HIT-MM PLUS
INJECTION MORTAR

Product Technical Datasheet
Update: Oct 24

HIT-MM PLUS
INJECTION MORTAR

Product Technical Datasheet
Steel-to-concrete
Update: Oct 24

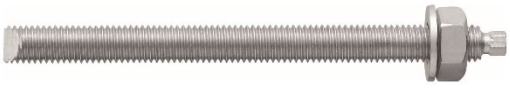
HIT-MM Plus injection mortar

Anchor design (EN 1992-4) / Rods ,Sleeves and Rebar / Concrete

Injection mortar system

Hilti HIT-MM Plus
300 ml foil pack

(also available as
500 ml foil pack)



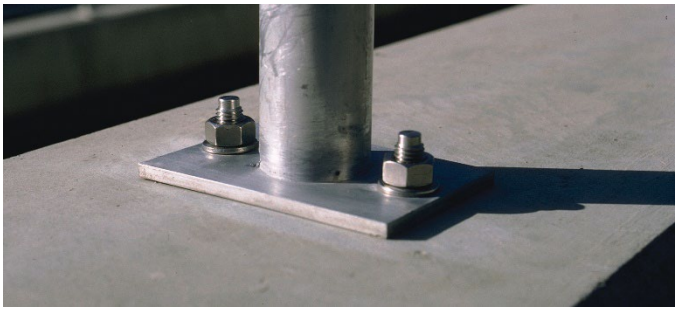
Anchor rods:
HAS-U
HAS-U HDG
HAS-U A4
HAS-U HCR
(M8-M16)

Internally threaded
sleeves:
HIS-N (R)
(M8-M12)

Rebar (ϕ8 - ϕ16)

Benefits

- Chemical injection fastening
- Two component hybrid mortar
- Rapid curing
- Suitable for overhead fastenings
- Versatile and conventional handling
- Clean and simple in use
- Small edge distance and anchor spacing
- Always correct mixing ratio



Application condition

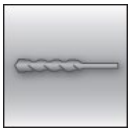
Base material

Concrete
(uncracked)

Load conditions

Static/
quasi-static

Installation conditions



Hammer
drilling

Other information

Hilti TD

Hilti
Technical
Data

Linked Approvals/Certificates and Instructions for use

Approvals / Certificates

Approval no.	Application / loading condition	Authority / Laboratory	Date of issue
ETA-17/0199	Static and quasi-static	DIBt, Berlin	30-08-2019

The instructions for use can be viewed using the link in the instructions for use table or the QR code/link in the Hilti webpage table

Instructions for use(IFU)

Material			
Injection mortar/Fastener	IFU Hilti HIT-MM PLUS		
Dispenser	IFU HDM	IFU HDE 500-22	IFU HDE 500-A12

Link to Hilti Webpage

Injection mortars / Dispenser / Threaded rod					
HIT MM PLUS	HDE 500-22	HDE 500-A12	HDM 500	HAS-U	HIS-N

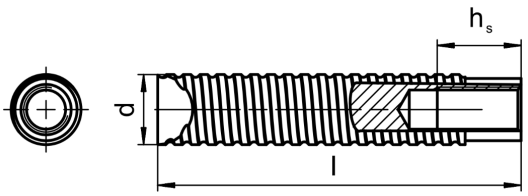
Fastener special dimensions

Mechanical properties and dimensions HAS-U

Mechanical properties and dimensions of the threaded rods are standardized and can be taken from the ETA listed in the table Approvals / Certificates.

Dimensions HIS-N (R)

Anchor size			M8	M10	M12
Diameter of element	d	[mm]	12,5	16,5	20,5
Length of element	L	[mm]	90	110	125
Thread engagement length; min - max	h_s	[mm]	8-20	10-25	12-30



Mechanical properties

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Material quality

Part	Material
Rebar	Bars and de-coiled rods class B or C according to NDP or NCL of EN 1992-1-1

Static and quasi-static loading based on ETA-17/0199,Hilti technical data and design according to EN 1992-4

All data in this section applies to

- Correct setting (see setting instruction)
- For a single anchor
- Hammer drilled holes
- No edge distance and spacing influence (see setting detail tables with characteristic distances)
- Minimum base material thickness, as specified in the table of this section
- Embedment depth, as specified in the table of this section
- Anchor material, as specified in the tables of this section
- Concrete C 20/25
- In-service temperate range I
  (min. base material temperature -40°C, max. long term/short term base material temperature: +24°C/40°C)

Embedment depth and base material thickness

Anchor size HAS-U (A4)			M8			M10			M12			M16		
Embedment depth	h_{ef}	[mm]	60	80	96	60	100	120	70	120	144	80	160	192
Base material thickness	h	[mm]	100	110	126	100	130	150	100	150	174	116	196	228

Embedment depth and base material thickness

Rebar B500 B size			8	10	12	13	14	16
Embedment depth	h_{ef}	[mm]	80	90	110	120	125	145
Base material thickness	h	[mm]	110	120	142	156	161	185

Recommended loads

Uncracked Concrete				ETA-17/0199											
Anchor size				M8			M10			M12			M16		
Tension	HAS-U 5.8	N_{rec}	[kN]	5,4	7,2	8,6	6,7	11,2	13,5	9,4	16,1	19,4	14,4	28,7	34,5
	HAS-U A4		[kN]	5,4	7,2	8,6	6,7	11,2	13,5	9,4	16,1	19,4	14,4	28,7	34,5
Shear	HAS-U 5.8	V_{rec}	[kN]	5,2			8,3			12,0			22,4		
	HAS-U A4		[kN]	5,9			9,3			13,5			25,2		

Recommended loads

Uncracked Concrete			Hilti technical data					
Rebar B500 B size			8	10	12	13	14	16
Tension	N_{rec}	[kN]	9,6	13,5	19,7	23,3	26,2	34,7
Shear	V_{rec}	[kN]	6,7	10,5	14,8	17,4	20,0	26,2

Setting information

Installation temperature range:
- 5°C to + 40 °C

In service temperature range
Hilti HIT-HIT-MM PLUS injection mortar with anchor rod may be applied in the temperature ranges given below. An elevated base material temperature may lead to a reduction of the design bond resistance.

Temperature range	Base material temperature	Maximum long term base material temperature	Maximum short term base material temperature
Temperature range I	- 40 °C to + 40 °C	+ 24 °C	+ 40 °C
Temperature range II	- 40 °C to + 80 °C	+ 50 °C	+ 80 °C

Maximum short term base material temperature
Short term elevated base material temperatures are those that occur over brief intervals, e.g. as a result of diurnal cycling.

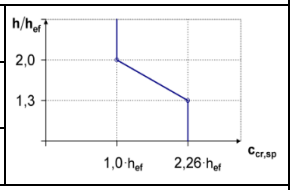
Maximum long term base material temperature
Long term elevated base material temperatures are roughly constant over significant periods of time.

Working time and curing time [a)]

Temperature of the base material	Maximum working time	Minimum curing time
T	t_{work}	t_{cure} [a)]
-5 °C < T ≤ 0 °C	10 min	12 h
0 °C < T ≤ 5 °C	10 min	5 h
5 °C < T ≤ 10 °C	8 min	2,5 h
10 °C < T ≤ 20 °C	5 min	1,5 h
20 °C < T ≤ 30 °C	3 min	45 min
30 °C < T ≤ 40 °C	2 min	30 min

a) The curing time data are valid for dry base material only. In wet base material, the curing time must be doubled.

Setting details for HAS-U

Anchor size			M8	M10	M12	M16
Nominal diameter of element	d	[mm]	8	10	12	16
Nominal diameter of drill bit	d_0	[mm]	10	12	14	18
Maximum diameter of clearance hole in the fixture	d_f	[mm]	9	12	14	18
Effective anchorage depth (= drill hole depth) [a]	$h_{ef,min} = h_0$	[mm]	60	60	70	80
	$h_{ef,max} = h_0$	[mm]	96	120	144	192
Minimum base material thickness	h_{min}	[mm]	h_{ef} + 30 mm ≥ 100 mm			h_{ef} + 2d_0
Maximum torque moment [b]	T_{max}	[Nm]	10	20	40	80
Minimum spacing	s_{min}	[mm]	40	50	60	80
Minimum edge distance	c_{min}	[mm]	40	50	60	80
Characteristic distances						
Spacing for splitting failure	$s_{cr,sp}$	[mm]	2 $c_{cr,sp}$			
Edge distance for splitting failure [c]	$c_{cr,sp}$	[mm]	$1,0 \cdot h_{ef}$	for $h/h_{ef} \geq 2,00$		
			$4,6 \cdot h_{ef} - 1,8 \cdot h$	for $2,0 > h/h_{ef} > 1,3$		
			$2,26 \cdot h_{ef}$	for $h/h_{ef} \leq 1,3$		
Spacing for concrete cone failure [d]	$s_{cr,N}$	[mm]	2 $c_{cr,N}$			
Edge distance for concrete cone failure [d]	$c_{cr,N}$	[mm]	1,5 h_{ef}			

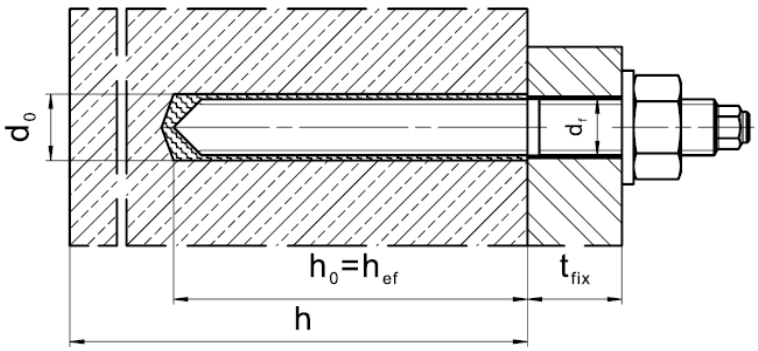
For spacing (edge distance) smaller than characteristic spacing (characteristic edge distance) the design loads must be reduced.

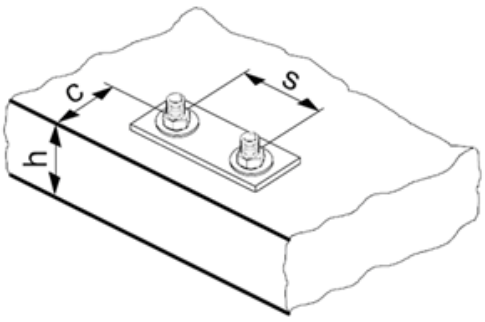
a) $h_{ef,min} \leq h_{ef} \leq h_{ef,max}$ (h_{ef}: embedment depth)

b) Maximum torque moment to avoid splitting failure during instalation with minimum spacing and edge distance

c) h: base material thickness ($h \geq h_{min}$)

d) The characteristic edge distance for concrete cone failure depends on the embedment depth h_{ef} and the design bond resistance. The simplified formula given in this table is on the safe side.

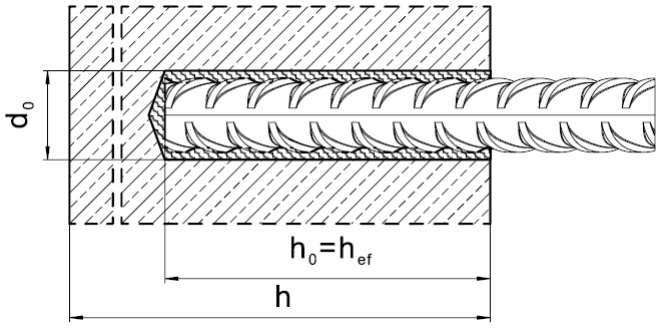


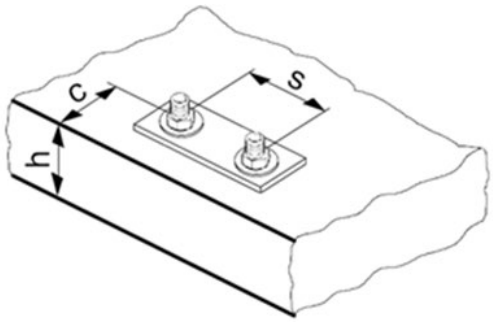


Setting details for rebar

Rebar B500 B size			ϕ 8	ϕ 10	ϕ 12		ϕ 13	ϕ 14	ϕ 16
Diameter	ϕ	[mm]	8	10	12		13	14	16
Effective embedment depth and drill hole depth	$h_{ef} = h_0$	[mm]	80	90	110		120	125	145
Nominal diameter of drill bit	d_0	[mm]	10 / 12[1)]	12 / 14[1)]	14[1)]	16[1)]	18	18	20
Minimum thickness of concrete member	h_{min}	[mm]	h_{ef} + 30 ≥ 100 mm			$h_{ef} + 2 \cdot d_0$			
Minimum spacing	s_{min}	[mm]	40	50	60		70	70	80
Minimum edge distance	c_{min}	[mm]	40	45	45		50	50	50

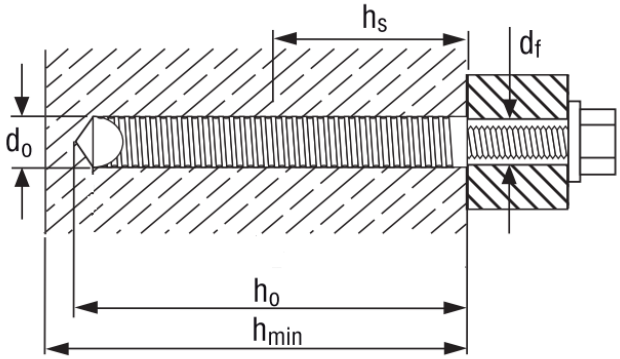
1) Either of the two given values can be used.





Setting details for HIS-N

Anchor size			M8	M10	M12
Nominal diameter of drill bit	d_0	[mm]	14	18	22
Maximum diameter of clearance hole in the fixture	d_f	[mm]	9	12	14
Effective anchorage depth	h_0	[mm]	90	110	125
Minimum base material thickness	h_{min}	[mm]	120	140	170
Thread engagement length; min – max	h_s	[mm]	8-20	10-25	12-30
Maximum torque moment	T_{max}	[Nm]	10	20	40
Minimum spacing	s_{min}	[mm]	60	75	90
Minimum edge distance	c_{min}	[mm]	40	45	55



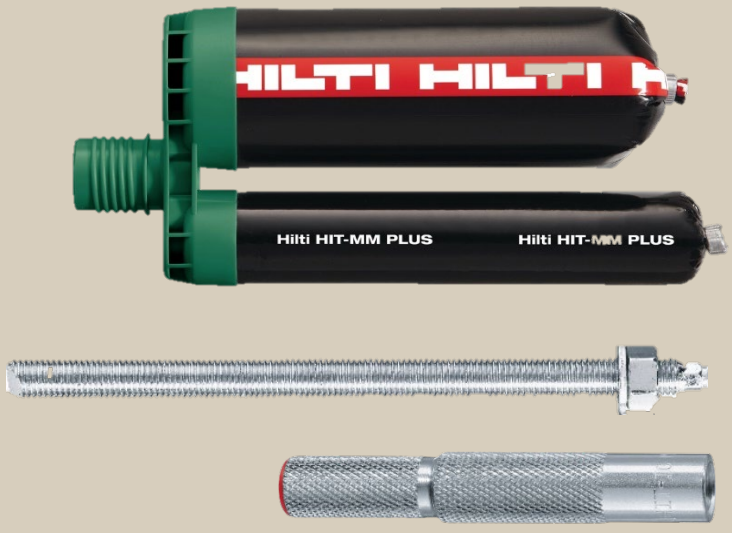
Drilling and Installation equipment

For detailed setting information on installation see instructions for use given with the product.

Rotary Hammers (Corded and Cordless)		TE 2 - TE 70
Dispenser		HDE HDM
Other tools		Blow out pump, Compressed air gun, Set of cleaning brushes
		Hammer drill bit TE-CX, TE-YX, TE-C, TE-Y
		Piston plug

HIT-MM PLUS
INJECTION MORTAR

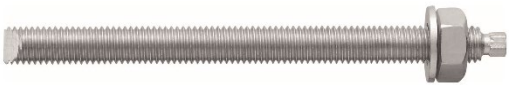
Product Technical Datasheet
Steel-to-masonry
Update: Oct 24

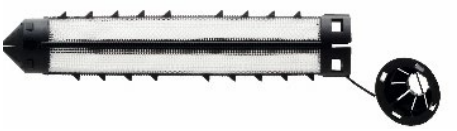


HIT-MM Plus injection mortar

Anchor design (EOTA TR 054) / Rods and Sleeves / Masonry

Injection mortar system





Hilti HIT-MM Plus

300 ml foil pack

(also available as 500 ml foil pack)

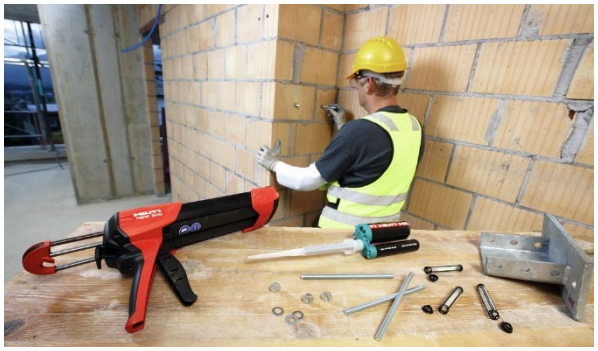
Anchor rods:
HAS-U
HAS
HAS-U A4
HAS A4
HAS-U HDG
HAS-U HCR
(M8-M12)

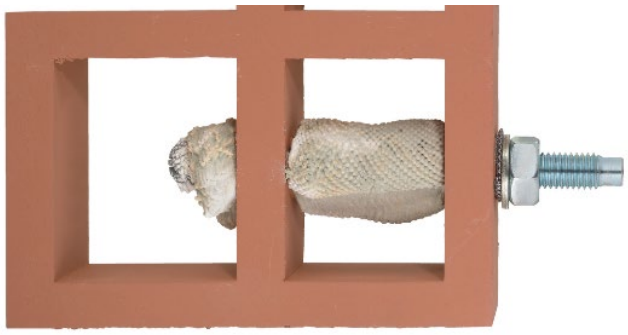
Anchor rods:
HIT-IC
(M8-M12)

Sieve sleeves:
HIT-SC
(16-22)

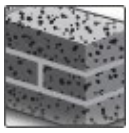
Benefits

- Chemical injection fastening for all type of base materials: Hollow and solid clay bricks, sand-lime bricks, normal and light weight concrete blocks, aereated light weight concrete, natural stones
- Two component hybrid mortar
- Rapid curing
- Flexible setting depth and fastening thickness
- Versatile and conventional handling
- Clean and simple in use
- Small edge distance and anchor spacing
- Always correct mixing ratio





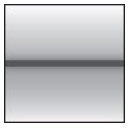
Base material



Solid brick

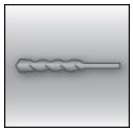
Hollow brick

Load conditions



Static/ quasi-static

Installation conditions



Hammer / rotary drilling

Other information

On-Site Testing

Linked Approvals/Certificates and Instructions for use

Approvals / Certificates

Approval no.	Application / loading condition	Authority / Laboratory	Date of issue
ETA-16/0239	Static and quasi-static	DIBt, Berlin	19-10-2023

The instructions for use can be viewed using the link in the instructions for use table or the QR code/link in the Hilti webpage table

Instructions for use(IFU)

Material			
Injection mortar /Fastener	IFU Hilti HIT-MM PLUS		
Dispenser	IFU HDM	IFU HDE 500-22	IFU HDE 500-A12

Link to Hilti Webpage

Injection mortars / Dispenser			
HIT MM PLUS	HDE 500-22	HDE 500-A12	HDM 500
Threaded rod / sleeve			
HAS-U	HAS	HIT-IC	HIT-SC

Mechanical properties

Mechanical properties HAS-U /HAS/ HIT-IC

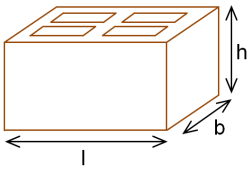
Mechanical properties of the threaded rods /sleeves are standardized and can be taken from the ETA listed in the table Approvals / Certificates.

Brick types and properties

Instruction to this technical data

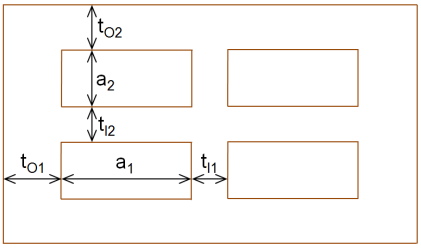
- Identify/choose your brick (or brick type) and its geometrical/physical properties on the following tables. Information about edge and spacing criteria is available on the following pages.
- The pages reffered on the last column of the table below contain the design resistance loads for pull-out failure of the anchor, brick breakout failure and local brick failure for each respective brick. Notice that the data displayed on these tables is only valid for single anchors with distance to edge such that loading capacity is not influenced by it for other cases not covered, refer ETA-16/0239 or contact Hilti Engineering Team.
- The resistance loads provided by this technical data manual are valid only for exact same masonry unit (hollow bricks) or for units made of the same base material with equal or higher size and compressive strength (solid bricks). For other cases, on-site tests must be performed

Exterior brick dimensions



Generic bricks

Interior dimensions of the majority of the holes

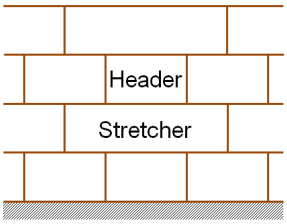


Brick types and properties

Brick code	Data	Brick name	Image	Size [mm]	t_O [mm]	t_I [mm]	a [mm]	f_b [N/mm²]	ρ [kg/dm³]
Solid clay									
SC3	ETA	Solid clay brick Mz, 2DF		l: ≥ 240 b: ≥ 115 h: ≥ 113	-	-	-	12	2,0
Solid Calcium Silicate									
SCS1	ETA	Solid silica brick KS, 2DF		l: ≥ 240 b: ≥ 115 h: ≥ 113	-	-	-	12 28	2,0
Hollow clay									
HC1	ETA	Hollow clay brick Hlz, 10DF		l: 300 b: 240 h: 238	t_{01}: 12 t_{02}: 15	t_{I1}: 11 t_{I2}: 15	a_1: 10 a_2: 25	12 20	1,4
Hollow Calcium Silicate									
HCS1	ETA	Hollow silica brick KSL, 8DF		l: 248 b: 240 h: 238	t_{01}: 34 t_{02}: 22	t_{I1}: 11 t_{I2}: 20	a_1: 52 a_2: 52	12 20	1,4

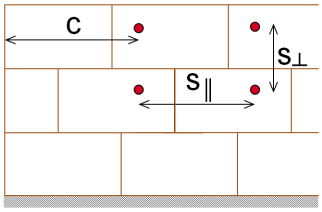
Anchor installation parameters

Brick position:



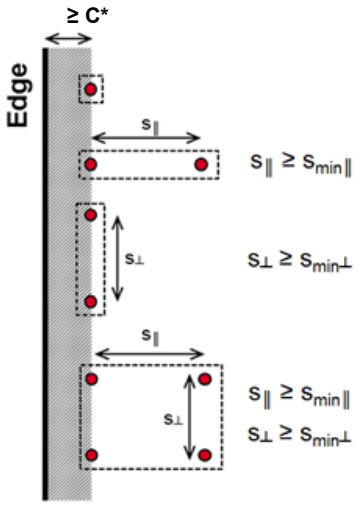
- **Header (H):** The longest dimension of the brick represents the width of the wall
- **Stretcher (S):** The longest dimension of the brick represents the length of the wall

Spacing and edge distance:



- c - Distance to the edge
- $s_{\parallel}$ - Spacing parallel to the bed joint
- $s_{\perp}$ - Spacing perpendicular to the bed joint

Allowed anchor positions:



- This Product Technical Datasheet includes the load data for single anchors in masonry with a distance to edge equal to or greater than **c***.
- **c*** is the distance from the anchor to the edge of the wall, such that the loading capacity of the anchor is not influenced by the edge.
- Minimum spacing between anchors = MAX (3 x h_{ef} ; size of brick in respective direction). This applies for a (conservative) manual design/calculation of a baseplate using the load tables in this datasheet.
- For an optimized design or cases not covered in this technical data, including anchor groups, please refer ETA-16/0239.

Static and quasi-static loading based on ETA-16/0239 and design according to EOTA TR 054 method A

All data in this section applies to:

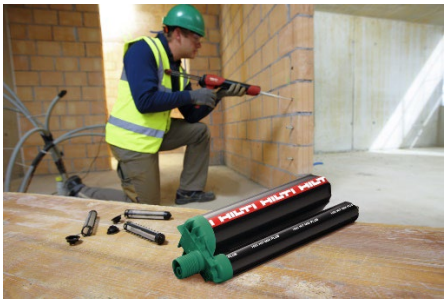
- Correct setting (see setting instruction)
- For a single anchor
- Anchorages are designed under the responsibility of an engineer experienced in anchorages and masonry work.
- Verifiable calculation notes and drawings are prepared taking account of the loads to be anchored. The position of the anchor is indicated on the design drawings (e.g. position of the anchor relative to supports, etc.).
- Edge distance c ≥ c*. For other applications, please refer ETA-16/0239.
- Installation direction -horizontal (Masonry)
- Hammer mode drilled holes in solid bricks and rotary mode drilled holes in hollow bricks
- Use category: **dry** or **wet** structure
  d/d - Installation and use in structures subject to **dry**, internal conditions
  w/d - Installation in **wet** substrate and **use** in structures subject to **dry**, internal conditions
  w/w - Installation and use in structures subject to **wet** environmental conditions
- Temperature in the base material at installation solid brick : +5° C to +40° C
- Temperature in the base material at installation hollow bricks : 0° C to +40° C
- Use category:In-service temperature
  Ta: -40 °C to +40 °C, (max.long/short term base material temperature: +24 °C/40 °C)
  Tb: -40 °C to +80 °C,(max. long/short term base material temperature: +50 °C/80 °C)

Design tension resistances – Pull-out failure of the anchor, brick breakout failure and local brick failure at edge distance (c ≥ c*) for single anchor applications

Load type	Anchor size		h_{ef} [mm]	f_b [N/mm²]	w/w and w/d		d/d	
					Ta	Tb	Ta	Tb
					Loads [kN]			
	**SC3 – Solid clay brick Mz, 1DF (ETA data)**							
$N_{Rd,p} = N_{Rd,b}$ (c ≥ 115 mm)	HAS-U /HAS	M8, M10, M12	80	12	1,0	0,8	1,0	0,8
	HIT-IC	M8	80	12	1,0	0,8	1,0	0,8
		M10, M12	80	12	1,4	1,2	1,4	1,2
	HAS-U/HAS + HIT-SC	M8, M10, M12	80	12	1,4	1,2	1,4	1,2
	HIT-IC + HIT-SC	M8, M10, M12	80	12	1,4	1,2	1,4	1,2
	**SCS1 - Solid silica brick KS, 2DF (ETA data)**							
$N_{Rd,p} = N_{Rd,b}$ (c ≥ 115 mm)	HAS-U/HAS,HIT-IC	M8, M10, M12	80	12	1,8	1,6	2,0	1,6
				28	2,8	2,4	2,8	2,4
	HAS-U/HAS +HIT-SC HIT-IC + HIT-SC	M8, M10, M12	80	12	1,4	1,0	1,8	1,6
				28	2,0	1,8	2,6	2,4
	**HC1 - Hollow clay brick Hlz, 10DF (ETA data)**							
$N_{Rd,p} = N_{Rd,b}$ (c ≥ 150 mm)	HAS-U/HAS + HIT-SC, HIT-IC + HIT-SC	M8, M10, M12	80	12	1,0	0,8	1,0	0,8
				20	1,2	1,0	1,2	1,0
	**HCS1 - Hollow silica brick KSL, 8DF (ETA data)**							
$N_{Rd,p} = N_{Rd,b}$ (c ≥ 125 mm)	HAS-U/HAS + HIT-SC, HIT-IC + HIT-SC	M8, M10, M12	80	12	1,0	0,8	1,0	0,8
				20	1,4	1,2	1,4	1,2

Due to the wide variety of bricks ,on-site tests have to be performed for determination of load values for all applications outside of the above mentioned base materials and / or setting conditions.

On-site tests



For other bricks in solid or hollow masonry, not covered by the Hilti HIT-MM Plus ETA or this technical data manual, the characteristic resistance may be determined by on-site tension tests (pull-out tests or proof-load tests), according to EOTA TR 053.

For the evaluation of test results, the characteristic resistance may be obtained taking into account the β factor, which considers the different influences of the product.

The β factor for the brick types covered by the Hilti HIT-MM Plus ETA is provided on the following table. The β factor is multiplied by the characteristic measured tension load when the characteristic tensile resistance N_{Rk} is assessed via on-site testing, The characteristic shear resistance V_{Rk} can also be directly derived from N_{Rk}. For detailed procedure refer EOTA TR053.

Use categories		**w/w and w/d[1)]**		**d/d[1)]**	
Temperature range		**Ta[1)]**	**Tb[1)]**	**Ta[1)]**	**Tb[1)]**
Base material	**Anchor**	**β_{ETA} factor job site testing under tension loading**			
Solid clay brick EN 771-2	HAS-U/HAS or HIT-IC	0,94	0,81	0,94	0,81
	HAS-U /HAS + HIT-SC				
	HIT-IC + HIT-SC				
Solid calcium silicate brick EN 771-2	HAS-U /HAS or HIT-IC	0,93	0,82	0,94	0,82
	HAS-U/HAS + HIT-SC	0,66	0,60	0,88	0,80
	HIT-IC + HIT-SC				
Hollow clay brick EN 771-1	HAS-U/HAS + HIT-SC	0,94	0,81	0,94	0,81
	HIT-IC + HIT-SC				
Hollow calcium silicate brick EN 771-2	HAS-U/HAS + HIT-SC	0,66	0,60	0,99	0,80
	HIT-IC + HIT-SC				

[1)]Ta / Tb, w/w and d/d anchorage parameters, as defined on previous pages

Setting information

Installation temperature range:
Solid masonry: 5°C to +40°C
Hollow masonry: 0°C to +40°C

In service temperature range
Hilti HIT-HY MM+ injection mortar with anchor rods may be applied in the temperature ranges given below. An elevated base material temperature leads to a reduction of the design bond resistance.

Temperature range	Base material temperature	Maximum long term base material temperature	Maximum short term base material temperature
Temperature range I	-40 °C to + 40 °C	+ 24 °C	+ 40 °C
Temerature range II	-40 °C to + 80 °C	+ 50 °C	+ 80 °C

Maximum short term base material temperature
Short term elevated base material temperatures are those that occur over brief intervals, e.g. as a result of diurnal cycling.

Maximum long term base material temperature
Long term elevated base material temperatures are roughly constant over significant periods of time.

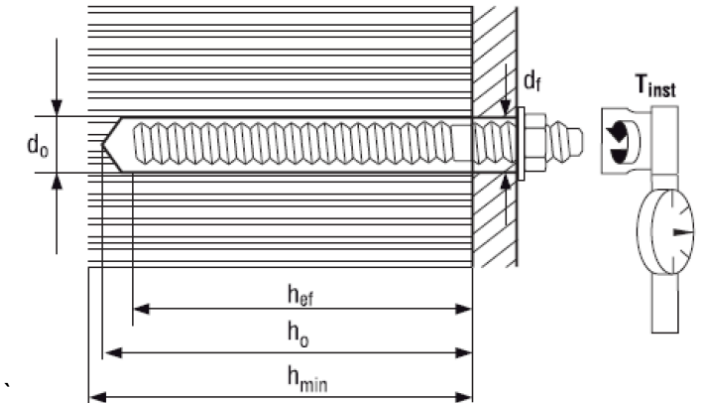
Working time and curing time [b)]

Temperature of the base material	Maximum working time	Minimum curing time
T	t_{work}	t_{cure} [b)]
0 °C < T ≤ 5 °C [a)]	10 min [a)]	6 h [a)]
5 °C < T ≤ 10 °C	8 min	3 h
10 °C < T ≤ 20 °C	5 min	2 h
20°C < T ≤ 30 °C	3 min	60 min
30 °C < T ≤ 40 °C	2 min	45 min

a) For hollow bricks only;
b) The curing time data are valid for dry base material only. In wet base material the curing times must be doubled

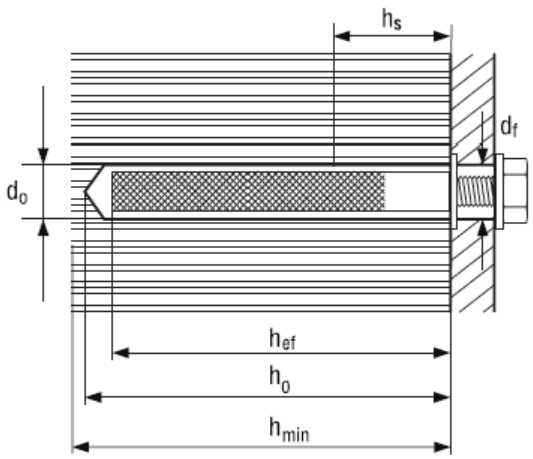
Setting details for solid bricks with HAS-U/HAS

Anchor size			HAS-U/HAS		
			M8	M10	M12
Sieve sleeve		HIT-SC	-	-	-
Nominal diameter of drill bit	d_0	[mm]	10	12	14
Effective anchorage and drill hole depth	$h_{ef} = h_0$	[mm]	80	80	80
Minimum wall thickness	h_{min}	[mm]	115	115	115
Maximum diameter of clearance hole in the fixture	d_f	[mm]	9	12	14
Maximum torque moment	T_{max}	[Nm]	5	8	10
Edge distance	$C_{min}=C_{cr}$	[mm]	115		
Spacing	$S_{min\ II} = S_{cr\ II}$	[mm]	240		
	$S_{min} \perp = S_{cr} \perp$	[mm]	115		



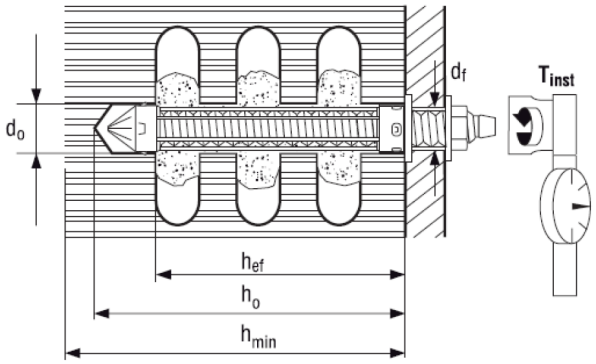
Setting details for solid bricks with HIT-IC

Anchor size			HIT-IC		
			M8	M10	M12
Sieve sleeve		HIT-SC	-	-	-
Nominal diameter of drill bit	d_0	[mm]	14	16	18
Effective anchorage and drill hole depth	$h_{ef} = h_0$	[mm]	80	80	80
Minimum wall thickness	h_{min}	[mm]	115	115	115
Maximum diameter of clearance hole in the fixture	d_f	[mm]	9	12	14
Length of bolt engagement	h_s	[mm]	8…75	10…75	12…75
Maximum torque moment	T_{max}	[Nm]	5	8	10
Edge distance	$C_{min}=C_{cr}$	[mm]	115		
Spacing	$S_{min\ II} = S_{cr\ II}$	[mm]	240		
	$S_{min} \perp = S_{cr} \perp$	[mm]	115		



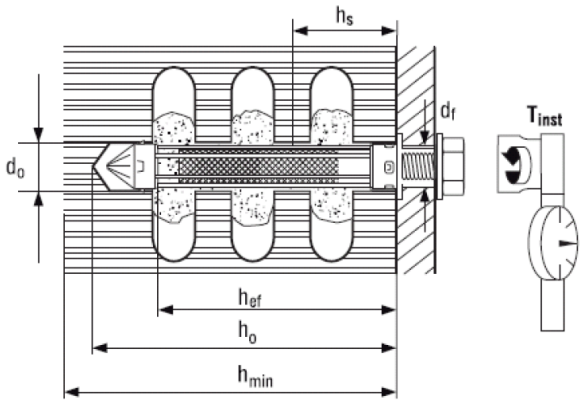
Setting details for hollow bricks for HAS-U/HAS

Anchor size				HAS-U/HAS + HIT-SC		
				M8	M10	M12
Sieve sleeve			HIT-SC	16x85	16x85	18x85
Nominal diameter of drill bit		d_0	[mm]	16	16	18
Effective anchorage depth		h_{ef}	[mm]	80	80	80
Drill hole depth		h_0	[mm]	95	95	95
Minimum wall thickness		h_{min}	[mm]	240	240	240
Maximum diameter of clearance hole in the fixture		d_f	[mm]	9	12	14
Torque moment		T_{max}	[Nm]	3	4	6
Edge distance	HC1 - Hollow clay brick Hlz, 10DF	$C_{min}=C_{cr}$	[mm]	150		
Spacing		$S_{min\ \parallel} = S_{cr\ \parallel}$	[mm]	300		
		$S_{min} \perp = S_{cr} \perp$	[mm]	240		
Edge distance	HCS1 - Hollow silicate brick KSL, 8DF	$C_{min}=C_{cr}$	[mm]	125		
Spacing		$S_{min\ \parallel} = S_{cr\ \parallel}$	[mm]	248		
		$S_{min} \perp = S_{cr} \perp$	[mm]	240		



Setting details for hollow bricks for HIT-IC

Anchor size				HIT-IC + HIT-SC		
				M8	M10	M12
Sieve sleeve			HIT-SC	16x85	18x85	22x85
Nominal diameter of drill bit		d_0	[mm]	16	18	22
Effective anchorage and drill hole depth		h_{ef}	[mm]	80	80	80
Drill hole depth		h_0	[mm]	95	95	95
Minimum wall thickness		h_{min}	[mm]	240	240	240
Maximum diameter of clearance hole in the fixture		d_f	[mm]	9	12	14
Length of bolt engagement		h_s	[mm]	8…75	10…75	12…75
Torque moment		T_{max}	[Nm]	3	4	6
Edge distance	HC1 - Hollow clay brick Hlz, 10DF	$C_{min}=C_{cr}$	[mm]	150		
Spacing		$S_{min\ \parallel} = S_{cr\ \parallel}$	[mm]	300		
		$S_{min} \perp = S_{cr} \perp$	[mm]	240		
Edge distance	HCS1 - Hollow silica brick KSL, 8DF	$C_{min}=C_{cr}$	[mm]	125		
Spacing		$S_{min\ \parallel} = S_{cr\ \parallel}$	[mm]	248		
		$S_{min} \perp = S_{cr} \perp$	[mm]	240		



Drilling and Installation equipment

For detailed setting information on installation see instructions for use given with the product.

Rotary Hammers (Corded and Cordless)		TE 2 - TE 30
Dispenser		HDE HDM
Other tools		Hammer drill bit TE-CX, TE-C
		Blow out pump, Compressed air gun, Set of cleaning brushes