





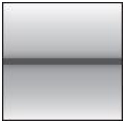

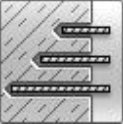


Hilti HIT-RE 10 mortar with rebar (as anchor)

Injection mortar system	Benefits
 <p>Hilti HIT-RE 10 580 ml hard cartridge</p>  <p>Static mixer</p>  <p>Rebar B500 B (φ8 - φ32)</p>	<ul style="list-style-type: none"> - suitable for non-cracked concrete C20/25 to C50/60 - suitable for dry and water saturated concrete - suitable for overhead fastenings

Base material	Load conditions
 <p>Concrete (non-cracked)</p>  <p>Dry concrete</p>  <p>Wet concrete</p>	 <p>Static/ quasi-static</p>
Installation conditions  <p>Hammer drilling</p>  <p>Variable embedment depth</p>	

Static and quasi-static loading (for a single anchor)

All data in this section applies to

- Correct setting (see setting instruction)
- Base material thickness, as specified in the tables
- No edge distance and spacing influence
- **Steel** failure
- Embedment depth, as specified in the tables
- One anchor material, as specified in the tables
- Non-cracked concrete C 20/25, $f_{ck,cube} = 25 \text{ N/mm}^2$
- Temperate range I and II, as specified in the tables

Recommended loads for tension loading

Rebar B500 B– size			φ8	φ10	φ12	φ14	φ16	φ20
Temperature range I (20/43°C)								
Embedment depth	$h_{ef,min}$	[mm]	60	60	70	75	80	90
Base material thickness	h	[mm]	100	100	100	111	120	140
Tensile load	N_{rec}	[kN]	5,1	6,4	9,0	11,2	12,3	14,7
Embedment depth	$h_{ef,10d}$	[mm]	80	100	120	140	160	200
Base material thickness	h	[mm]	110	130	150	176	200	250
Tensile load	N_{rec}	[kN]	6,8	10,7	15,4	20,9	27,4	42,7
Embedment depth	$h_{ef,15d}$	[mm]	120	150	180	210	240	300
Base material thickness	h	[mm]	150	180	210	246	280	350
Tensile load	N_{rec}	[kN]	10,3	16,0	23,1	31,4	41,0	64,1
Temperature range II (43/55°C)								
Embedment depth	$h_{ef,min}$	[mm]	60	60	70	75	80	90
Base material thickness	h	[mm]	100	100	100	111	120	140
Tensile load	N_{rec}	[kN]	3,6	4,5	6,3	7,9	9,6	13,5
Embedment depth	$h_{ef,10d}$	[mm]	80	100	120	140	160	200
Base material thickness	h	[mm]	110	130	150	176	200	250
Tensile load (TR II)	N_{rec}	[kN]	4,8	7,5	10,8	14,7	19,1	29,9
Embedment depth	$h_{ef,15d}$	[mm]	120	150	180	210	240	300
Base material thickness	h	[mm]	150	180	210	246	280	350
Tensile load	N_{rec}	[kN]	7,2	11,2	16,2	22,0	28,7	44,9

Recommended loads for shear loading

Rebar B500 B– size			φ8	φ10	φ12	φ14	φ16	φ20
Shear load	V_{rec}	[kN]	6,7	10,5	14,8	20,0	26,2	41,0

Setting

Installation temperature range:
+10°C to +40°C

Service temperature range

Hilti HIT-RE 10 injection mortar 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 +43 °C	+20 °C	+43 °C

Max 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.

Max long term base material temperature

Long-term elevated base material temperatures are roughly constant over significant periods of time.

Working time and curing time:

Temperature of the base material T_{BM}	Maximum working time t_{work}	Minimum curing time $t_{cure}^a)$
$5^{\circ}C \leq T_{BM} \leq 10^{\circ}C$	5 h	72 h
$10^{\circ}C < T_{BM} \leq 15^{\circ}C$	2,5 h	48 h
$15^{\circ}C < T_{BM} \leq 20^{\circ}C$	2 h	36 h
$20^{\circ}C < T_{BM} \leq 30^{\circ}C$	60 min	24 h
$30^{\circ}C < T_{BM} \leq 40^{\circ}C$	30 min	12 h

a) The curing time data are valid for dry anchorage base only. For water saturated anchorage bases the curing times must be doubled.

Installation equipment

Rebar – size	$\phi 8$	$\phi 10$	$\phi 12$	$\phi 14$	$\phi 16$	$\phi 20$	$\phi 25$	$\phi 28$	$\phi 32$
Rotary hammer	TE2(-A) – TE30(-A)					TE40 – TE80			
Other tools	Blow out pump ($h_{ef} \leq 10 \cdot d$)					-			
	Compressed air gun ^{b)}								
	Set of cleaning brushes ^{c)} , dispenser, piston plug								

b) Compressed air gun with extension hose for all drill holes deeper than 250 mm (for $\phi 8$ to $\phi 12$) or deeper than $20 \cdot \phi$ (for $\phi > 12$ mm).

c) Automatic brushing with round brush for all drill holes deeper than 250 mm (for $\phi 8$ to $\phi 12$) or deeper than $20 \cdot \phi$ (for $\phi > 12$ mm).

Setting details

Rebar – size		$\phi 8$	$\phi 10$	$\phi 12$	$\phi 14$	$\phi 16$	$\phi 20$	$\phi 25$	$\phi 28$	$\phi 32$
Nominal diameter of drill bit	d_0 [mm]	(10) 12 ^{d)}	(12) 14 ^{d)}	(14) 16 ^{d)}	18	20	25	32	35	40
Minimum base material thickness	h_{min} [mm]	$h_{ef} + 30 \text{ mm} \geq 100 \text{ mm}$			$h_{ef} + 2d_0$					
Effective anchorage depth (= drill hole depth) $h_{ef} = h_0$	$h_{ef,min}$ [mm]	60	60	70	75	80	90	100	112	128
	$h_{ef,max}$ [mm]	160	200	240	280	320	400	500	500	500
Minimum spacing	s_{min} [mm]	40	50	60	70	80	100	125	140	160
Minimum edge distance	c_{min} [mm]	40	50	60	70	80	100	125	140	160

d) Both given drill bit diameter can be used.

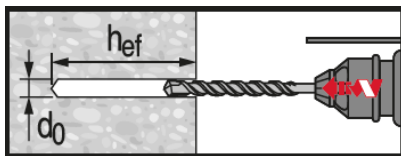
Setting instructions

*For detailed information on installation see instruction for use given with the package of the product.

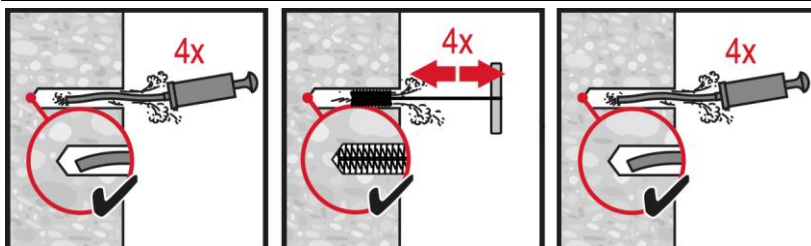


Safety regulations.

Review the Material Safety Data Sheet (MSDS) before use for proper and safe handling! Wear well-fitting protective goggles and protective gloves when working with Hilti HIT-RE 10.



Hammer drilled hole



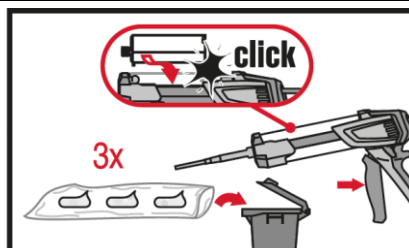
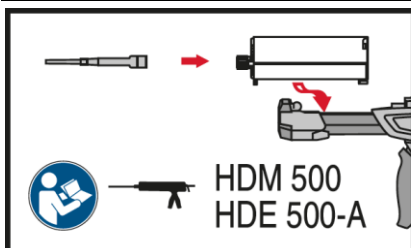
Manual cleaning (MC)

for drill diameters $d_0 \leq 20$ mm and drill hole depth $h_0 \leq 10 \cdot d$.

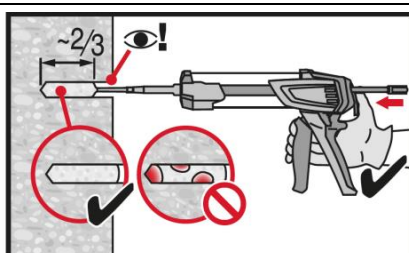
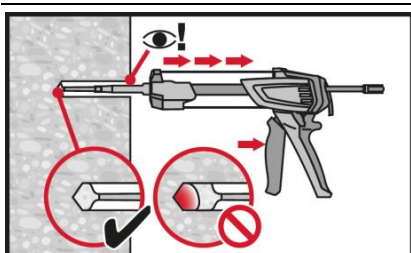


Compressed air cleaning (CAC)

for all drill hole diameters d_0 and drill hole depths $h_0 \leq 20 \cdot d$.

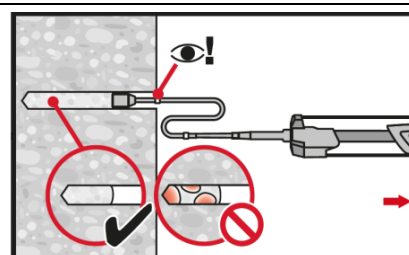
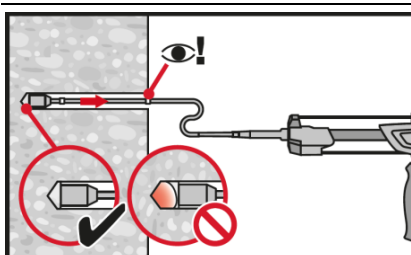


Injection system preparation.



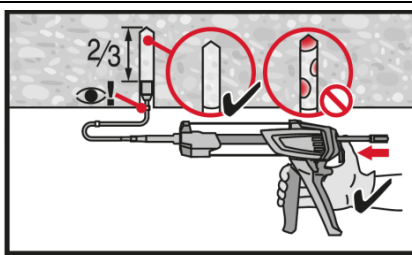
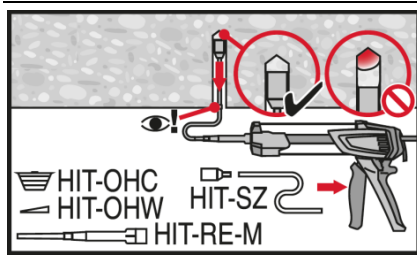
Injection method for drill hole depth

$h_{ef} \leq 250$ mm.

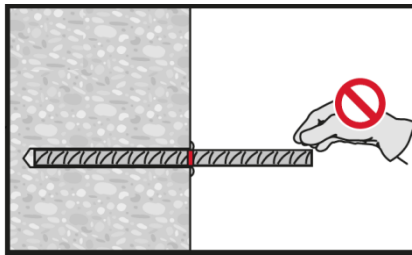
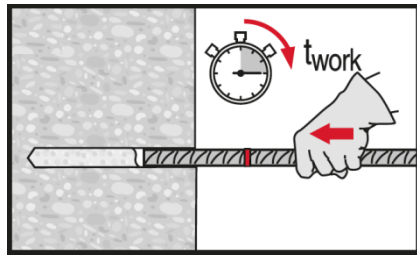


Injection method for drill hole depth

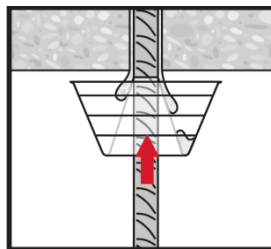
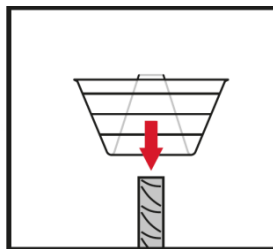
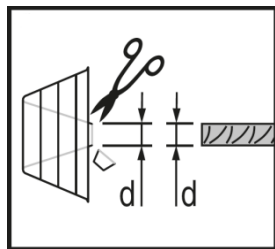
$h_{ef} > 250$ mm.



Injection method for overhead application.



Setting element, observe working time "t_{work}".



Setting element for overhead applications, observe working time "t_{work}".

