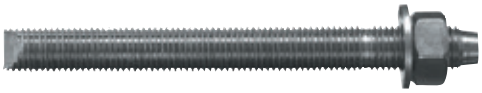
Hilti HIT-HY 10 Adhesive Anchor System

Injection Mortar System

Hilti HIT-HY10
330 ml foil pack
500 ml foil pack

Mixer

HIT-V rods



HAS rods
HAS-E rod

HIT-IC internal threaded sleeve

HIS-N, HIS-RN internal threaded sleeve

HIT-SC composite sleeve

Dispenser:
Hilti HDM 330
Hilti HDM 500

Hilti HDE 500-A

Benefits

- chemical injection fastening for all type of base materials:
- hollow and solid
- clay bricks, sand-lime bricks, normal and light weight concrete blocks, aerated light weight concrete, natural stones
- two-component hybrid mortar
- rapid curing
- versatile and convenient handling
- flexible setting depth and fastening thickness
- small edge distance and anchor spacing
- mortar filling control with HIT-SC sleeves
- in-service temperatures:
  short term: max. 80°C
  long term: max. 50°C

Solid brick

Basic loading data (for a single anchor)

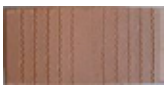
All data in the table below applies to

- Load values valid for holes drilled with TE rotary hammers in hammering mode
- Correct anchor setting (see instruction for use, setting details)
- Steel quality of fastening elements: see data below
- Steel quality for screws for HIT-IC and HIS-N: min. grade 5.8 / HIS-RN: A4-70
- Threaded rods of appropriate size (diameter and length) and a minimum steel quality of 5.6 can be used
- Base material temperature during installation and curing must be between -5°C through +40°C
  (Exception: solid clay bricks (e.g. Mz12): +5°C till 40°C**)**

Recommended loads F_{rec} for pull-out failure in [kN]

The data provided in the following table is intended for product comparison only and not suitable for the complete design of an anchorage.

Solid masonry: HIT-HY 10 with HAS and HIT-IC

			HIT-V, HAS, HAS-E			HIT-IC		
Anchor size								
Base material	**Setting depth** [mm]		**M8**	**M10**	**M12**	**M8**	**M10**	**M12**
Solid clay brick Mz12/2,0 DIN 105/ EN 771-1 f_b [a] ≥29 N/mm²  **Clay common (Dry pressed)** f_{uc} [b] ≥ 14 N/mm² L x H x B [mm] 230 x 110 x 76 Australia 	80	F_{rec} [kN]	0,9	1,5	1,5	0,9	1,5	1,5

Due to the wide variety of bricks 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.

Materials

Material quality Threaded Rod

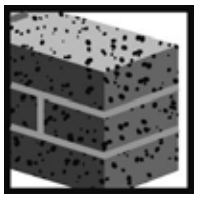
Part	Material
Threaded rod HIT-V, HAS-(E)	Strength class 5.8, EN ISO 898-1, A_5 > 8% ductile steel galvanized ≥ 5 µm, EN ISO 4042
Threaded rod HIT-V, HAS-(E)R	Stainless steel grade A4, A_5 > 8% ductile strength class 70,EN ISO 3506-1, EN 10088: 1.4401; 1.4404; 1.4578; 1.4571; 1.4439; 1.4362
HIT-IC sleeve	Carbon steel; galvanized to min. 5 µm
HIS-N	C-steel 1.0718, EN 10277-3, Steel galvanized ≥ 5µm EN ISO 4042
HIS-RN	Stainless steel 1.4401 and 1.4571 EN 10088
Washer ISO 7089	Steel galvanized, EN ISO 4042;
	Stainless steel, EN 10088: 1.4401; 1.4404; 1.4578; 1.4571; 1.4439; 1.4362
Nut EN ISO 4032	Strength class 8, ISO 898-2 steel galvanized ≥ 5 µm, EN ISO 4042
	Strength class 70, EN ISO 3506-2, stainless steel grade A4, EN 10088: 1.4401; 1.4404; 1.4578; 1.4571; 1.4439; 1.4362
HIT-SC sleeve	PA/PP

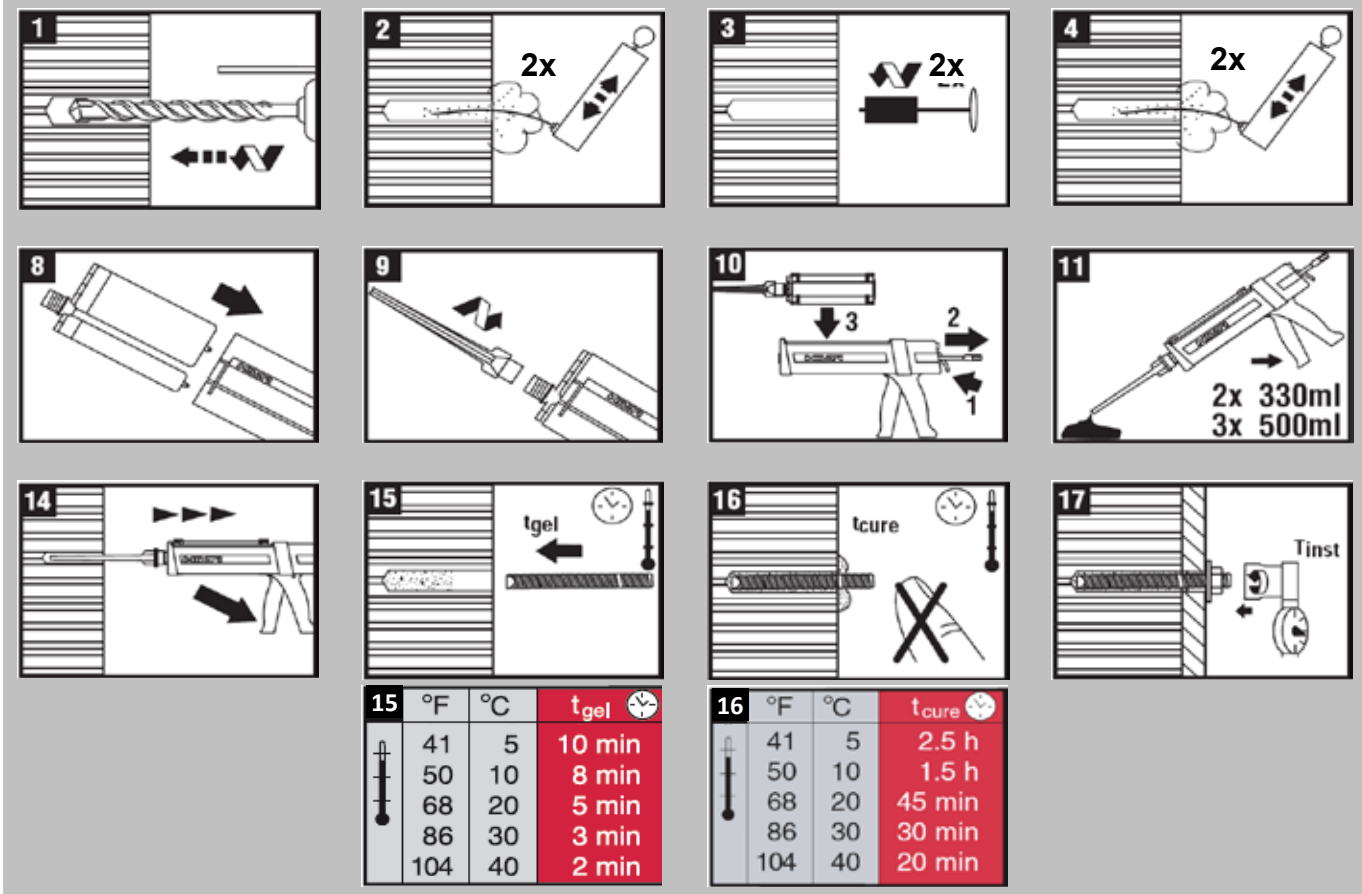
Setting

Installation equipment

Anchor size	M6	M8	M10	M12
Rotary hammer	TE2 – TE16			
Other tools	blow out pump, set of cleaning brushes, dispenser			

Setting instruction in solid base material

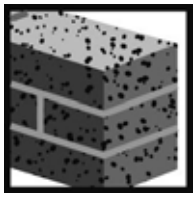


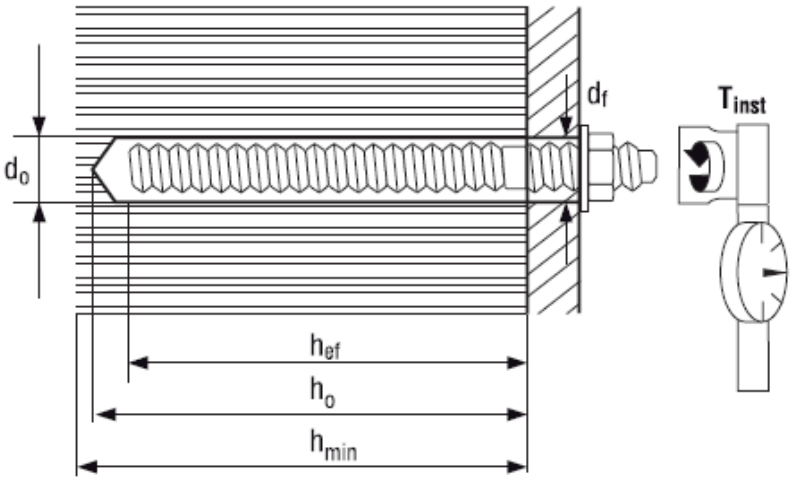


15	°F	°C	t_{gel}
	41	5	10 min
	50	10	8 min
	68	20	5 min
	86	30	3 min
	104	40	2 min

16	°F	°C	t_{cure}
	41	5	2.5 h
	50	10	1.5 h
	68	20	45 min
	86	30	30 min
	104	40	20 min

Setting details: hole depth h_0 and effective anchorage depth in solid base materials

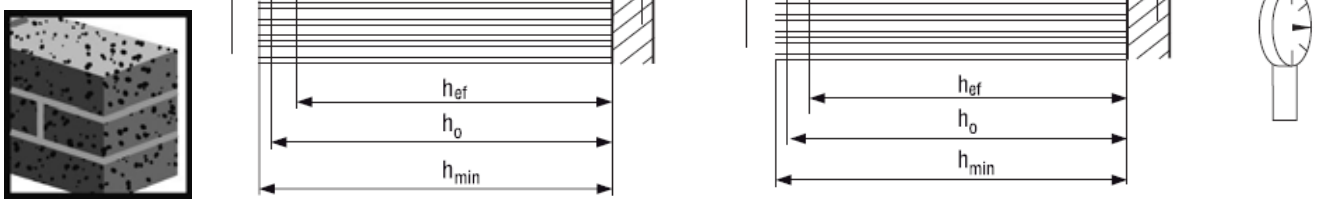




Setting details HIT-V, HAS, HAS-E, HAS-R

Anchor size			HIT-V			HAS, HAS-E, HAS-R			
			M8	M10	M12	M8	M10	M12	M16
Nominal diameter of drill bit	d_0	[mm]	10	12	14	10	12	14	18
Effective anchorage depth	h_{ef}	[mm]	80	80	80	80	90	110	125
Hole depth	h_0	[mm]	85	85	85	85	95	115	130
Minimum base material thickness	h_{min}	[mm]	115	115	115	110	120	140	170
Diameter of clearance hole in the fixture	d_f	[mm]	9	12	14	9	12	14	18
Minimum spacing	s_{min}	[mm]	100	100	100	100	100	100	100
Minimum edge distance	c_{min}	[mm]	100	100	100	100	100	100	100
Torque moment	T_{inst}	[Nm]	5	8	10	5	8	10	10
Filling volume		[ml]	4	5	7	4	6	10	15

HIT-IC **HIS-N/RN**



Setting details HIT-IC and HIS-N / RN

Anchor size			HIT-IC			HIS-N/RN		
			M8	M10	M12	M8	M10	M12
Nominal diameter of drill bit	d_0	[mm]	14	16	18	14	18	22
Effective anchorage depth	h_{ef}	[mm]	80	80	80	90	110	125
Hole depth	h_0	[mm]	85	85	85	95	115	130
Minimum base material thickness	h_{min}	[mm]	115	115	115	120	150	170
Diameter of clearance hole in the fixture	d_f	[mm]	9	12	14	9	12	14
Length of bolt engagement	h_S	[mm]	min. 10 – max. 75			min. 8 max.20	min. 10 max.25	min 12 max.30
Minimum spacing	s_{min}	[mm]	100	100	100	100	100	100
Minimum edge distance	c_{min}	[mm]	100	100	100	100	100	100
Torque moment	T_{inst}	[Nm]	5	8	10	5	8	10
Filling volume		[ml]	6	6	6	6	10	16