Hilti HIT-HY 10 Adhesive Anchor System

Injection Mortar System

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

Mixer HIT RE-M

Rebar, acc.
EN 1992-1-1 Ann. C

Threaded rods:
HIT-V
HAS

HIS-N sleeve

Dispenser:
Hilti HDM 330
Hilti HDM 500

Hilti HDE 500-A

Benefits

- chemical injection fastening
- two-component hybrid mortar
- rapid curing
- suitable for overhead fastenings
- versatile and convenient handling
- clean and simple in use
- small edge distance and anchor spacing
- always correct mixing ratio
- in-service temperatures:
  short term: max. 80°C
  long term: max. 50°C

Concrete

Basic loading data (for a single anchor)

All data in this section applies to

- Non cracked concrete C20/25$f_{ck,cube}$ = 25 N/mm²
- Load values valid for holes drilled with TE rotary hammers in hammering mode.
- Diamond coring is not permitted
- Embedment depth, base material thickness given in table page 2
- Correct anchor setting (see instruction for use, setting details)
- No edge distance and spacing influence
- Base material temperature during installation and curing must be between 0°C through +40°C
- In-service temperate range:

min base material temperature -40°C

max. long term/short term base material temperature: +24°C/40°

Recommended loads for tension loading: non-cracked concrete C 20/25

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

Threaded rods - size			**M8**	**M10**	**M12**	**M16**
Drill bit diameter	d_0	[mm]	10	12	14	18
Embedment depth	h_{ef}	[mm]	80	90	110	125
Base material thickness	h	[mm]	110	130	150	196
Tensile load	**N_{rec}**	**[kN]**	**5,0**	**7,0**	**10,0**	**12,0**

Rebar - size			**Ø8**	**Ø10**	**Ø12**	**Ø13**	**Ø14**	**Ø16**
Drill bit diameter	d_0	[mm]	12	14	16	18	18	20
Embedment depth	h_{ef}	[mm]	80	90	110	125	125	145
Base material thickness	h	[mm]	130	150	170	180	190	210
Tensile load	**N_{rec}**	**[kN]**	**5,0**	**7,0**	**10,0**	**11,0**	**11,5**	**12,0**

Materials

Material quality steel elements

Part	**Material**
Rebar	Refer to EN 1992-1-1 Annex C Table C.1 and C.2N
Threaded rod HIT-V, HAS-(E)	Strength class 5.8, EN ISO 898-1, A5 > 8% ductile steel galvanized ≥ 5 µm, EN ISO 4042
Threaded rod HIT-V-R, 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
Internal threaded sleeve [a)] HIS-N	C-steel 1.0718, EN 10277-3 Steel galvanized ≥ 5µm EN ISO 4042
Internal threaded sleeve [a)] 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

a) related fastening screw: strength class 8.8 EN ISO 898-1, A5 > 8% Ductile
steel galvanized ≥ 5µm EN ISO 4042

b) related fastening screw: strength class 70 EN ISO 3506-1, A5 > 8% Ductile
stainless steel 1.4401; 1.4404; 1.4578; 1.4571; 1.4439; 1.4362 EN 10088

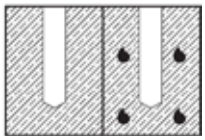
Setting

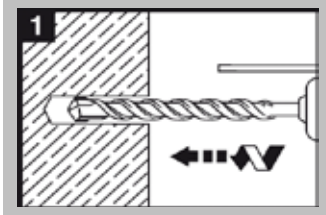
Installation equipment

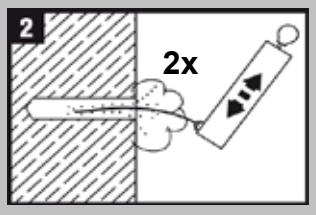
Anchor size	**M6**	**M8**	**M10**	**M12**
Rotary hammer	TE2 – TE16			
Other tools	blow out pump, set of cleaning brushes, dispenser			

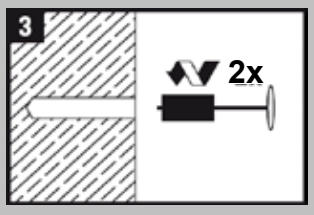
Setting instruction

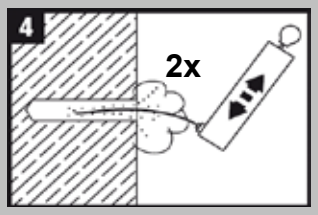
Dry and water-saturated concrete, hammer drilling

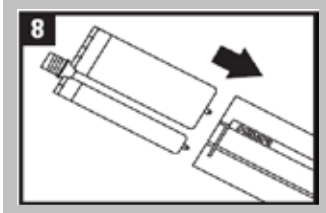


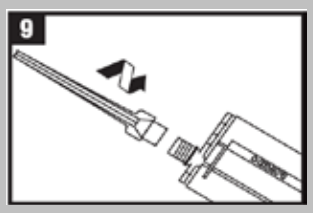


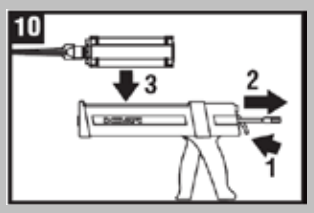


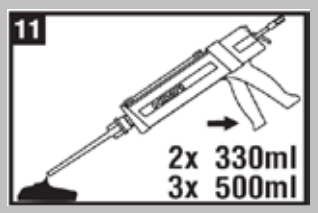


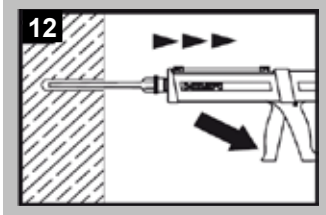


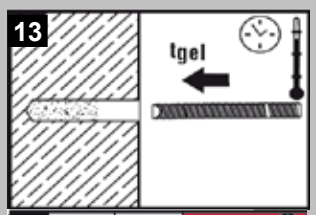




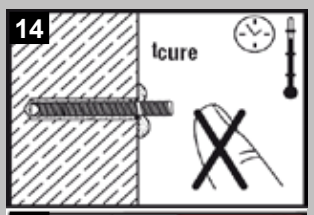




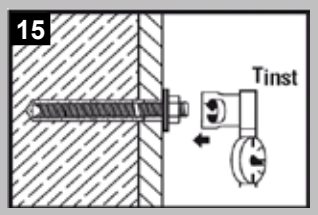




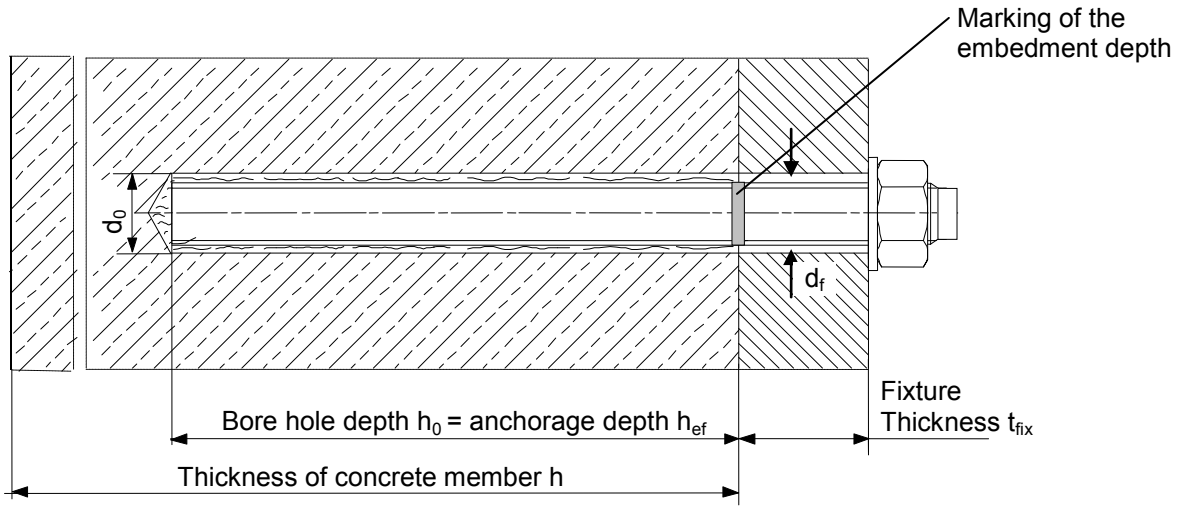
13	°F	°C	t_{gel}
	32	0	10 min
	41	5	10 min
	50	10	8 min
	68	20	5 min
	86	30	3 min
	104	40	2 min



14	°F	°C	t_{cure}
	32	0	4 h
	41	5	2.5 h
	50	10	1.5 h
	68	20	45 min
	86	30	30 min
	104	40	20 min



Setting details



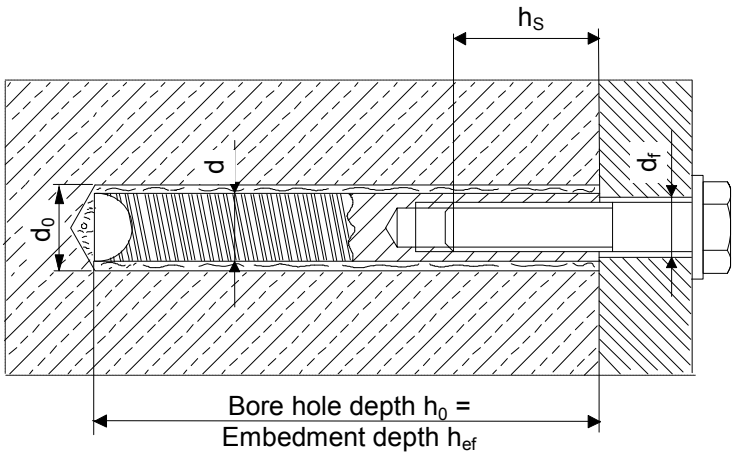
Setting details: Threaded Rod

Anchor size			Threaded Rod			
			M8	M10	M12	M16
Nominal diameter of drill bit	d_0	[mm]	10	12	14	18
Effective anchorage depth	h_{ef}	[mm]	80	90	110	125
Minimum base material thickness	h_{min}	[mm]	110	130	150	196
Diameter of clearance hole in the fixture	d_f	[mm]	9	12	14	18
Minimum spacing	s_{min}	[mm]	40	50	60	80
Minimum edge distance	c_{min}	[mm]	40	50	60	80
Torque moment	T_{max}	[Nm]	10	20	40	80

Setting details: Rebar

Anchor size			Rebar					
			Ø8	Ø10	Ø12	Ø13	Ø14	Ø16
Nominal diameter of drill bit	d_0	[mm]	12	14	16	18	18	20
Effective embedment and drill hole depth range [a] **for rebar**	h_{ef}	[mm]	80	90	110	120	125	145
Minimum base material thickness	h_{min}	[mm]	h_{ef} + 50 mm					
Minimum spacing	s_{min}	[mm]	40	50	60	65	70	80
Minimum edge distance	c_{min}	[mm]	40	50	60	70	80	100

Setting details: Internal threaded sleeve HIS-N / HIS-RN



Anchor size			M8x90	M10x110	M12x125
Nominal diameter of drill bit	d_0	[mm]	14	18	22
Diameter of element	d	[mm]	12,5	16,5	20,5
Effective anchorage depth	h_{ef}	[mm]	90	110	125
Minimum base material thickness	h_{min}	[mm]	120	150	170
Diameter of clearance hole in the fixture	d_f	[mm]	9	12	14
Thread engagement length; min - max	h_s	[mm]	8-20	10-25	12-30
Torque moment [a)]	T_{max}	[Nm]	10	20	40
Minimum spacing	s_{min}	[mm]	40	45	55
Minimum edge distance	c_{min}	[mm]	40	45	55