0,82	0,18	0,35	0,51	0,67	0,82
250	0,17	0,32	0,47	0,60	0,74	0,17	0,32	0,47	0,60	0,74
260	0,15	0,29	0,42	0,54	0,67	0,15	0,29	0,42	0,54	0,67
280	0,12	0,22	0,32	0,42	0,51	0,12	0,22	0,32	0,42	0,51
300	0,08	0,15	0,22	0,29	0,36	0,08	0,15	0,22	0,29	0,36



Intermediate values can be interpolated/ Data are limited due to ultimate limit state verifications of the performance given in Annex C4 under consideration of γ_M M=2.5 and γ_{FF} F=1.4

Table C8.2: Shear load V values for a single HIK-T 16 for displacements w = 1, 2, 3, 4 or 5 mm – free end not rotatable, under long-term acting load

HIK-T 16 (free end not rotatable; long-term acting load)										
For insulation thickness incl. insulation's plaster and t_{tol} if applicable [mm]	Temp. 24°C / 40°C Shear load V [kN]					Temp. 50°C / 80°C Shear load V [kN]				
	Deviation w					Deviation w				
	1 mm	2 mm	3 mm	4 mm	5 mm	1 mm	2 mm	3 mm	4 mm	5 mm
60	1,94	2,14	2,14	2,14	2,14	1,36	1,43	1,43	1,43	1,43
80	1,30	2,14	2,14	2,14	2,14	0,91	1,43	1,43	1,43	1,43
100	0,99	1,82	2,14	2,14	2,14	0,69	1,27	1,43	1,43	1,43
120	0,68	1,28	1,84	2,14	2,14	0,48	0,90	1,29	1,43	1,43
140	0,55	1,04	1,49	1,89	2,14	0,39	0,73	1,04	1,32	1,43
160	0,42	0,79	1,15	1,46	1,76	0,29	0,56	0,80	1,03	1,23
180	0,29	0,55	0,80	1,04	1,27	0,20	0,39	0,56	0,73	0,89
200	0,25	0,49	0,71	0,92	1,12	0,18	0,34	0,50	0,64	0,78
220	0,22	0,42	0,61	0,79	0,97	0,15	0,29	0,43	0,55	0,68
240	0,18	0,35	0,51	0,67	0,82	0,13	0,25	0,36	0,47	0,57
250	0,17	0,32	0,47	0,60	0,74	0,12	0,22	0,33	0,42	0,52
260	0,15	0,29	0,42	0,54	0,67	0,11	0,20	0,29	0,38	0,47
280	0,12	0,22	0,32	0,42	0,51	0,08	0,15	0,22	0,29	0,36
300	0,08	0,15	0,22	0,29	0,36	0,06	0,11	0,16	0,20	0,25



Intermediate values can be interpolated/ Data are limited due to ultimate limit state verifications of the performance given in Annex C4 under consideration of γ_M M=2.5 and γ_F F=1.4

Table C9.1: Displacements of the fixing system under tension load, temp. range 24°C/ 40°C

Fixing system	Tension load	Displacement	Displacement
	N	δ_{NO}	$\delta_{N\infty}$
	[kN]	[mm]	[mm]
HIK-T 12 (M12 anchor rod)	5,14	0,47	0,94
HIK-T 16 (M16 anchor rod)	4,57	0,32	0,64

The displacement in the base material must be added

Table C9.2: Displacements of the fixing system under pressure load, temp. range 24°C/40°C

Fixing system	Pressure load	Displacement	Displacement
	P	δ_{PO}	$\delta_{P\infty}$
	[kN]	[mm]	[mm]
HIK-T 12 (M12 anchor rod)	5,14	0,31	0,62
HIK-T 16 (M16 anchor rod)	5,14	0,31	0,62

The displacement in the base material must be added

Table C9.3: Displacements of the fixing system under tension load, temp. range 50°C/ 80°C

Fixing system	Tension load	Displacement	Displacement
	N	δ_{NO}	$\delta_{N\infty}$
	[kN]	[mm]	[mm]
HIK-T 12 (M12 anchor rod)	5,14	0,47	0,94
HIK-T 16 (M16 anchor rod)	4,57	0,32	0,64

The displacement in the base material must be added

Table C9.4: Displacements of the fixing system under pressure load, temp. range 50°C/ 80°C

Fixing system	Pressure load	Displacement	Displacement
	P	δ_{PO}	$\delta_{P\infty}$
	[kN]	[mm]	[mm]
HIK-T 12 (M12 anchor rod)	5,14	0,31	0,62
HIK-T 16 (M16 anchor rod)	5,14	0,31	0,62

The displacement in the base material must be added

Point thermal transmittance

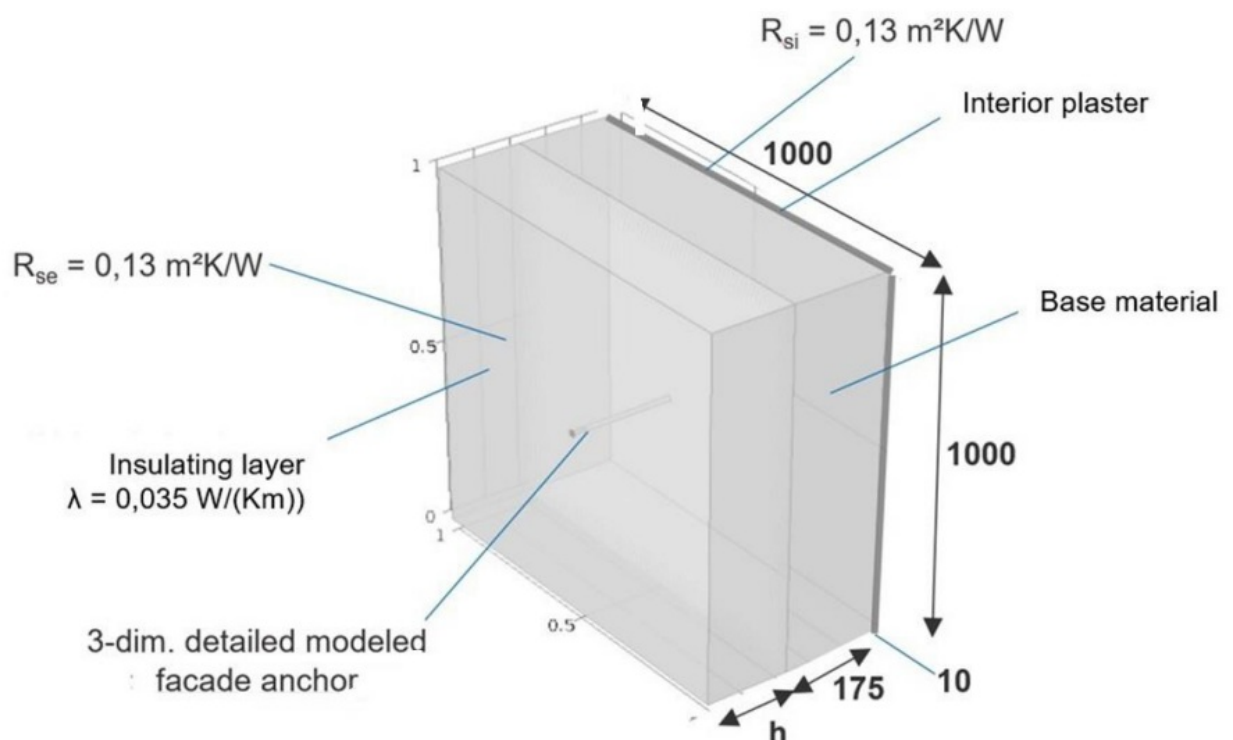


Table C10.1: Thermal conductivity values used for the determination of equivalent thermal conductivity

Base material group	Description	Value of thermal conductivity λ [W/(m·K)]
Plaster	Gypsum plaster without aggregate	0,57
Base material	Normal weight concrete	2,30
Insulation	Insulation material	0,035
Anchor rod	Carbon steel anchor rod	50
Anchor rod	Stainless steel anchor rod	17
Separation module	Thermal separation module PA6 GF	0,335

Table C11.1: The equivalent thermal conductivity λ_{eq}

thickness of insulation h_D	[mm]	HIK-T 8.8 anchor rod				A4 anchor rod			
		60	150	220	300	60	150	220	300
equivalent thermal conductivity λ_{eq}		$\lambda_{eq\ 60}$	$\lambda_{eq\ 150}$	$\lambda_{eq\ 220}$	$\lambda_{eq\ 300}$	$\lambda_{eq\ 60}$	$\lambda_{eq\ 150}$	$\lambda_{eq\ 220}$	$\lambda_{eq\ 300}$
HIK-T 12	[W/mK]	1,1*	8,5*	15,1*	-	0,9*	7,2	9,2*	-
HIK-T 16	[W/mK]	1,1	8,5	15,1	22,6	0,9	7,5	9,2	11,2

* derived from the calculation with HIK-T 16

Table C11.2: Point thermal transmittances for thermal conductivity χ

concrete		8.8 anchor rod				A4 anchor rod			
thickness of insulation h_D	[mm]	60	150	220	300	60	150	220	300
point thermal transmittance χ		χ_{60}	χ_{150}	χ_{220}	χ_{300}	χ_{60}	χ_{150}	χ_{220}	χ_{300}
HIK-T 12	[W/K]	0,0026*	0,0045	0,0056*	-	0,0025*	0,0033	0,0040*	-
HIK-T 16	[W/K]	0,0026	0,0049	0,0056	0,0064	0,0025	0,0040	0,0040	0,0041

* derived from the calculation with HIK-T 16

FAQ

Q: Can the HIK-T Distance Fixing System be used in all types of base materials?

A: The system is specifically designed for use in concrete and masonry members subject to static or quasi-static actions in tension, pressure, shear, or bending.

Q: What is the minimum and maximum installation temperature for the HIK-T system?

A: The minimum and maximum installation temperatures are specified by the manufacturer within the specified range. Please refer to the product manual for exact values.

Q: Are there any specific performance conditions to be met for using this product?

A: Yes, the performances of the product are valid only if used in compliance with the specifications and conditions given in Annex B1 to B5 of the manual.

Documents / Resources



[HILTI HIK-T Distance Fixing System](#) [pdf] Instruction Manual
HIK-T 12, HIK-T 16, HIK-T Distance Fixing System, Distance Fixing System, Fixing System

References

- [User Manual](#)

Manuals+. [Privacy Policy](#)

This website is an independent publication and is neither affiliated with nor endorsed by any of the trademark owners. The "Bluetooth®" word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. The "Wi-Fi®" word mark and logos are registered trademarks owned by the Wi-Fi Alliance. Any use of these marks on this website does not imply any affiliation with or endorsement.