Hilti HIT-RE500V3 Injectable Mortar

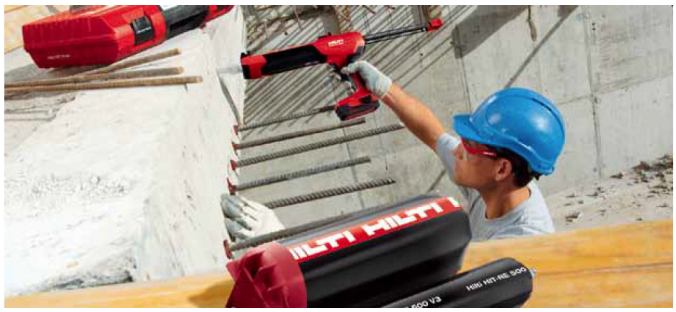
(Anchorage) Submission Folder

Recycling one ton of paper saves 17 trees and 7000 gallons of water.

Please consider your environmental responsibility before using the hard copy version!

Hilti (HK) | askHilti 工程師技術支援平台 ask.hilti.com.hk | 香港客戶熱線 +852 8228 8118 澳門客戶熱線(免費) 00800 8228 8118 | 香港門市：大角咀洋松街1號形品星寓地下2號舖 澳門門市：澳門布魯塞爾街70號建興龍廣場地下W座地舖 | 電郵：hksales@hilti.com 傳真：+852 2954 1751

Injectable mortar HIT-RE 500 V3 NEW



BASE MATERIALS

- Concrete (cracked)
- Concrete (uncracked)
- Some types of natural stone

APPLICATIONS

- Structural connections with post-installed rebar (e.g. extension / connection to walls, slabs, stairs, columns, foundations, etc.)
- Substitution of misplaced / missing rebars or couplers
- Anchoring structural steel connections (e.g. steel columns, beams, etc.)
- Anchoring crash barriers, noise barriers, etc.
- Structural renovation of buildings, bridges and other civil structures, retrofitting and re-strengthening of concrete members possible

ADVANTAGES

- The fastest-curing epoxy mortar on the market
- Long working time allows greater flexibility during installation
- Also suitable for water-filled holes and underwater applications

Approvals	
ETA	ETA 16/0142 HIT-RE 500 V3 injection mortar rebar_en
	ETA 16/0143 HIT-RE 500 V3 injection mortar 04/2016_en

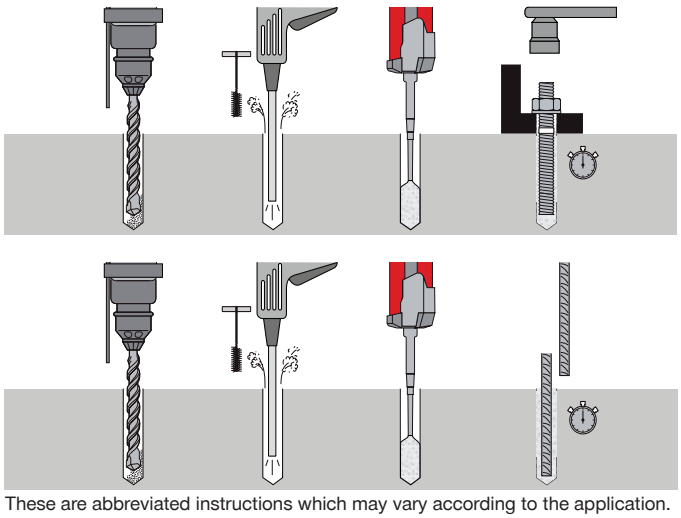
Approvals and test reports may apply to selected products only. Please refer to the documents for details.

Technical data	
Material composition	Epoxy Adhesive
Base material condition	Dry, submerged, water-filled, wet
Tested/approved for diamond drilling	Yes
Seismic	Yes
Compatible cartridge holder	CB (Black)
Additional product information	Always wear eye protection and gloves while handling

Curing time

Temperature in the base material T [°C]	Maximum working time twork [h]	Minimum curing time tcure [h]
-5 to -1	2	168
0 to 4	2	48
5 to 9	2	24
10 to 14	1.5	16
15 to 19	1	16
20 to 24	0.5	7
25 to 29	20 min	6
30 to 34	15 min	5
35 to 39	12 min	4.5
40	10 min	4

[1] The curing time data are vaild for dry base material only. In wet base material the curing times must be doubled.



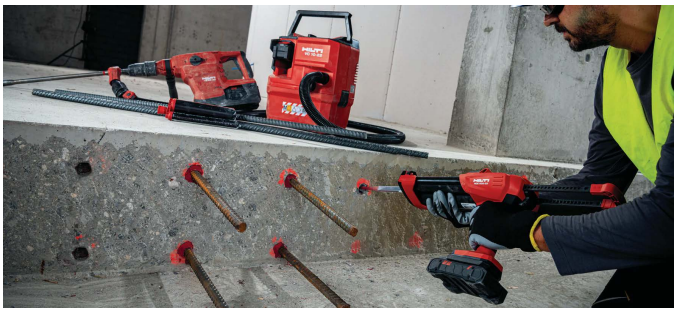
These are abbreviated instructions which may vary according to the application.

Ordering designation	Content per can/cartridge	Package contents	Sales pack quantity	Item number
HIT-RE 500 V3/500/1	500 ml	1x Foil pack, 1x Mixer, 1x Mixer extension	1 pc	**2123406**[1]
Kit RE 500 V3/500/1 + HDE A22 Dispenser	500 ml	80x Foil pack, 1x Dispenser HDE 500-A22, 1x Cartridge Holder	1 pc	**3733112**

[1] For detailed stock availability and lead time information please contact your Hilti representative.

Please visit Hilti website for the latest item numbers and related products

Dispenser HDE 500-22



APPLICATIONS

- Injecting Hilti HIT epoxy or adhesive mortar for fastening anchor rods and rebar in concrete and masonry
- Dispensing Hilti firestop foams (only when packaged in compatible soft foil packs)

ADVANTAGES

- Faster anchoring
- Significantly reduce mortar wastage
- Improve fastener safety and reliability
- Repeat and resume functions
- On the Nuron battery platform

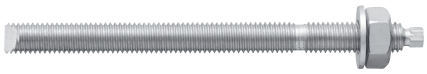
Technical data	
Power source type	Compact B22-55 or B22-85 battery pack
Dispenser type	Battery
Performance (at 20°C)	55 sec (RE100 500 ml)
B22-55 Battery capacity	100 cartridges (500 ml)
Dimension (L x W x H)	440mm x 120mm x 230 mm
Modes available	Off / continuous / smart discard / measured volume dispensing with ml
Dispensing volume per trigger	1 ml

Order Now

Ordering designation	Content per can/cartridge	Sales pack quantity	Item number
HDE 500-22 + CB (Ultimate) 110V	1x Cordl. dispenser HDE 500-22, 1x Cartridge holder HIT-CB, 1x Battery pack B 22-55, 1x Battery charger C 4-22 110V	1 pc	**3880132**
HDE 500-22 + CR (Ultimate) 110V	1x Cordl. dispenser HDE 500-22, 1x Cartridge holder HIT-CR, 1x Battery pack B 22-55, 1x Battery charger C 4-22 110V	1 pc	**3880183**
HDE 500-22 + CB (Ultimate) 230V	1x Cordl. dispenser HDE 500-22, 1x Cartridge holder HIT-CB, 1x Battery pack B 22-55, 1x Battery charger C 4-22 230V	1 pc	**3880184**
HDE 500-22 + CR (Ultimate) 230V	1x Cordl. dispenser HDE 500-22, 1x Cartridge holder HIT-CR, 1x Battery pack B 22-55, 1x Battery charger C 4-22 230V	1 pc	**3880186**
Battery pack B 22-85 Li-ion	-	1 pc	**2251351**
Battery charger C 4-22 110V	-	1 pc	**2372874**
Battery charger C 4-22 230V	-	1 pc	**2372873**

Please visit Hilti website for the latest item numbers and related products

Anchor rod HAS (Galvanized, grade 5.8)



Approvals	
ETA	ETA-18/0185 HVU2 bonded fastener for use in concrete

Approvals and test reports may apply to selected products only. Please refer to the documents for details.

Technical data	
Head configuration	Externally threaded
Material composition	Steel, 5.8 grade, zinc-plated (min. 5µm)
Material, corrosion	Carbon steel, zinc-plated
Anchor type	Off-the-shelf rods
SAFEset	No
SAFEset	No

Order Now

Ordering designation	Drill bit diameter	Drilling depth	Max. fixture thickness at standard embedment depth	Base plate clearance hole	Sales pack quantity	Item number
HAS-5.8 M8x80/14	10 mm	80 mm	14 mm	9 mm	20 pc	**66001**
HAS-5.8 M10x90/21	12 mm	90 mm	21 mm	12 mm	20 pc	**2170322**
HAS-5.8 M12x110/28	14 mm	110 mm	28 mm	14 mm	20 pc	**2170323**
HAS-5.8 M16x125/38	18 mm	125 mm	38 mm	18 mm	20 pc	**2170324**

[1] For detailed stock availability and lead time information please contact your Hilti representative.

Please visit Hilti website for the latest item numbers and related products

Anchor rod HAS-U 5.8 (Galvanized, grade 5.8)

Approvals	
ETA	ETA 15/0882 for HIT-RE 100 injection mortar for anchoring applications (ETAG 001-05, Option 7)
ETA, seismic	ETA 16/0143 for HIT-RE 500V3 injection mortar for anchoring applications (ETAG 001-05, Option 7)
	ETA 12/0084 for HIT-HY 200-R injection mortar and standard element for anchoring applications (ETAG 001-05, Option 1)

Approvals and test reports may apply to selected products only. Please refer to the documents for details.

Technical data	
Head configuration	Externally threaded
Material composition	Steel, 5.8 grade, zinc-plated (min. 5µm)
Material, corrosion	Steel, zinc-plated

Order Now

CE

Ordering designation	Anchor size	Anchor length	Drill bit diameter	Base plate clearance hole	Sales pack quantity	Item number
HAS-U 5.8 M6x75	M6	75mm	8mm	7mm	20pc	**2223936**[1]
HAS-U 5.8 M6x105	M6	105mm	8mm	7mm	20pc	**2223704**[1]
HAS-U 5.8 M8x80	M8	80mm	10mm	9mm	20pc	**2223852**[1]
HAS-U 5.8 M8x110	M8	110mm	10mm	9mm	20pc	**2223853**
HAS-U 5.8 M8x150	M8	150mm	10mm	9mm	20pc	**2223854**[1]
HAS-U 5.8 M10x95	M10	95mm	12mm	12mm	20pc	**2223705**[1]
HAS-U 5.8 M10x115	M10	115mm	12mm	12mm	20pc	**2223706**[1]
HAS-U 5.8 M10x130	M10	130mm	12mm	12mm	20pc	**2223707**
HAS-U 5.8 M10x170	M10	170mm	12mm	12mm	20pc	**2223709**[1]
HAS-U 5.8 M10x190	M10	190mm	12mm	12mm	20pc	**2223820**[1]
HAS-U 5.8 M12x110	M12	110mm	14mm	14mm	20pc	**2223821**[1]
HAS-U 5.8 M12x120	M12	120mm	14mm	14mm	20pc	**2223822**[1]
HAS-U 5.8 M12x160	M12	160mm	14mm	14mm	20pc	**2223823**
HAS-U 5.8 M12x180	M12	180mm	14mm	14mm	20pc	**2223825**[1]
HAS-U 5.8 M12x200	M12	200mm	14mm	14mm	20pc	**2223826**[1]
HAS-U 5.8 M12x220	M12	220mm	14mm	14mm	20pc	**2223827**[1]
HAS-U 5.8 M12x260	M12	260mm	14mm	14mm	20pc	**2223867**[1]
HAS-U 5.8 M12x300	M12	300mm	14mm	14mm	20pc	**2223868**[1]
HAS-U 5.8 M16x150	M16	150mm	18mm	18mm	20pc	**2223828**[1]
HAS-U 5.8 M16x165	M16	165mm	18mm	18mm	20pc	**2223829**[1]
HAS-U 5.8 M16x190	M16	190mm	18mm	18mm	20pc	**2223830**
HAS-U 5.8 M16x220	M16	220mm	18mm	18mm	10pc	**2223869**[1]

[1] For detailed stock availability and lead time information please contact your Hilti representative.

Please visit Hilti website for the latest item numbers and related products

Ordering designation	Anchor size	Anchor length	Drill bit diameter	Base plate clearance hole	Sales pack quantity	Item number
HAS-U 5.8 M16x260	M16	260mm	18mm	18mm	10pc	**2223832**[1)]
HAS-U 5.8 M16x300	M16	300mm	18mm	18mm	10pc	**2223870**
HAS-U 5.8 M16x350	M16	350mm	18mm	18mm	10pc	**2223871**[1)]
HAS-U 5.8 M16x500	M16	500mm	18mm	18mm	10pc	**2223872**[1)]
HAS-U 5.8 M20x180	M20	180mm	22mm	22mm	10pc	**2223873**[1)]
HAS-U 5.8 M20x240	M20	240mm	22mm	22mm	10pc	**2223874**
HAS-U 5.8 M20x260	M20	260mm	22mm	22mm	10pc	**2223876**
HAS-U 5.8 M20x300	M20	300mm	22mm	22mm	10pc	**2223877**[1)]
HAS-U 5.8 M20x350	M20	350mm	22mm	22mm	10pc	**2223878**[1)]
HAS-U 5.8 M20x400	M20	400mm	22mm	22mm	10pc	**2223879**[1)]
HAS-U 5.8 M20x480	M20	480mm	22mm	22mm	10pc	**2223880**
HAS-U 5.8 M24x300	M24	300mm	28mm	26mm	5pc	**2223881**
HAS-U 5.8 M24x450	M24	450mm	28mm	26mm	5pc	**2223882**[1)]

[1)] For detailed stock availability and lead time information please contact your Hilti representative.

Please visit Hilti website for the latest item numbers and related products

HAS-U 5.8 HDG

Approvals	
ETA	ETA 15/0882 for HIT-RE 100 injection mortar for anchoring applications (ETAG 001-05, Option 7)
ETA, seismic	ETA 16/0143 for HIT-RE 500V3 injection mortar for anchoring applications (ETAG 001-05, Option 7)
	ETA 12/0084 for HIT-HY 200-R injection mortar and standard element for anchoring applications (ETAG 001-05, Option 1)

Approvals and test reports may apply to selected products only. Please refer to the documents for details.

Technical data	
Head configuration	Externally threaded
Material composition	Steel, 5.8 grade, zinc-plated (min. 43µm)
Material, corrosion	Steel, zinc-plated

Order Now

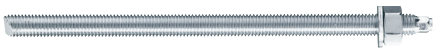
CE

Ordering designation	Anchor size	Anchor length	Drill bit diameter	Base plate clearance hole	Sales pack quantity	Item number
HAS-U 5.8 HDG M8x80	M8	80mm	10mm	9mm	20pc	**2223856**[1)]
HAS-U 5.8 HDG M8x110	M8	110mm	10mm	9mm	20pc	**2223857**[1)]
HAS-U 5.8 HDG M8x150	M8	150mm	10mm	9mm	20pc	**2223858**[1)]
HAS-U 5.8 HDG M10x95	M10	95mm	12mm	12mm	20pc	**2223859**[1)]
HAS-U 5.8 HDG M10x115	M10	115mm	12mm	12mm	20pc	**2223860**[1)]
HAS-U 5.8 HDG M10x130	M10	130mm	12mm	12mm	20pc	**2223861**[1)]
HAS-U 5.8 HDG M10x170	M10	170mm	12mm	12mm	20pc	**2223862**[1)]
HAS-U 5.8 HDG M10x190	M10	190mm	12mm	12mm	20pc	**2223863**[1)]
HAS-U 5.8 HDG M12x110	M12	110mm	14mm	14mm	20pc	**2223937**[1)]
HAS-U 5.8 HDG M12x120	M12	120mm	14mm	14mm	20pc	**2223938**[1)]
HAS-U 5.8 HDG M12x160	M12	160mm	14mm	14mm	20pc	**2223939**[1)]
HAS-U 5.8 HDG M12x180	M12	180mm	14mm	14mm	20pc	**2223940**[1)]
HAS-U 5.8 HDG M12x200	M12	200mm	14mm	14mm	20pc	**2223941**[1)]
HAS-U 5.8 HDG M12x220	M12	220mm	14mm	14mm	20pc	**2223942**[1)]
HAS-U 5.8 HDG M12x260	M12	260mm	14mm	14mm	20pc	**2223895**[1)]
HAS-U 5.8 HDG M12x300	M12	300mm	14mm	14mm	20pc	**2223896**[1)]
HAS-U 5.8 HDG M16x150	M16	150mm	18mm	18mm	20pc	**2223943**[1)]
HAS-U 5.8 HDG M16x165	M16	165mm	18mm	18mm	20pc	**2223944**[1)]
HAS-U 5.8 HDG M16x190	M16	190mm	18mm	18mm	20pc	**2223945**[1)]
HAS-U 5.8 HDG M16x220	M16	220mm	18mm	18mm	10pc	**2223946**[1)]
HAS-U 5.8 HDG M16x260	M16	260mm	18mm	18mm	10pc	**2223897**[1)]
HAS-U 5.8 HDG M16x300	M16	300mm	18mm	18mm	10pc	**2223898**[1)]
HAS-U 5.8 HDG M16x350	M16	350mm	18mm	18mm	10pc	**2223899**[1)]
HAS-U 5.8 HDG M16x500	M16	500mm	18mm	18mm	10pc	**2223900**[1)]
HAS-U 5.8 HDG M20x180	M20	180mm	22mm	22mm	10pc	**2223901**[1)]
HAS-U 5.8 HDG M20x240	M20	240mm	22mm	22mm	10pc	**2223902**[1)]
HAS-U 5.8 HDG M20x260	M20	260mm	22mm	22mm	10pc	**2223903**[1)]
HAS-U 5.8 HDG M20x300	M20	300mm	22mm	22mm	10pc	**2223904**[1)]
HAS-U 5.8 HDG M20x350	M20	350mm	22mm	22mm	10pc	**2223905**[1)]
HAS-U 5.8 HDG M20x400	M20	400mm	22mm	22mm	10pc	**2223906**[1)]
HAS-U 5.8 HDG M20x480	M20	480mm	22mm	22mm	10pc	**2223907**[1)]
HAS-U 5.8 HDG M24x300	M24	300mm	28mm	26mm	5pc	**2223908**[1)]
HAS-U 5.8 HDG M24x450	M24	450mm	28mm	26mm	5pc	**2223909**[1)]

[1)] For detailed stock availability and lead time information please contact your Hilti representative.

Please visit Hilti website for the latest item numbers and related products

Anchor rod HAS-U 8.8 (Galvanized, grade 8.8)



Approvals	
ETA	ETA 15/0882 for HIT-RE 100 injection mortar for anchoring applications (ETAG 001-05, Option 7)
ETA, seismic	ETA 16/0143 for HIT-RE 500V3 injection mortar for anchoring applications (ETAG 001-05, Option 7)
	ETA 12/0084 for HIT-HY 200-R injection mortar and standard element for anchoring applications (ETAG 001-05, Option 1)

Approvals and test reports may apply to selected products only. Please refer to the documents for details.

Technical data	
Head configuration	Externally threaded
Material composition	Steel, 8.8 grade, zinc-plated (min. 5µm)
Material, corrosion	Steel, zinc-plated

Order Now

Ordering designation	Anchor size	Anchor length	Drill bit diameter	Base plate clearance hole	Sales pack quantity	Item number
HAS-U 8.8 M8x150	M8	150mm	10mm	9mm	20pc	**2223855**[1)]
HAS-U 8.8 M10x190	M10	190mm	12mm	12mm	20pc	**2223833**
HAS-U 8.8 M12x220	M12	220mm	14mm	14mm	20pc	**2223834**
HAS-U 8.8 M12x300	M12	300mm	14mm	14mm	20pc	**2223883**
HAS-U 8.8 M16x190	M16	190mm	18mm	18mm	20pc	**2223835**[1)]
HAS-U 8.8 M16x300	M16	300mm	18mm	18mm	10pc	**2223884**[1)]
HAS-U 8.8 M16x380	M16	380mm	18mm	18mm	10pc	**2223885**
HAS-U 8.8 M20x180	M20	180mm	22mm	22mm	10pc	**2223886**[1)]
HAS-U 8.8 M20x260	M20	260mm	22mm	22mm	10pc	**2223887**[1)]
HAS-U 8.8 M20x400	M20	400mm	22mm	22mm	10pc	**2223888**[1)]
HAS-U 8.8 M24x300	M24	300mm	28mm	26mm	5pc	**2223889**[1)]
HAS-U 8.8 M27x340	M27	340mm	30mm	30mm	5pc	**2223890**[1)]
HAS-U 8.8 M30x380	M30	380mm	35mm	33mm	5pc	**2223891**[1)]
HAS-U 8.8 M33x420	M33	420mm	37mm	36mm	5pc	**2223892**[1)]
HAS-U 8.8 M36x460	M36	460mm	40mm	39mm	5pc	**2223893**[1)]
HAS-U 8.8 M39x510	M39	510mm	42mm	42mm	5pc	**2223894**[1)]

[1)] For detailed stock availability and lead time information please contact your Hilti representative.

Please visit Hilti website for the latest item numbers and related products

HAS-U 8.8 HDG

Approvals	
ETA	ETA 15/0882 for HIT-RE 100 injection mortar for anchoring applications (ETAG 001-05, Option 7)
ETA, seismic	ETA 16/0143 for HIT-RE 500V3 injection mortar for anchoring applications (ETAG 001-05, Option 7)
	ETA 12/0084 for HIT-HY 200-R injection mortar and standard element for anchoring applications (ETAG 001-05, Option 1)

Approvals and test reports may apply to selected products only. Please refer to the documents for details.

Technical data	
Head configuration	Externally threaded
Material composition	Steel, 8.8 grade, zinc-plated (min. 43µm)
Material, corrosion	Steel, zinc-plated

Order Now

Ordering designation	Anchor size	Anchor length	Drill bit diameter	Base plate clearance hole	Sales pack quantity	Item number
HAS-U 8.8 HDG M8x150	M8	150mm	10mm	9mm	20pc	**2223947**[1)]
HAS-U 8.8 HDG M10x190	M10	190mm	12mm	12mm	20pc	**2223948**[1)]
HAS-U 8.8 HDG M12x220	M12	220mm	14mm	14mm	20pc	**2223949**[1)]
HAS-U 8.8 HDG M12x300	M12	300mm	14mm	14mm	20pc	**2223910**[1)]
HAS-U 8.8 HDG M16x190	M16	190mm	18mm	18mm	20pc	**2223703**[1)]
HAS-U 8.8 HDG M16x300	M16	300mm	18mm	18mm	10pc	**2223911**[1)]
HAS-U 8.8 HDG M16x380	M16	380mm	18mm	18mm	10pc	**2223912**[1)]
HAS-U 8.8 HDG M20x180	M20	180mm	22mm	22mm	10pc	**2223913**[1)]
HAS-U 8.8 HDG M20x260	M20	260mm	22mm	22mm	10pc	**2223914**[1)]
HAS-U 8.8 HDG M20x400	M20	400mm	22mm	22mm	10pc	**2223915**[1)]
HAS-U 8.8 HDG M24x300	M24	300mm	28mm	26mm	5pc	**2223916**[1)]
HAS-U 8.8 HDG M27x340	M27	340mm	30mm	30mm	5pc	**2223917**[1)]
HAS-U 8.8 HDG M30x380	M30	380mm	35mm	33mm	5pc	**2223918**[1)]

[1)] For detailed stock availability and lead time information please contact your Hilti representative.

Please visit Hilti website for the latest item numbers and related products

Anchor rod HAS-U (A4 stainless steel)

Approvals	
ETA	ETA 15/0882 for HIT-RE 100 injection mortar for anchoring applications (ETAG 001-05, Option 7)
ETA, seismic	ETA 16/0143 for HIT-RE 500V3 injection mortar for anchoring applications (ETAG 001-05, Option 7)
	ETA 12/0084 for HIT-HY 200-R injection mortar and standard element for anchoring applications (ETAG 001-05, Option 1)

Approvals and test reports may apply to selected products only. Please refer to the documents for details.

Technical data	
Head configuration	Externally threaded
Material composition	Steel, A4 (SS316)
Material, corrosion	Steel, stainless

Order Now

Ordering designation	Anchor size	Anchor length	Drill bit diameter	Base plate clearance hole	Sales pack quantity	Item number
HAS-U A4 M8x80	M8	80mm	10mm	9mm	20pc	**2223864**
HAS-U A4 M8x110	M8	110mm	10mm	9mm	20pc	**2223865**
HAS-U A4 M8x150	M8	150mm	10mm	9mm	20pc	**2223866**
HAS-U A4 M10x95	M10	95mm	12mm	9mm	20pc	**2223836**
HAS-U A4 M10x115	M10	115mm	12mm	12mm	20pc	**2223837**[1)]
HAS-U A4 M10x130	M10	130mm	12mm	12mm	20pc	**2223838**
HAS-U A4 M10x170	M10	170mm	12mm	12mm	20pc	**2223839**[1)]
HAS-U A4 M10x190	M10	190mm	12mm	12mm	20pc	**2223840**
HAS-U A4 M10x220	M10	220mm	12mm	12mm	20pc	**2223841**[1)]
HAS-U A4 M12x110	M12	110mm	14mm	14mm	20pc	**2223842**[1)]
HAS-U A4 M12x120	M12	120mm	14mm	14mm	20pc	**2223843**[1)]
HAS-U A4 M12x160	M12	160mm	14mm	14mm	20pc	**2223844**
HAS-U A4 M12x180	M12	180mm	14mm	14mm	20pc	**2223845**[1)]
HAS-U A4 M12x200	M12	200mm	14mm	14mm	20pc	**2223846**[1)]
HAS-U A4 M12x220	M12	220mm	14mm	14mm	20pc	**2223847**
HAS-U A4 M12x260	M12	260mm	14mm	14mm	20pc	**2223919**[1)]
HAS-U A4 M12x300	M12	300mm	14mm	14mm	20pc	**2223920**
HAS-U A4 M16x150	M16	150mm	18mm	18mm	20pc	**2223848**[1)]
HAS-U A4 M16x165	M16	165mm	18mm	18mm	20pc	**2223849**[1)]
HAS-U A4 M16x190	M16	190mm	18mm	18mm	20pc	**2223850**
HAS-U A4 M16x220	M16	220mm	18mm	18mm	20pc	**2223851**
HAS-U A4 M16x260	M16	260mm	18mm	18mm	10pc	**2223921**[1)]
HAS-U A4 M16x300	M16	300mm	18mm	18mm	10pc	**2223922**[1)]
HAS-U A4 M16x350	M16	350mm	18mm	18mm	10pc	**2223923**[1)]
HAS-U A4 M16x380	M16	380mm	18mm	18mm	10pc	**2223924**
HAS-U A4 M20x180	M20	180mm	22mm	22mm	10pc	**2223925**[1)]
HAS-U A4 M20x240	M20	240mm	22mm	22mm	10pc	**2223926**
HAS-U A4 M20x260	M20	260mm	22mm	22mm	10pc	**2223927**
HAS-U A4 M20x300	M20	300mm	22mm	22mm	10pc	**2223928**[1)]
HAS-U A4 M20x350	M20	350mm	22mm	22mm	10pc	**2223929**[1)]
HAS-U A4 M20x400	M20	400mm	22mm	22mm	10pc	**2223930**[1)]
HAS-U A4 M20x480	M20	480mm	22mm	22mm	10pc	**2223931**
HAS-U A4 M24x300	M24	300mm	28mm	26mm	5pc	**2223932**
HAS-U A4 M24x450	M24	450mm	28mm	26mm	5pc	**2223933**[1)]
HAS-U A4 M27x340	M27	340mm	30mm	30mm	5pc	**2223934**[1)]
HAS-U A4 M30x380	M30	380mm	35mm	33mm	5pc	**2223935**[1)]

[1)] For detailed stock availability and lead time information please contact your Hilti representative.

Please visit Hilti website for the latest item numbers and related products

Internally threaded sleeve HIS-N (Galvanized, grade 5.8)

Approvals	
ETA	ETA 04/0027 for HIT-RE 500 injection mortar for anchoring applications (ETAG 001-05, Option 7)
ETA, seismic	ETA 04/0027 for HIT-RE 500 V3 injection mortar for anchoring applications (ETAG 001-05, Option 7)
	ETA 12/0084 for HIT-HY 200-R injection mortar and standard element for anchoring applications (ETAG 001-05, Option 1)

Approvals and test reports may apply to selected products only. Please refer to the documents for details.

Technical data	
Head configuration	Inner thread
Material composition	Steel, 5.8 grade, zinc-plated (min. 5 µm)
Material, corrosion	Steel, zinc-plated
Anchor type	Internally threaded

Order Now

Ordering designation	Anchor size	Drill bit diameter	Drilling depth	Base plate clearance hole	Sales pack quantity	Item number
HIS-N M8x90	M8	14 mm	90 mm	9 mm	10 pc	**258015**[1)]
HIS-N M10x110	M10	18 mm	110 mm	12 mm	10 pc	**258016**[1)]
HIS-N M12x125	M12	22 mm	125 mm	14 mm	5 pc	**258017**[1)]
HIS-N M16x170	M16	28 mm	170 mm	18 mm	5 pc	**258018**[1)]
HIS-N M20x205	M20	32 mm	205 mm	22 mm	5 pc	**258019**[1)]

[1)] This is a non-stock item. For detailed lead time information please contact your Hilti representative.

Please visit Hilti website for the latest item numbers and related products

Internally threaded sleeve HIS-RN (A4 stainless steel)

Approvals	
ETA	ETA 04/0027 for HIT-RE 500 injection mortar for anchoring applications (ETAG 001-05, Option 7)
ETA, seismic	ETA 04/0027 for HIT-RE 500 V3 injection mortar for anchoring applications (ETAG 001-05, Option 7)
	ETA 12/0084 for HIT-HY 200-R injection mortar and standard element for anchoring applications (ETAG 001-05, Option 1)

Approvals and test reports may apply to selected products only. Please refer to the documents for details.

Technical data	
Head configuration	Inner thread
Material composition	Steel, A4 (SS316)
Material, corrosion	Steel, stainless
Anchor type	Internally threaded

Order Now

Ordering designation	Anchor size	Drill bit diameter	Drilling depth	Base plate clearance hole	Sales pack quantity	Item number
HIS-RN M8x90 A4	M8	14 mm	90 mm	9 mm	10 pc	**258024**[1)]
HIS-RN M10x110 A4	M10	18 mm	110 mm	12 mm	10 pc	**258025**
HIS-RN M12x125 A4	M12	22 mm	125 mm	14 mm	5 pc	**258026**
HIS-RN M16x170 A4	M16	28 mm	170 mm	18 mm	5 pc	**258027**[1)]
HIS-RN M20x205 A4	M20	32 mm	205 mm	22 mm	5 pc	**258028**[1)]

[1)] This is a non-stock item. For detailed lead time information please contact your Hilti representative.

Please visit Hilti website for the latest item numbers and related products

Anchor rod HIT-Z (Galvanized)



Approvals	
ETA, seismic	ETA 12/0006 for HIT-HY 200-A injection mortar and HIT-Z(R) rod for anchoring applications (ETAG 001-05, Option 1)
	ETA 12/0006 for HIT-HY 200-R injection mortar and HIT-Z(R) rod for anchoring applications (ETAG 001-05, Option 1)

Approvals and test reports may apply to selected products only. Please refer to the documents for details.

Technical data	
Head configuration	Externally threaded
Material composition	Steel, zinc-plated (min. 5 µm)
Material, corrosion	Steel, zinc-plated
Anchor type	Off-the-shelf rods
Approvals / test reports	ETA
Tested/approved for diamond drilling	Yes

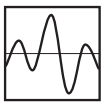
Order Now Watch Video

Ordering designation	Anchor size	Drill bit diameter	Max. fixture thickness at standard embedment depth	Base plate clearance hole	Required tightening torque	Sales pack quantity	Item number
HIT-Z M8x80	M8	10 mm	8 mm	9 mm	10 Nm	40 pc	2018364[1)]
HIT-Z M8x100	M8	10 mm	28 mm	9 mm	10 Nm	40 pc	2018365
HIT-Z M8x120	M8	10 mm	48 mm	9 mm	10 Nm	40 pc	2018366[1)]
HIT-Z M10x95	M10	12 mm	22 mm	12 mm	25 Nm	40 pc	2018367[1)]
HIT-Z M10x115	M10	12 mm	42 mm	12 mm	25 Nm	40 pc	2018368
HIT-Z M10x135	M10	12 mm	62 mm	12 mm	25 Nm	40 pc	2018369
HIT-Z M10x160	M10	12 mm	87 mm	12 mm	25 Nm	40 pc	2018410[1)]
HIT-Z M12x105	M12	14 mm	29 mm	14 mm	40 Nm	20 pc	2018411[1)]
HIT-Z M12x140	M12	14 mm	64 mm	14 mm	40 Nm	20 pc	2018412[1)]
HIT-Z M12x155	M12	14 mm	79 mm	14 mm	40 Nm	20 pc	2018413
HIT-Z M12x196	M12	14 mm	120 mm	14 mm	40 Nm	20 pc	2018415[1)]
HIT-Z M16x155	M16	18 mm	38 mm	18 mm	80 Nm	12 pc	2018416[1)]
HIT-Z M16x175	M16	18 mm	58 mm	18 mm	80 Nm	12 pc	2018417[1)]
HIT-Z M16x205	M16	18 mm	88 mm	18 mm	80 Nm	12 pc	2018418[1)]
HIT-Z M16x240	M16	18 mm	123 mm	18 mm	80 Nm	12 pc	2018419[1)]
HIT-Z M20x215	M20	22 mm	91 mm	22 mm	150 Nm	6 pc	2018420
HIT-Z M20x250	M20	22 mm	126 mm	22 mm	150 Nm	6 pc	2018421[1)]

[1)] This is a non-stock item. For detailed lead time information please contact your Hilti representative.

Please visit Hilti website for the latest item numbers and related products

Anchor rod HIT-Z-R (A4 stainless steel)


Approvals	
ETA, seismic	ETA 12/0006 for HIT-HY 200-A injection mortar and HIT-Z(R) rod for anchoring applications (ETAG 001-05, Option 1)
	ETA 12/0006 for HIT-HY 200-R injection mortar and HIT-Z(R) rod for anchoring applications (ETAG 001-05, Option 1)

Approvals and test reports may apply to selected products only. Please refer to the documents for details.

Technical data	
Head configuration	Externally threaded
Material composition	Steel, A4 (SS316)
Material, corrosion	Steel, stainless
Anchor type	Off-the-shelf rods
Approvals / test reports	ETA
Tested/approved for diamond drilling	Yes

Order Now

Ordering designation	Anchor size	Drill bit diameter	Max. fixture thickness at standard embedment depth	Required tightening torque	Sales pack quantity	Item number
HIT-Z-R M8x80	M8	10 mm	8 mm	10 Nm	40 pc	**2018422**[1)]
HIT-Z-R M8x100	M8	10 mm	28 mm	10 Nm	40 pc	**2018423**[1)]
HIT-Z-R M8x120	M8	10 mm	48 mm	10 Nm	40 pc	**2018424**[1)]
HIT-Z-R M10x95	M10	12 mm	22 mm	25 Nm	40 pc	
HIT-Z-R M10x115	M10	12 mm	42 mm	25 Nm	40 pc	**2018426**
HIT-Z-R M10x135	M10	12 mm	62 mm	25 Nm	40 pc	**2018427**
HIT-Z-R M10x160	M10	12 mm	87 mm	25 Nm	40 pc	**2018428**[1)]
HIT-Z-R M12x105	M12	14 mm	29 mm	40 Nm	20 pc	**2018429**[1)]
HIT-Z-R M12x140	M12	14 mm	64 mm	40 Nm	20 pc	**2018430**[1)]
HIT-Z-R M12x155	M12	14 mm	79 mm	40 Nm	20 pc	**2018431**[1)]
HIT-Z-R M12x196	M12	14 mm	120 mm	40 Nm	20 pc	**2018433**[1)]
HIT-Z-R M16x155	M16	18 mm	38 mm	80 Nm	12 pc	**2018434**[1)]
HIT-Z-R M16x175	M16	18 mm	58 mm	80 Nm	12 pc	**2018435**[1)]
HIT-Z-R M16x205	M16	18 mm	88 mm	80 Nm	12 pc	**2018436**
HIT-Z-R M16x240	M16	18 mm	123 mm	80 Nm	12 pc	**2018437**[1)]
HIT-Z-R M20x215	M20	22 mm	91 mm	150 Nm	6 pc	**2018438**[1)]
HIT-Z-R M20x250	M20	22 mm	126 mm	150 Nm	6 pc	**2018439**[1)]

[1)] This is a non-stock item. For detailed lead time information please contact your Hilti representative.

Please visit Hilti website for the latest item numbers and related products

Safety glasses

Technical data	
Lens	PC material
Thickness	2.1 mm
Coating	Optidur NCH coating
Filter	2C-1.2
Impact energy	45 m/s

Order Now

Ordering designation	Sales pack quantity	Item number
Safety glasses PP EY-CA NCH clear	1 pc	**2065449**

Please visit Hilti website for the latest item numbers and related products

Accessories for blowing out

APPLICATIONS

- For fast and efficient removal of dust and debris from drilled holes of varying diameters and depths to allow correct installation of anchors and rebar

Technical data	
Dispenser, setting tool, accessory, tester type	Cleaning accessories

Order Now

Ordering designation	Sales pack quantity	Item number
Blow-out pump	1 pc	**60579**
Extension tube HIT-VL 16/0.7	10 pc	**336646**[1)]

Please visit Hilti website for the latest item numbers and related products

HILTI SAFE-SET TECHNOLOGY

A small step for engineers.
And a giant leap forward for your next design.

Now you can design anchor rod and post-installed rebar connections with more confidence. Inadequately cleaning holes during installation can reduce the performance of conventional chemical anchor systems significantly. Hilti SAFE-SET Technology eliminates this factor almost entirely – in both cracked or uncracked concrete and with anchor rods or post-installed rebar.

HIT-RE 500 V3

APPLICATIONS

- Post-installed rebar connections forconcrete slab, column or wall extensions
- Heavy-duty anchoring in cracked or uncracked concrete, e.g. for steel beams, colum

HIT-HY 200- R

WHAT IS SAFE-SET

Hilti SAFE-SET Technology eliminates the most load-affecting and time-consuming step in the installation process: cleaning the hole before injection of the adhesive. As a consequence, engineers can now have peace of mind because the specified application will perform on the jobsite as it has been designed in the plan.

HIT-RE 100

SAFE-SET Application Ranges

Thread rod size / Drill hole dia.	M8 (10mm)	M10 (12mm)	M12 (14mm)	M16 (18mm)	M20 (22mm)	M24 (28mm)	M27 (30mm)	M30 (35mm)
Anchoring								
HIT-HY 200-R, standard drill bit and HIT-Z Rod (zero cleaning)		SAFE-SET						
HIT-HY 200-R, HIT-RE100, HIT-RE 500 V3, Hollow Drill Bits and HAS-E Rod, HAS-U Rod or HIT-V Rod (auto-cleaning)			SAFE-SET					
Rebar								
HIT-HY 200-R, HIT-RE100 , HIT-RE 500 V3, Hollow Drill Bits and rebar (auto-cleaning)		SAFE-SET						

Rebar size / Drill hole dia.	Y8 (12mm)	Y10 (14mm)	Y12 (16mm)	Y16 (20mm)	Y20 (25mm)	Y25 (32mm)	Y32 (40mm)

INTRODUCING HILTI SAFESET TECHNOLOGY

Once in a blue moon, something comes along with the power to accelerate the way you work.

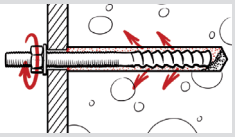
SAFESET

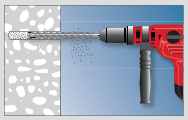
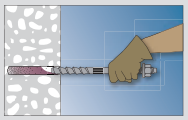
SAFEset is a registered trade mark of Hilti.

1 ZERO CLEANING SOLUTION.

HIT-Z anchor rods + HIT-HY 200-R

The new Hilti HIT-Z anchor rod works as a torque-contolled bonded anchor. Because of their unique shape, HIT-Z anchor rods, used in hammer-drilled holes in dry or water-saturated concrete above 5°C, are not affected by uncleaned holes. The benefits are clear: fewer steps and more productivity in anchoring applications.



Drill	Set
	

Hilti SAFESET Technology
Up to 60% faster!

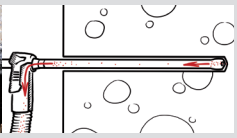
Drill	Done	Productivity gain

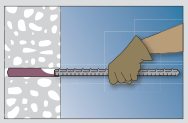
Anchor diameter range	M8 to M20
Material	Carbon or stainless steel (A4)
Embedment depth	Up to 12 times rod diameter
Concrete compressive strengths	C20/25 to C50/60
Installation temperature range	5°C to 40°C

2 AUTO-CLEANING SOLUTION.

Hollow drill bits + HIT-HY 200-R / HIT-RE 100 / HIT-RE 500 V3

Hilti TE-CD and TE-YD hollow drill bits, in conjunction with HIT-HY 200-R, HIT-RE 100 or HIT-RE 500 V3, make subsequent hole cleaning completely unnecessary. Dust is removed by the Hilti vacuum system while drilling is in progress for faster drilling and a virtually dustless working environment.



Drill	Set
	

Hilti SAFESET Technology
Up to 60% faster!

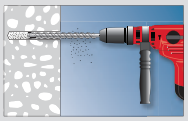
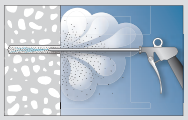
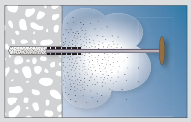
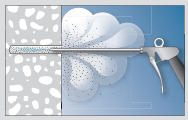
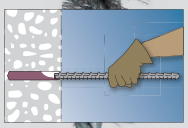
Drill	Done	Productivity gain

Rebar diameter range	Y8 to Y25
Threaded rod diameters	M10 to M30
Embedment depth	Up to 1000 mm
Concrete compressive strengths	C20/25 to C50/60
Installation temperature range	-10°C to 40°C

3 CONVENTIONAL SOLUTION.

Brush and blow

Another option is to continue using the traditional hole cleaning method with any Hilti HIT system for superior performance.

Drill	Blow twice	Brush twice	Blow twice	Set
				

*Cleaning Sequence when using manual dust pump are : blow twice , brush twice , blow twice.

Drill	2x	2x	2x	Done

Rebar diameter range	Y8 to Y40
Threaded rod diameters	M8 to M39
Embedment depth	Up to 20 times element diameter
Concrete compressive strengths	C20/25 to C50/60
Installation temperature range	-10°C to 40°C

SUMMARY TABLE FOR CHEMICAL ANCHORS

	HIT-HY 200-R	HIT-RE 500 V3	HIT-RE 100	HIT-HY 270
				
HIT-Z 	■			
HAS-U 	■	■	■	■
HIS-N 	■	■	■	■
Setting tool TE-C 				
Setting tool HIS-S 				
Mixer HIT-RE-M	■	■	■	■
Profi accessories for HIT 	■	■	■	■
HIT-SC 				■
CR Cartridge holder 	■			
CB Cartridge holder 		■	■	■
HDE Dispenser 	■	■	■	■
TE-CD/YD Hollow drill bit 	■	■	■	
VC 20/40 Vacuum cleaner 	■	■	■	
Setting tool TE-C-E/ TE-Y-E 				
Blow-out pump 	■	■	■	■
Steel brush 	■	■	■	■

HIT-RE 500 V3 injection mortar

Anchor design (ETAG001 / EN 1992-4) / Rods&Sleeves / Concrete

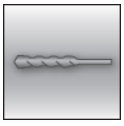
Injection mortar system	Benefits
 Foil pack: HIT-RE 500 V3 (available in 500ml cartridges)	- **SafeSet** technology: Simplified method of borehole preparation using either Hilti hollow drill bit for hammer drilling or Roughening tool for diamond cored applications - Suitable for cracked/non-cracked concrete C 20/25 to C 50/60 - High loading capacity - Suitable for dry and water saturated concrete - Hilti Technical Data for under water application - High corrosion resistance - Long working time at elevated temperatures - Cures down to -5°C - Odourless epoxy
 Anchor rod: HAS-U HAS-U HDG HAS-U A4 HAS-U HCR AM 8.8 (HDG) (M8-M39)	
 Internally threaded sleeve: HIS-N HIS-RN (M8-M20)	

Base material

Concrete (non-cracked)

Concrete (cracked)

Installation conditions

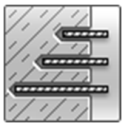


Hammer drilled holes

Diamond drilled holes

Hilti **SafeSet** technology

Small edge distance and spacing



Variable embedment depth

Load conditions

Static/ quasi-static

Seismic, ETA-C1, C2

Fire resistance

Other information

European Technical Assessment

CE conformity

PROFIS design Software

Corrosion resistance

High corrosion resistance [a)]

a) Applications only with HAS-U anchor rods

Approvals / certificates

Description	Authority / Laboratory	No. / date of issue
European Technical Assessment [a)]	CSTB	ETA-16/0143 / 2019-05-14
Fire test report [b)]	MFPA Leipzig	GS 3.2/15-361-4 / 2016-08-04

a) All data given in this section according to ETA-16/0143, issue 2019-05-14.
b) Fire test report only available for HAS-U rods.

Recommended general notes

* The below clauses based on Hilti product qualifications are for references only. Selection of clauses by the engineer shall be based on the specific application needs. Please contact Hilti's technical team for further details.

- Two-component ready mix foil-pack epoxy resin (styrene-free).
- Approved for use in cracked and uncracked concrete under static, quasi-static (and seismic) loading
- Approved for use in diamond cored drilled holes. In such case the performance shall be on the same level of hammer drilled holes when proper installation steps are followed.
- Anchor shall be installed in combination with dust removal drilling accessories to ensure dust free environment and clean borehole.
- Anchor shall be approved for overhead installation.
- For overhead or deep embedment depth (>250mm) installation, specialized accessories shall be applied to ensure drill hole is fully grouted with no voids.
- Anchors shall obtain the European Technical Assessment (ETA) report.
- The anchor bolt design shall be done either according to "ETAG001 Annex C Design Method" issued by EOTA or "Guides on design of post-installed anchor bolt systems in Hong Kong" issued by HKISC.
- Anchors shall be tested in accordance to either ETAG-001 Annex A or ACI 355.2 by accredited laboratories under HOKLAS Mutual Recognition Arrangement (MRA) Partners.
- Anchor to be approved by NSF for use in contact with drinking water.

For seismic application:

- Approved for use under seismic actions category 1 (C1) and 2 (C2) according to EOTA TR045 "Design of Metal Anchors For Use In Concrete Under Seismic Actions, 02/2013".

For underwater application:

- Anchor shall be assessed applicable for underwater condition and technical data shall be supported on anchor load resistance and installation steps to ensure workmanship.

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

All data in this section applies to:

- Correct setting (See setting instruction)
- No edge distance and spacing influence
- *Steel* failure
- HAS-U anchor rod with strength class 5.8 and 8.8, AM anchor rod with strength class 8.8, HIS-N internally threaded insert with screw 8.8
- Base material thickness, as specified in the table
- Concrete C 20/25, $f_{ck,cube}$ = 25 N/mm²
- Temperature range I: -40 °C to +40 °C
  (min. base material temperature -40°C, max. long/short term base material temperature: +24°C/40°C)
- Short term loading. For long term loading please apply ψ_{sus}.
  - Hammer drilled holes, hammer drilled holes with hollow drill bit and diamond cored holes with Hilti roughening tool: ψ_{sus} = 0.88

Embedment depth [a] and base material thickness

		ETA-16/0143, issue 2019-05-14								Hilti technical data		
Anchor size		**M8**	**M10**	**M12**	**M16**	**M20**	**M24**	**M27**	**M30**	**M33**	**M36**	**M39**
HAS-U												
Eff. anchorage depth	[mm]	80	90	110	125	170	210	240	270	300	330	360
Base material thickness	[mm]	110	120	140	161	214	266	300	340	374	410	444
HIS-N												
Eff. anchorage depth	[mm]	90	110	125	170	205	-	-	-	-	-	-
Base material thickness	[mm]	120	150	170	230	270	-	-	-	-	-	-

a) The allowed range of embedment depth is shown in the setting

For hammer drilled holes, hollow drill bit[a] and diamond cored with roughening tool[b]:

Characteristic resistance

Anchor size			ETA-16/0143, issue 2019-05-14								Hilti technical data		
			M8	M10	M12	M16	M20	M24	M27	M30	M33	M36	M39
Non-cracked concrete													
Tension N_{Rk}	HAS-U 5.8	[kN]	18,0	29,0	42,0	76,9	122	168	205	244	286	330	376
	HAS-U 8.8, AM		29,0	46,0	63,5	76,9	122	168	205	244	286	330	376
	HAS-U A4		26,0	41,0	59,0	76,9	122	168	205	244	286	330	376
	HAS-U HCR		29,0	46,0	63,5	76,9	122	168	205	244	286	330	376
	HIS-N 8.8		25,0	46,0	67,0	121,9	116	-	-	-	-	-	-
Shear V_{Rk}	HAS-U 5.8	[kN]	9,0	15,0	21,0	39,0	61,0	88,0	115	140	174	204	244
	HAS-U 8.8, AM		15,0	23,0	34,0	63,0	98,0	141	184	224	278	327	390
	HAS-U A4		13,0	20,0	30,0	55,0	86,0	124	115	140	174	204	244
	HAS-U HCR		15,0	23,0	34,0	63,0	98,0	124	161	196	174	204	244
	HIS-N 8.8		13,0	23,0	34,0	63,0	58,0	-	-	-	-	-	-
Cracked concrete													
Tension N_{Rk}	HAS-U 5.8	[kN]	15,1	22,6	39,4	53,8	85,3	117	143	171	-	-	-
	HAS-U 8.8, AM		15,1	22,6	39,4	53,8	85,3	117	143	171	-	-	-
	HAS-U A4		15,1	22,6	39,4	53,8	85,3	117	143	171	-	-	-
	HAS-U HCR		15,1	22,6	39,4	53,8	85,3	117	143	171	-	-	-
	HIS-N 8.8		25,0	44,4	53,8	85,3	113	-	-	-	-	-	-
Shear V_{Rk}	HAS-U 5.8	[kN]	9,0	15,0	21,0	39,0	61,0	88,0	115	140	-	-	-
	HAS-U 8.8, AM		15,0	23,0	34,0	63,0	98,0	141	184	224	-	-	-
	HAS-U A4		13,0	20,0	30,0	55,0	86,0	124	115	140	-	-	-
	HAS-U HCR		15,0	23,0	34,0	63,0	98,0	124	161	196	-	-	-
	HIS-N 8.8		13,0	23,0	34,0	63,0	58,0	-	-	-	-	-	-

a) Hilti hollow drill bit available for element size M12-M30.
b) Roughening tools are available for element size M16-M30.

Design resistance

Anchor size			ETA-16/0143, issue 2019-05-14								Hilti tech. data		
			M8	M10	M12	M16	M20	M24	M27	M30	M33	M36	M39
Non-cracked concrete													
Tension N_{Rd}	HAS-U 5.8	[kN]	12,0	19,3	28,0	45,8	72,7	99,8	122	146	142	164	187
	HAS-U 8.8, AM 8.8		19,3	28,0	37,8	45,8	72,7	99,8	122	146	142	164	187
	HAS-U A4		13,9	21,9	31,6	45,8	72,7	99,8	80,4	98,3	121	143	171
	HAS-U HCR		19,3	28,0	37,8	45,8	72,7	99,8	122	146	142	164	187
	HIS-N 8.8		16,7	30,7	44,7	72,7	77,3	-	-	-	-	-	-
Shear V_{Rd}	HAS-U 5.8	[kN]	7,2	12,0	16,8	31,2	48,8	70,4	92,0	112	139	163	195
	HAS-U 8.8, AM 8.8		12,0	18,4	27,2	50,4	78,4	113	147	179	222	262	312
	HAS-U A4		8,3	12,8	19,2	35,3	55,1	79,5	48,3	58,8	73,1	85,7	103
	HAS-U HCR		12,0	18,4	27,2	50,4	78,4	70,9	92,0	112	87,0	102	122
	HIS-N 8.8		10,4	18,4	27,2	50,4	46,4	-	-	-	-	-	-
Cracked concrete													

Tension N_{Rd}	HAS-U 5.8	[kN]	10,1	15,1	26,3	32,1	50,9	69,9	85,4	102	-	-	-
	HAS-U 8.8, AM 8.8		10,1	15,1	26,3	32,1	50,9	69,9	85,4	102	-	-	-
	HAS-U A4		10,1	15,1	26,3	32,1	50,9	69,9	80,4	98,3	-	-	-
	HAS-U HCR		10,1	15,1	26,3	32,1	50,9	69,9	85,4	102	-	-	-
	HIS-N 8.8		16,7	26,5	32,1	50,9	67,4	-	-	-	-	-	-
Shear V_{Rd}	HAS-U 5.8	[kN]	7,2	12,0	16,8	31,2	48,8	70,4	92,0	112	-	-	-
	HAS-U 8.8, AM 8.8		12,0	18,4	27,2	50,4	78,4	113	147	179	-	-	-
	HAS-U A4		8,3	12,8	19,2	35,3	55,1	79,5	48,3	58,8	-	-	-
	HAS-U HCR		12,0	18,4	27,2	50,4	78,4	70,9	92,0	112	-	-	-
	HIS-N 8.8		10,4	18,4	27,2	50,4	46,4	-	-	-	-	-	-

1) Hilti hollow drill bit available for element size M12-M30.
2) Roughening tools are available for element size M16-M30.

Recommended loads [a)]

			ETA-16/0143, issue 2019-05-14								Additional Hilti technical data		
Anchor size			**M8**	**M10**	**M12**	**M16**	**M20**	**M24**	**M27**	**M30**	**M33**	**M36**	**M39**
Non-cracked concrete													
Tension N_{Rec}	HAS-U 5.8	[kN]	6,0	9,7	14,0	25,6	40,7	56,0	68,3	81,3	95,3	110,0	125,3
	HAS-U 8.8, AM		9,7	15,3	21,2	25,6	40,7	56,0	68,3	81,3	95,3	110,0	125,3
	HAS-U A4		8,7	13,7	19,7	25,6	40,7	56,0	68,3	81,3	95,3	110,0	125,3
	HAS-U HCR		9,7	15,3	21,2	25,6	40,7	56,0	68,3	81,3	95,3	110,0	125,3
	HIS-N 8.8		8,3	15,3	22,3	40,6	38,7	-	-	-	-	-	-
Shear V_{Rec}	HAS-U 5.8	[kN]	3,0	5,0	7,0	13,0	20,3	29,3	38,3	46,7	58,0	68,0	81,3
	HAS-U 8.8, AM		5,0	7,7	11,3	21,0	32,7	47,0	61,3	74,7	92,7	109,0	130,0
	HAS-U A4		4,3	6,7	10,0	18,3	28,7	41,3	38,3	46,7	58,0	68,0	81,3
	HAS-U HCR		5,0	7,7	11,3	21,0	32,7	41,3	53,7	65,3	58,0	68,0	81,3
	HIS-N 8.8		4,3	7,7	11,3	21,0	19,3	-	-	-	-	-	-
Cracked concrete													
Tension N_{Rec}	HAS-U 5.8	[kN]	5,0	7,5	13,1	17,9	28,4	39,0	47,7	57,0	-	-	-
	HAS-U 8.8, AM		5,0	7,5	13,1	17,9	28,4	39,0	47,7	57,0	-	-	-
	HAS-U A4		5,0	7,5	13,1	17,9	28,4	39,0	47,7	57,0	-	-	-
	HAS-U HCR		5,0	7,5	13,1	17,9	28,4	39,0	47,7	57,0	-	-	-
	HIS-N 8.8		8,3	14,8	17,9	28,4	37,7	-	-	-	-	-	-
Shear V_{Rec}	HAS-U 5.8	[kN]	3,0	5,0	7,0	13,0	20,3	29,3	38,3	46,7	-	-	-
	HAS-U 8.8, AM		5,0	7,7	11,3	21,0	32,7	47,0	61,3	74,7	-	-	-
	HAS-U A4		4,3	6,7	10,0	18,3	28,7	41,3	38,3	46,7	-	-	-
	HAS-U HCR		5,0	7,7	11,3	21,0	32,7	41,3	53,7	65,3	-	-	-
	HIS-N 8.8		4,3	7,7	11,3	21,0	19,3	-	-	-	-	-	-

a) With overall partial safety factor for action γ=3,0. The partial safety factors for action depend on the type of loading and shall be taken from national regulations.

For diamond drilling: [a)]

Characteristic resistance

Anchor size			**M8**	**M10**	**M12**	**M16**	**M20**	**M24**	**M27**	**M30**
Non-cracked concrete										
Tension N_{Rk}	HAS-U 5.8	[kN]	18,0	29,0	42,0	76,9	122	167	205	244
Shear V_{Rk}	HAS-U 5.8	[kN]	9,0	15,0	21,0	39,0	61,0	88,0	115	140

a) No data for HIS-N when diamond coring without roughening tools

Design resistance

Anchor size			M8	M10	M12	M16	M20	M24	M27	M30
Non-cracked concrete										
Tension N_{Rd}	HAS-U 5.8	[kN]	12,0	19,3	28,0	32,7	51,9	71,3	87,1	104
Shear V_{Rd}	HAS-U 5.8	[kN]	7,2	12,0	16,8	31,2	48,8	70,4	92,0	112

a) No data for HIS-N when diamond coring without roughening tools

Recommended loads [b)]

Anchor size			M8	M10	M12	M16	M20	M24	M27	M30
Non-cracked concrete										
Tensile N_{Rec}	HAS-U 5.8	[kN]	6,0	9,7	14,0	25,6	40,7	55,7	68,3	81,3
Shear V_{Rec}	HAS-U 5.8	[kN]	3,0	5,0	7,0	13,0	20,3	29,3	38,3	46,7

a) No data for HIS-N when diamond coring without roughening tools
b) With overall partial safety factor for action γ=1,4. The partial safety factors for action depend on the type of loading and shall be taken from national regulations.

Materials

Mechanical properties for HAS-U

Anchor size			ETA-16/0143, issue 2019-05-14								Hilti Technical data		
			M8	M10	M12	M16	M20	M24	M27	M30	M33	M36	M39
Nominal tensile strength f_{uk}	HAS-U 5.8(F)	[N/mm²]	500	500	500	500	500	500	500	500	500	500	500
	HAS-U 8.8(F)		800	800	800	800	800	800	800	800	800	800	800
	AM 8.8(HDG)		800	800	800	800	800	800	800	800	800	800	800
	HAS-U A4		700	700	700	700	700	700	500	500	500	500	500
	HAS-U HCR		800	800	800	800	800	700	700	700	500	500	500
Yield strength f_{yk}	HAS-U 5.8(F)	[N/mm²]	400	400	400	400	400	400	400	400	400	400	400
	HAS-U 8.8(F)		640	640	640	640	640	640	640	640	640	640	640
	AM 8.8(HDG)		640	640	640	640	640	640	640	640	640	640	640
	HAS-U A4		450	450	450	450	450	450	210	210	210	210	210
	HAS-U HCR		640	640	640	640	640	400	400	400	250	250	250
Stressed cross-section A_s	HAS-U AM 8.8	[mm²]	36,6	58,0	84,3	157	245	353	459	561	694	817	976
Moment of resistance W	HAS-U AM 8.8	[mm³]	31,2	62,3	109	277	541	935	1387	1874	2579	3294	4301

Material quality for HAS-U

Part	Material
Zinc coated steel	
Threaded rod, HAS-U 5.8 (HDG)	Strength class 5.8; Elongation at fracture A5 > 8% ductile Electroplated zinc coated ≥ 5μm; (F) hot dip galvanized ≥ 45 μm
Threaded rod, HAS-U 8.8 (HDG)	Strength class 8.8; Elongation at fracture A5 > 12% ductile Electroplated zinc coated ≥ 5μm; (F) hot dip galvanized ≥ 45 μm
Hilti Meter rod, AM 8.8 (HDG)	Strength class 8.8; Elongation at fracture A5 > 12% ductile Electroplated zinc coated ≥ 5μm (HDG) hot dip galvanized ≥ 45 μm

Washer	Electroplated zinc coated ≥ 5 μm, hot dip galvanized ≥ 45 μm
Nut	Strength class of nut adapted to strength class of threaded rod. Electroplated zinc coated ≥ 5μm, hot dip galvanized ≥ 45 μm
Stainless Steel	
Threaded rod, HAS-U A4	Strength class 70 for ≤ M24 and strength class 50 for > M24; Elongation at fracture A5 > 8% ductile Stainless steel 1.4401; 1.4404; 1.4578; 1.4571; 1.4439; 1.4362
Washer	Stainless steel 1.4401, 1.4404, 1.4578, 1.4571, 1.4439, 1.4362 EN 10088-1:2014
Nut	Stainless steel 1.4401, 1.4404, 1.4578, 1.4571, 1.4439, 1.4362 EN 10088-1:2014
High corrosion resistant steel	
Threaded rod, HAS-U HCR	Strength class 80 for ≤ M20 and class 70 for > M20, Elongation at fracture A5 > 8% ductile High corrosion resistance steel 1.4529; 1.4565;
Washer	High corrosion resistant steel 1.4529, 1.4565 EN 10088-1:2014
Nut	High corrosion resistant steel 1.4529, 1.4565 EN 10088-1:2014

Material quality for HIS-N

Part		**Material**
HIS-N	Internal threaded sleeve	C-steel 1.0718; Steel galvanized ≥ 5 µm
	Screw 8.8	Strength class 8.8, A5 > 8 % Ductile; Steel galvanized ≥ 5 µm
HIS-RN	Internal threaded sleeve	Stainless steel 1.4401,1.4571
	Screw 70	Strength class 70, A5 > 8 % Ductile Stainless steel 1.4401; 1.4404, 1.4578; 1.4571; 1.4439; 1.4362

Setting information

Installation temperature
-5°C to +40°C

Service temperature range
Hilti HIT-RE 500 V3 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**	**Max. long term base material temperature**	**Max. short term base material temperature**
Temperature range I	-40 °C to +40 °C	+24 °C	+40 °C
Temperature range II	-40 °C to +70 °C	+43 °C	+70 °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.

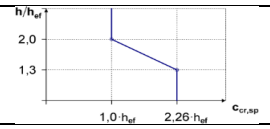
Working time and curing time

Temperature of the base material T	Working time t_{work}	Minimum curing time t_{cure} [1)]
-5 °C to -1 °C	2 h	168 h
0 °C to 4 °C	2 h	48 h
5 °C to 9 °C	2 h	24 h
10 °C to 14 °C	1,5 h	16 h
15 °C to 19 °C	1 h	12 h
20 °C to 24 °C	30 min	7 h
25 °C to 29 °C	20 min	6 h
30 °C to 34 °C	15 min	5 h
35 °C to 39 °C	12 min	4,5 h
40 °C	10 min	4 h

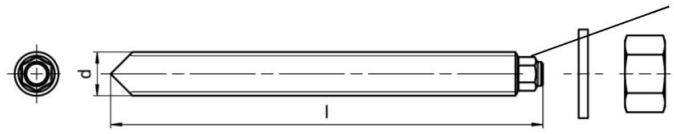
1) The curing time data are valid for dry base material only. In wet base material, the curing times must be doubled.

Setting details for HAS-U

			ETA-16/0143, issue 2019-05-14								Hilti Technical data		
Anchor size			**M8**	**M10**	**M12**	**M16**	**M20**	**M24**	**M27**	**M30**	**M33**	**M36**	**M39**
Nominal diameter of drill bit	d_0	[mm]	10	12	14	18	22	28	30	35	37	40	42
Effective anchorage and drill hole depth range [a)]	$h_{ef,min}$	[mm]	60	60	70	80	90	96	108	120	132	144	156
	$h_{ef,max}$	[mm]	160	200	240	320	400	480	540	600	660	720	780
Minimum base material thickness	h_{min}	[mm]	h_{ef} +30 mm ≥ 100 mm			h_{ef} + 2 d_0							
Max. torque moment	T_{max}	[Nm]	10	20	40	80	150	200	270	300	330	360	390
Minimum spacing	s_{min}	[mm]	40	50	60	75	90	115	120	140	165	180	195
Min. edge distance	c_{min}	[mm]	40	45	45	50	55	60	75	80	165	180	195
Critical spacing for splitting failure	$s_{cr,sp}$	[mm]	2 $c_{cr,sp}$										
Critical edge distance for splitting failure [b)]	$c_{cr,sp}$	[mm]	**1,0 · h_{ef}** for h / h_{ef} ≥ 2,0 **4,6 h_{ef} - 1,8 h** for 2,0 > h / h_{ef} > 1,3 **2,26 h_{ef}** for h / h_{ef} ≤ 1,3										
Critical spacing for concrete cone failure	$s_{cr,N}$	[mm]	2 $c_{cr,N}$										
Critical edge distance for concrete cone failure [c)]	$c_{cr,N}$	[mm]	1,5 h_{ef}										



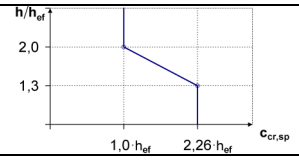
HAS-U-…



Marking:
Steel grade number and length identification letter: e.g. 8 L

Setting details for HIS-N

Anchor size			M8	M10	M12	M16	M20
Nominal diameter of drill	d_0	[mm]	14	18	22	28	32
Diameter of element	d	[mm]	12,5	16,5	20,5	25,4	27,6
Effective anchorage and drill hole depth	h_{ef}	[mm]	90	110	125	170	205
Minimum base material thickness	h_{min}	[mm]	120	150	170	230	270
Diameter of clearance hole in the fixture	d_f	[mm]	9	12	14	18	22
Thread engagement length; min - max	h_s	[mm]	8-20	10-25	12-30	16-40	20-50
Minimum spacing	s_{min}	[mm]	60	70	90	115	130
Minimum edge distance	c_{min}	[mm]	40	45	55	65	90
Critical spacing for splitting failure	$s_{cr,sp}$	[mm]	$2\ c_{cr,sp}$				
Critical edge distance for splitting failure [b]	$c_{cr,sp}$	[mm]	**$1,0 \cdot h_{ef}$** for $h / h_{ef} \geq 2,0$ **$4,6\ h_{ef} - 1,8\ h$** for $2,0 > h / h_{ef} > 1,3$ **$2,26\ h_{ef}$** for $h / h_{ef} \leq 1,3$				
Critical spacing for concrete cone failure	$s_{cr,N}$	[mm]	$2\ c_{cr,N}$				
Critical edge distance for concrete cone failure [c]	$c_{cr,N}$	[mm]	$1,5\ h_{ef}$				
Max. torque moment [a]	T_{max}	[Nm]	10	20	40	80	150

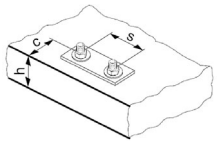


For spacing (edge distance) smaller than critical spacing (critical edge distance) the design loads have to be reduced.

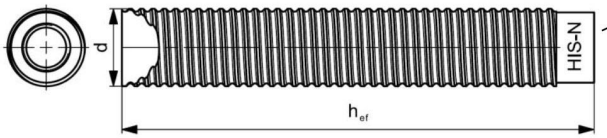
a) $h_{ef,min} \leq h_{ef} \leq h_{ef,max}$ (h_{ef}: embedment depth)

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

c) The critical 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 save side.



Internally threaded sleeve HIS-(R)N…



Marking:
Identifying mark - HILTI and
embossing "HIS-N" (for zinc coated steel)
embossing "HIS-RN" (for stainless steel)

Installation equipment

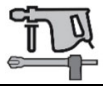
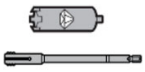
Anchor size		M8	M10	M12	M16	M20	M24	M27	M30	M36	M39
Rotary hammer	HAS-U	TE 2 – TE 16				TE 40 – TE 80				Not available from Hilti	
	HIS-N	TE 2 – TE 16		TE 40 – TE 80			-				
Other tools		compressed air gun, set of cleaning brushes, dispenser									
		roughening tools TE-YRT								-	
Additional Hilti recommended tools		DD EC-1, DD 100 … DD 160 [a]								-	

a) For anchors in diamond drilled holes load values for combined pull-out and concrete cone resistance have to be reduced

Minimum roughening time $t_{roughen}$ ($t_{roughen}$ [sec] = h_{ef} [mm] /10)

h_{ef} [mm]	$t_{roughen}$ [sec]
0 to 100	10
101 to 200	20
201 to 300	30
301 to 400	40
401 to 500	50
501 to 600	60

Parameters of cleaning and setting tools

HAS-U	HIS-N	Drill bit diameters d_0 [mm]				Installation	
		Hammer drill (HD)	Hollow Drill Bit (HDB)	Diamond coring		Brush HIT-RB	Piston plug HIT-SZ
				Diamond coring (DD)	With roughening tool (RT)		
							
M8	**-**	10	-	10	-	10	-
M10	**-**	12	-	12	-	12	12
M12	**M8**	14	14	14	-	14	14
M16	**M10**	18	18	18	18	18	18
M20	**M12**	22	22	22	22	22	22
M24	**M16**	28	28	28	28	28	28
M27	**-**	30	-	30	30	30	30
-	**M20**	32	32	32	32	32	32
M30	**-**	35	35	35	35	35	35
M33	**-**	37	-	-	-	37	37
M36	**-**	40	-	-	-	40	40
M39	**-**	42	-	-	-	42	42

Associated components for the use of Hilti Roughening tool TE-YRT

Diamond coring		Roughening tool TE-YRT	Wear gauge RTG…
			
d_0 [mm]		d_0 [mm]	size
Nominal	measured		
18	17,9 to 18,2	18	18
20	19,9 to 20,2	20	20
22	21,9 to 22,2	22	22
25	24,9 to 25,2	25	25
28	27,9 to 28,2	28	28
30	29,9 to 30,2	30	30
32	31,9 to 32,2	32	32
35	34,9 to 35,2	35	35

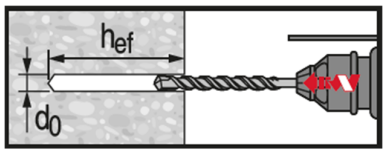
Setting instructions

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

Safety regulations.

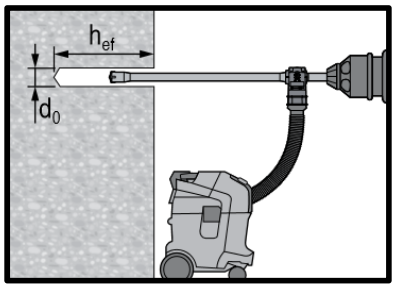
Review the Material Safety Data Sheet (MSDS) before use for proper and safe handling! Wear well-fitting protective goggles and protective gloves when working with Hilti HIT-RE 500 V3.

Drilling



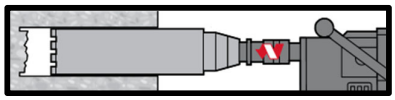
Hammer drilled hole

For dry and wet concrete and installation in flooded holes (no sea water).

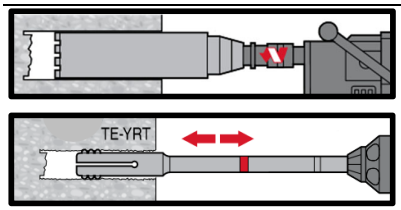


Hammer drilled hole with Hollow Drilled Bit (HDB)

No cleaning required.
For dry and wet concrete, only.

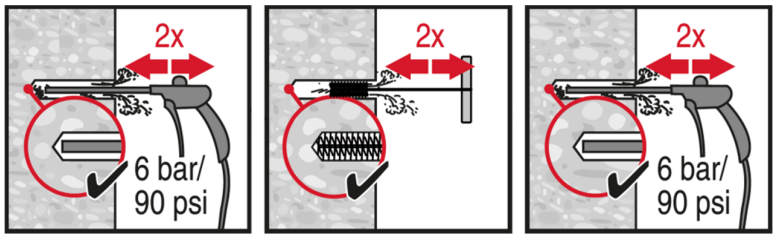


Diamond Coring
For dry and wet concrete, only.



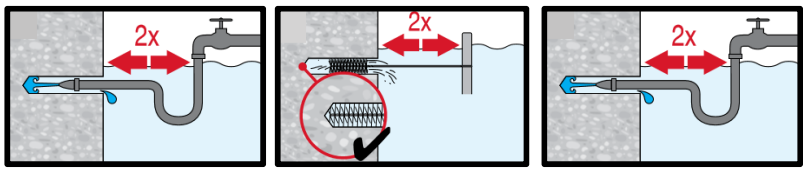
Diamond Coring + Roughening Tool
For dry and wet concrete only.
Before roughening, the borehole needs to be dry.

Cleaning (Inadequate hole cleaning=poor load values.)



Hammer Drilling:

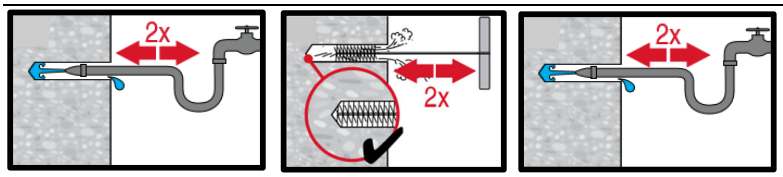
Compressed air cleaning (CAC)
For all drill hole diameters d_0 and all drill hole depths h_0.

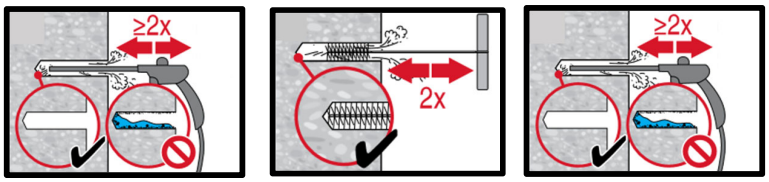


Hammer drilling:

Cleaning for under water:

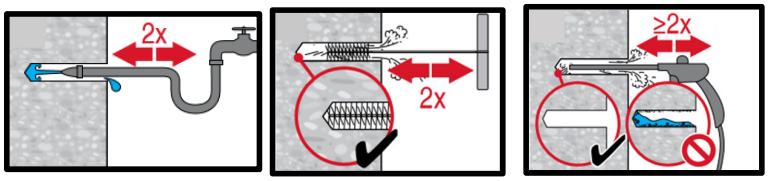
For all bore hole diameters d_0 and all bore hole depth h_0.





Hammer drilled flooded holes and diamond cored holes:

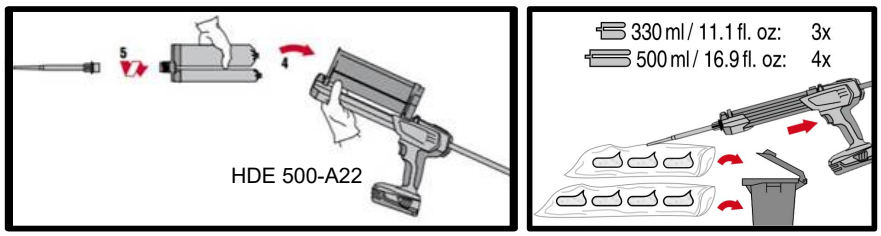
Compressed air cleaning (CAC)
for all drill hole diameters d_0 and drill hole depths h_0.



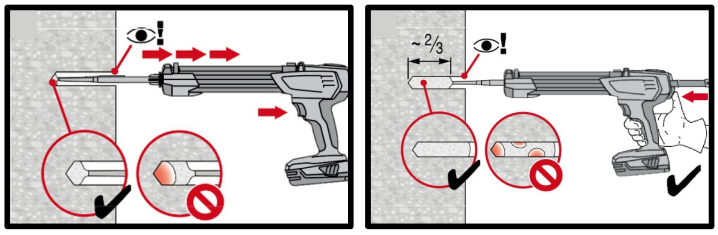
Diamond cored holes with Hilti roughening tool:

Compressed air cleaning (CAC)
for all drill hole diameters d_0 and drill hole depths h_0 .

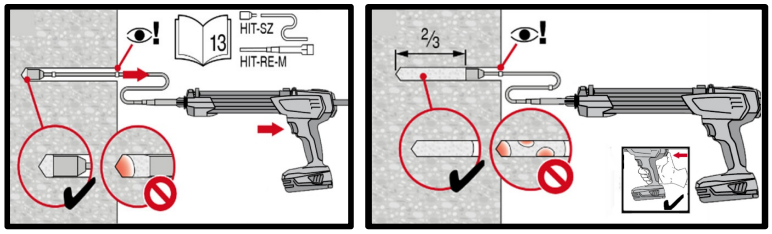
Injection preparation



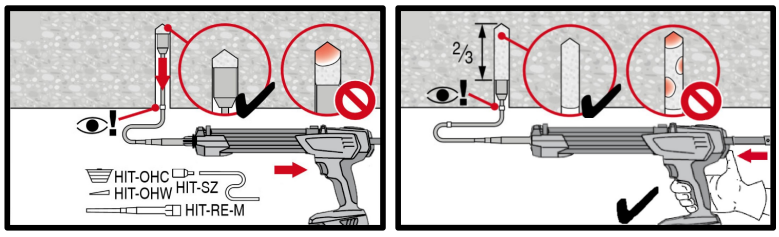
Injection system preparation.



Injection method for drill hole depth $h_{ef} \leq 250$ mm.

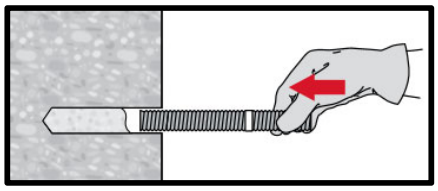


Injection method for drill hole depth $h_{ef} > 250$mm.

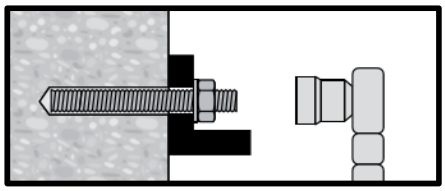


Injection method for overhead application.

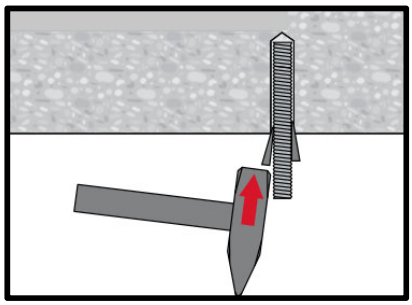
Setting the element



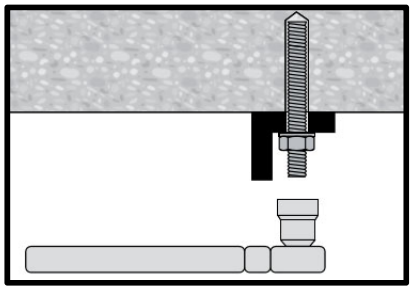
Setting element, observe working time "t_{work}",



Loading the anchor after required curing time t_{cure} the anchor can be loaded. The applied installation torque shall not exceed $T_{max.}$



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



Loading the anchor after required curing time t_{cure} the anchor can be loaded. The applied installation torque shall not exceed $T_{max.}$

1 February 2018
Ref: 018/AC/FL/18

TO WHOM IT MAY CONCERN

Subject : **RE: Hilti HIT-RE 500 V3 – New product replacement of HIT-RE 500-SD**

Dear Sir/Madam,

We are pleased to introduce you the new generation of epoxy mortar **Hilti HIT-RE500 V3 injection mortar system** as a product replacement of the existing HIT-RE 500-SD.

The injection system Hilti HIT-RE 500 V3 is now suitable for an even wider range of applications and conditions for added reassurance on your daily designs for both, anchor systems and post-installed rebar applications. Now you can enjoy the following benefits compared to before:

- **Higher design bond stress** in uncracked and cracked concrete in anchoring application
- **Faster curing time** of 6 hours
- **Approved in combination with Hilti Hollow Drill Bit (HDB)** to ensure a dust free environment during installation and eliminating the most load effective step for chemical anchors, borehole cleaning (SafeSet installation).
- **Approved for diamond coring:** Performance in diamond cored drilled holes on the level of hammer drilled holes when the new roughening tool TE-YRT is used (SafeSet installation).
- **Approved for category 1 (C1) application under seismic actions** to design according to EOTA TR 045 "Design of Metal Anchors For Use In Concrete Under Seismic Actions, 02/2013"
- For design under static and quasi-static action according to EOTA TR 029 and CEN/TS 1992-4 "Design of fastenings for use in concrete"
- For detailed technical details, please refer to latest Hilti Anchor Fastening Manual.

Hilti will contuously do the utmost to provide you excellent products and services. Should you need further information, please feel free to contact our engineers on 2773 4731.

Yours faithfully,

Fean Lee
Product Manager
Hilti (Hong Kong) Ltd.

Hilti (Hong Kong) Ltd.
701-704 | Tower A | Manulife Financial Centre
223 Wai Yip Street | Kwun Tong
Kowloon | Hong Kong
P +852-8228 8118 I **F** +852-2954 1751
www.hilti.com.hk

Department BU Anchors - Marketing
T +423-234 3946
F +423-234 3946
E mail turkemr@hilti.com ;
D July 8, 2019

Confirmation of performance equivalence for replacing HILTI HIT-V anchor rod with HILTI HAS-U

To whom it may concern,

Hilti has launched HAS-U anchor rods to replace HIT-V; in order to better serve the customer needs and simplify the product portfolio. HAS-U anchor rod was tested according to European Assessment Document: EAD 330499 to take ETA approval and fully complies with ISO standard.

HAS-U includes the chiseling tip like HAS (-E) rods which makes it also suitable for Hilti HVU2 capsule anchor system. Both Hilti internal tests and European Technical Assessment shows that this chiseling tip has no effect on the performance when HAS-U is used together with injection system, like RE500V3, HY200 or HY170 etc. HAS-U has the same steel strength with the other anchor rods based on 5.8 and 8.8 steel grades.

HAS-U has hex head (like HAS rod) is designed to provide an easy installation to the user with HVU2 capsules. Hex head should not be included in the anchor length therefore it is strongly recommended to take only threaded part into consideration.

HAS-U shows the same performance with HIT-V for post-installed anchor applications in masonry and concrete as long as same embedment depth and same anchor plate width remains. **HAS-U's embedment depth must comply with design specification parameters.**

HAS-U (-R, -HDG)'s corrosion resistance is the same with HIT-V (-R, -HDG)'s.

The installation procedure does not need to be changed with the replacement of HAS-U. ETA document of HAS-U shows the same installation parameters with HIT-V.

Profis Engineering will be updated with HAS-U in September 2019 and you will be able to perform necessary calculations and explore all the potential applications for the new anchor rod.

In case of questions, please do not hesitate to contact one of our technical experts or sales representatives.

Yours sincerely,

Andrea Copponi
Global Product Manager
BU Anchors, Schaan

Emrecan Turkes
Global Technical Marketing Manager
BU Anchors, Schaan

Hilti Corporation
9494 Schaan
Liechtenstein

Feldkircherstrasse 100 I P.O. Box 333
T +423-234 2111 I F +423-234 3332
www.hilti.com

Rechtsform: Aktiengesellschaft I Sitz: 9494 Schaan
HR-Nr.: FL-1.011.557-0 I MWST-Nr.: 50 555

Attn. : To whom it may concern

Date : 1 April 2025
Ref. : 061/AC/SC/25

Subject : Country of Origin- Hilti HIT-RE500V3 Injectable Mortar

Dear Sir / Madam,

Enclosed please find the information of Hilti HIT-RE500V3 Injectable Mortar. .

Brand Name : Hilti

Model Name : Hilti HIT-RE500V3 Injectable Mortar

Manufacturer : Hilti Corporation

Address of Manufacturer : FL-9494, Principality of Liechtenstein.

Manufacturer Contact Person : Spencer Cheung

Supplier : Hilti (Hong Kong) Ltd

Address of Supplier : 701-704, 7/F, Tower A, Manulife Financial Centre,
223 Wai Yip Street, Kwun Tong, Kowloon, Hong Kong

Supplier Contact Person : Spencer Cheung (+852 9732 1231)

Country of Origin : Germany

Should you have further questions, please do not hesitate to contact our Technical Representatives, Customer Service Hotline at 8228-8118, or email us at hksales@hilti.com.

Yours faithfully,

Spencer Cheung
Head of Product Leadership Strategy

Hilti (Hong Kong) Ltd.
701-704 | Tower A | Manulife Financial Centre
223 Wai Yip Street | Kwun Tong
Kowloon | Hong Kong
P +852-8228 8118 I **F** +852-2954 1751
www.hilti.com.hk

Attn. : To whom it may concern

Date : 1 April 2025
Ref. : 056/AN/SC/25

Subject : Country of Origin - Anchor Rod Portfolio

Dear Sir / Madam,

Enclosed please find the information of Hilti anchor rod portfolio.

Brand Name	: Hilti
Manufacturer	: Hilti Corporation
Address of Manufacturer	: FL-9494, Principality of Liechtenstein.
Supplier	: Hilti (Hong Kong) Ltd
Address of Supplier	: 701-704, 7/F, Tower A, Manulife Financial Centre, 223 Wai Yip Street, Kwun Tong, Kowloon, Hong Kong
Country of Origin	: *(Attached)*

Should you have further questions, please do not hesitate to contact our Technical Representatives, Customer Service Hotline at 8228-8118, or email us at hksales@hilti.com.

Yours faithfully,

Spencer Cheung
Head of Product Leadership Strategy

Hilti (Hong Kong) Ltd.
701-704 | Tower A | Manulife Financial Centre
223 Wai Yip Street | Kwun Tong
Kowloon | Hong Kong
P +852-8228 8118 I **F** +852-2954 1751
www.hilti.com.hk

Item number	Model name	Country of Origin
2223936	HAS-U 5.8 M6x75	China
2223704	HAS-U 5.8 M6x105	China
2223852	HAS-U 5.8 M8x80	China
2223853	HAS-U 5.8 M8x110	China
2223854	HAS-U 5.8 M8x150	China
2223705	HAS-U 5.8 M10x95	China
2223706	HAS-U 5.8 M10x115	China
2223707	HAS-U 5.8 M10x130	China
2223709	HAS-U 5.8 M10x170	China
2223820	HAS-U 5.8 M10x190	China
2223821	HAS-U 5.8 M12x110	China
2223822	HAS-U 5.8 M12x120	China
2223823	HAS-U 5.8 M12x160	China
2223825	HAS-U 5.8 M12x180	China
2223826	HAS-U 5.8 M12x200	China
2223827	HAS-U 5.8 M12x220	China
2223867	HAS-U 5.8 M12x260	China
2223868	HAS-U 5.8 M12x300	China
2223828	HAS-U 5.8 M16x150	China
2223829	HAS-U 5.8 M16x165	China
2223830	HAS-U 5.8 M16x190	China
2223869	HAS-U 5.8 M16x220	China
2223832	HAS-U 5.8 M16x260	China
2223870	HAS-U 5.8 M16x300	China
2223871	HAS-U 5.8 M16x350	China
2223872	HAS-U 5.8 M16x500	China
2223873	HAS-U 5.8 M20x180	China
2223874	HAS-U 5.8 M20x240	China
2223876	HAS-U 5.8 M20x260	China
2223877	HAS-U 5.8 M20x300	China
2223878	HAS-U 5.8 M20x350	China
2223879	HAS-U 5.8 M20x400	China
2223880	HAS-U 5.8 M20x480	China
2223881	HAS-U 5.8 M24x300	China
2223882	HAS-U 5.8 M24x450	China
2223856	HAS-U 5.8 HDG M8x80	China
2223857	HAS-U 5.8 HDG M8x110	China
2223858	HAS-U 5.8 HDG M8x150	China
2223859	HAS-U 5.8 HDG M10x95	China
2223860	HAS-U 5.8 HDG M10x115	China
2223861	HAS-U 5.8 HDG M10x130	China
2223862	HAS-U 5.8 HDG M10x170	China
2223863	HAS-U 5.8 HDG M10x190	China
2223937	HAS-U 5.8 HDG M12x110	China
2223938	HAS-U 5.8 HDG M12x120	China
2223939	HAS-U 5.8 HDG M12x160	China
2223940	HAS-U 5.8 HDG M12x180	China

2223941	HAS-U 5.8 HDG M12x200	China
2223942	HAS-U 5.8 HDG M12x220	China
2223895	HAS-U 5.8 HDG M12x260	China
2223896	HAS-U 5.8 HDG M12x300	China
2223943	HAS-U 5.8 HDG M16x150	China
2223944	HAS-U 5.8 HDG M16x165	China
2223945	HAS-U 5.8 HDG M16x190	China
2223946	HAS-U 5.8 HDG M16x220	China
2223897	HAS-U 5.8 HDG M16x260	China
2223898	HAS-U 5.8 HDG M16x300	China
2223899	HAS-U 5.8 HDG M16x350	China
2223900	HAS-U 5.8 HDG M16x500	China
2223901	HAS-U 5.8 HDG M20x180	China
2223902	HAS-U 5.8 HDG M20x240	China
2223903	HAS-U 5.8 HDG M20x260	China
2223904	HAS-U 5.8 HDG M20x300	China
2223905	HAS-U 5.8 HDG M20x350	China
2223906	HAS-U 5.8 HDG M20x400	China
2223907	HAS-U 5.8 HDG M20x480	China
2223908	HAS-U 5.8 HDG M24x300	China
2223909	HAS-U 5.8 HDG M24x450	China
2223855	HAS-U 8.8 M8x150	China
2223833	HAS-U 8.8 M10x190	China
2223834	HAS-U 8.8 M12x220	China
2223883	HAS-U 8.8 M12x300	China
2223835	HAS-U 8.8 M16x190	China
2223884	HAS-U 8.8 M16x300	China
2223885	HAS-U 8.8 M16x380	China
2223886	HAS-U 8.8 M20x180	China
2223887	HAS-U 8.8 M20x260	China
2223888	HAS-U 8.8 M20x400	China
2223889	HAS-U 8.8 M24x300	China
2223890	HAS-U 8.8 M27x340	China
2223891	HAS-U 8.8 M30x380	China
2223892	HAS-U 8.8 M33x420	China
2223893	HAS-U 8.8 M36x460	China
2223894	HAS-U 8.8 M39x510	China
2223947	HAS-U 8.8 HDG M8x150	China
2223948	HAS-U 8.8 HDG M10x190	China
2223949	HAS-U 8.8 HDG M12x220	China
2223910	HAS-U 8.8 HDG M12x300	China
2223703	HAS-U 8.8 HDG M16x190	China
2223911	HAS-U 8.8 HDG M16x300	China
2223912	HAS-U 8.8 HDG M16x380	China
2223913	HAS-U 8.8 HDG M20x180	China
2223914	HAS-U 8.8 HDG M20x260	China
2223915	HAS-U 8.8 HDG M20x400	China
2223916	HAS-U 8.8 HDG M24x300	China
2223917	HAS-U 8.8 HDG M27x340	China

2223918	HAS-U 8.8 HDG M30x380	China
2223864	HAS-U A4 M8x80	China
2223865	HAS-U A4 M8x110	China
2223866	HAS-U A4 M8x150	China
2223836	HAS-U A4 M10x95	China
2223837	HAS-U A4 M10x115	China
2223838	HAS-U A4 M10x130	China
2223839	HAS-U A4 M10x170	China
2223840	HAS-U A4 M10x190	China
2223841	HAS-U A4 M10x220	China
2223842	HAS-U A4 M12x110	China
2223843	HAS-U A4 M12x120	China
2223844	HAS-U A4 M12x160	China
2223845	HAS-U A4 M12x180	China
2223846	HAS-U A4 M12x200	China
2223847	HAS-U A4 M12x220	China
2223919	HAS-U A4 M12x260	China
2223920	HAS-U A4 M12x300	China
2223848	HAS-U A4 M16x150	China
2223849	HAS-U A4 M16x165	China
2223850	HAS-U A4 M16x190	China
2223851	HAS-U A4 M16x220	China
2223921	HAS-U A4 M16x260	Denmark
2223922	HAS-U A4 M16x300	China
2223923	HAS-U A4 M16x350	China
2223924	HAS-U A4 M16x380	China
2223925	HAS-U A4 M20x180	China
2223926	HAS-U A4 M20x240	China
2223927	HAS-U A4 M20x260	China
2223928	HAS-U A4 M20x300	China
2223929	HAS-U A4 M20x350	China
2223930	HAS-U A4 M20x400	China
2223931	HAS-U A4 M20x480	China
2223932	HAS-U A4 M24x300	China
2223933	HAS-U A4 M24x450	China
2223934	HAS-U A4 M27x340	China
2223935	HAS-U A4 M30x380	China
258015	HIS-N M8x90	China
258016	HIS-N M10x110	China
258017	HIS-N M12x125	China
258018	HIS-N M16x170	China
258019	HIS-N M20x205	China
258024	HIS-RN M8x90 A4	China
258025	HIS-RN M10x110 A4	China
258026	HIS-RN M12x125 A4	China
258027	HIS-RN M16x170 A4	China
258028	HIS-RN M20x205 A4	China
2018364	HIT-Z M8x80	Liechtenstein
2018365	HIT-Z M8x100	Liechtenstein

2018366	HIT-Z M8x120	Liechtenstein
2018367	HIT-Z M10x95	Liechtenstein
2018369	HIT-Z M10x135	Liechtenstein
2018410	HIT-Z M10x160	Liechtenstein
2018411	HIT-Z M12x105	Liechtenstein
2018412	HIT-Z M12x140	Liechtenstein
2018413	HIT-Z M12x155	Liechtenstein
2018415	HIT-Z M12x196	Liechtenstein
2018416	HIT-Z M16x155	Liechtenstein
2018418	HIT-Z M16x205	Liechtenstein
2018419	HIT-Z M16x240	Liechtenstein
2018420	HIT-Z M20x215	Liechtenstein
2018421	HIT-Z M20x250	Liechtenstein
2018422	HIT-Z-R M8x80	Liechtenstein
2018423	HIT-Z-R M8x100	Liechtenstein
2018424	HIT-Z-R M8x120	Liechtenstein
2018425	HIT-Z-R M10x95	Liechtenstein
2018426	HIT-Z-R M10x115	Liechtenstein
2018427	HIT-Z-R M10x135	Liechtenstein
2018428	HIT-Z-R M10x160	Liechtenstein
2018429	HIT-Z-R M12x105	Liechtenstein
2018430	HIT-Z-R M12x140	Liechtenstein
2018431	HIT-Z-R M12x155	Liechtenstein
2018433	HIT-Z-R M12x196	Liechtenstein
2018434	HIT-Z-R M16x155	Liechtenstein
2018435	HIT-Z-R M16x175	Liechtenstein
2018436	HIT-Z-R M16x205	Liechtenstein
2018437	HIT-Z-R M16x240	Liechtenstein
2018438	HIT-Z-R M20x215	Liechtenstein
2018439	HIT-Z-R M20x250	Liechtenstein

HIT-RE 500 V3

Safety information for 2-Component-products

Issue date: 13/05/2020 Revision date: 13/05/2020 Supersedes: 26/02/2019 Version: 2.3

SECTION 1: Kit identification

1.1 Product identifier

Product name HIT-RE 500 V3

Product code BU Anchor

1.2 Details of the supplier of the Safety information for 2-Component-products

Hilti (Hong Kong) Ltd.
701-704, 7/F, Tower A, Manulife Financial Centre
223 Wai Yip Street, Kwun Tong
Kowloon - Hong Kong
T +852 27734 700
hksales@hilti.com

SECTION 2: General information

Storage Storage temperature : 5 - 25 °C

A SDS for each of these components is included. Please do not separate any component SDS from this cover page

This Kit should be handled in accordance with good laboratory practices and appropriate personal protective equipment should be used

SECTION 3:

Classification of the Product

Classification according to the United Nations GHS (Rev. 4, 2011)

Acute Tox. 5 (Oral)	H303
Skin Corr. 1B	H314
Skin Sens. 1	H317
Muta. 2	H341
Repr. 1B	H360
STOT SE 3	H335
Aquatic Chronic 2	H411

Label elements

Labelling according to the United Nations GHS (Rev. 4, 2011)

Hazard pictograms (GHS UN)

GHS05 GHS07 GHS08 GHS09

Signal word (GHS UN) Danger

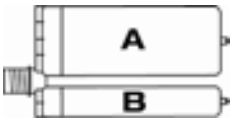
Hazardous ingredients Epoxy resin, Amines

Hazard statements (GHS UN)
H314 - Causes severe skin burns and eye damage.
H317 - May cause an allergic skin reaction.
H335 - May cause respiratory irritation.
H341 - Suspected of causing genetic defects.
H360 - May damage fertility or the unborn child.

	H411 - Toxic to aquatic life with long lasting effects.
Precautionary statements (GHS UN)	P280 - Wear eye protection, protective clothing, protective gloves. P262 - Do not get in eyes, on skin, or on clothing. P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P333+P313 - If skin irritation or rash occurs: Get medical advice/attention. P337+P313 - If eye irritation persists: Get medical advice/attention. P302+P352 - IF ON SKIN: Wash with plenty of water.

Additional information

2-component-foilpack, contains:
Component A: Epoxy resin, Reactive diluent, inorganic filler
Component B: Amine hardener, inorganic filler



Name	General description	Quantity	Unit	Classification according to the United Nations GHS
HIT-RE 500 V3, B		1	pcs	Acute Tox. 5 (Oral), H303 Skin Corr. 1B, H314 Skin Sens. 1, H317 STOT SE 3, H335 Aquatic Acute 3, H402 Aquatic Chronic 3, H412
HIT-RE 500 V3, A		1	pcs	Skin Corr. 1C, H314 Skin Sens. 1, H317 Muta. 2, H341 Repr. 1B, H360 Aquatic Acute 2, H401 Aquatic Chronic 2, H411

SECTION 4: General advice

General advice	For professional users only

SECTION 5: Safe handling advice

General measures	Spilled material may present a slipping hazard
Environmental precautions	Prevent entry to sewers and public waters Notify authorities if liquid enters sewers or public waters Avoid release to the environment Full or only partially emptied cartridges must be disposed of as special waste in accordance with official regulations. After curing, the product can be disposed of with household waste.
Storage conditions	Protect from sunlight. Store in a well-ventilated place.
Technical measures	Comply with applicable regulations
Precautions for safe handling	Wear personal protective equipment Avoid contact with skin and eyes Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work Avoid contact during pregnancy/while nursing
Methods for cleaning up	This material and its container must be disposed of in a safe way, and as per local legislation Mechanically recover the product On land, sweep or shovel into suitable containers Store away from other materials.
For containment	Collect spillage.
Incompatible materials	Sources of ignition Direct sunlight
Incompatible products	Strong bases

Strong acids

SECTION 6: First aid measures

First-aid measures after eye contact	Get immediate medical advice/attention. Immediately rinse with water for a prolonged period while holding the eyelids wide open Remove contact lenses, if present and easy to do. Continue rinsing. Consult an eye specialist
First-aid measures after ingestion	Do not induce vomiting Rinse mouth Immediately call a POISON CENTER/doctor.
First-aid measures after inhalation	Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	Wash with plenty of water/… Take off immediately all contaminated clothing. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get immediate medical advice/attention.
First-aid measures general	Never give anything by mouth to an unconscious person If you feel unwell, seek medical advice (show the label where possible)
Symptoms/effects	Causes severe skin burns and eye damage.
Symptoms/effects after eye contact	Causes serious eye damage.
Symptoms/effects after inhalation	May cause an allergic skin reaction.

SECTION 7: Fire fighting measures

Firefighting instructions	Use water spray or fog for cooling exposed containers Exercise caution when fighting any chemical fire Prevent fire fighting water from entering the environment
Protection during firefighting	Self-contained breathing apparatus Do not enter fire area without proper protective equipment, including respiratory protection
Hazardous decomposition products in case of fire	Thermal decomposition generates : Carbon dioxide Carbon monoxide

SECTION 8: Other information

No data available

HIT-RE 500 V3, B

Safety Data Sheet

according to the United Nations GHS (Rev. 4, 2011)

Issue date: 13/05/2020 Revision date: 13/05/2020 Supersedes: 25/02/2019

Version: 1.6

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form	Mixture
Product name	HIT-RE 500 V3, B
UN-No. (ADR)	3259
Product code	BU Anchor

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture	Composite mortar component for fasteners in the construction industry

1.3. Details of the supplier of the safety data sheet

Supplier
Hilti (Hong Kong) Ltd.
701-704, 7/F, Tower A, Manulife Financial Centre
223 Wai Yip Street, Kwun Tong
Kowloon - Hong Kong
T +852 27734 700
hksales@hilti.com

Department issuing data specification sheet
Hilti Entwicklungsgesellschaft mbH
Hiltistraße 6
86916 Kaufering - Deutschland
T +49 8191 906876
anchor.hse@hilti.com

1.4. Emergency telephone number

Emergency number	Schweizerisches Toxikologisches Informationszentrum – 24h Service +41 44 251 51 51 (international) +852 27734 700

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to the United Nations GHS (Rev. 4, 2011)

Acute Tox. 5 (Oral)	H303
Skin Corr. 1B	H314
Skin Sens. 1	H317
STOT SE 3	H335
Aquatic Acute 3	H402
Aquatic Chronic 3	H412

Full text of H statements : see section 16

2.2. Label elements

Labelling according to the United Nations GHS (Rev. 4, 2011)

Hazard pictograms (GHS UN)

GHS05 GHS07

Signal word (GHS UN)	Danger
Hazardous ingredients	2-methyl-1,5-pentanediamine; Phenol, styrenated; m-Xylylenediamine; 3-Aminopropyltriethoxysilan; 2,4,6-tris(dimethylaminomethyl)phenol
Hazard statements (GHS UN)	H314 - Causes severe skin burns and eye damage. H317 - May cause an allergic skin reaction. H335 - May cause respiratory irritation. H412 - Harmful to aquatic life with long lasting effects.
Precautionary statements (GHS UN)	P262 - Do not get in eyes, on skin, or on clothing. P280 - Wear eye protection, protective clothing, protective gloves.

P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333+P313 - If skin irritation or rash occurs: Get medical advice, medical attention.
P337+P313 - If eye irritation persists: Get medical advice, medical attention.
P302+P352 - IF ON SKIN: Wash with plenty of water.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to the United Nations GHS
2-methyl-1,5-pentanediamine	(CAS-No.) 15520-10-2	25 - 35	Flammable liquids, Category 4, H227 Acute toxicity (oral), Category 4, H302 Acute toxicity (dermal), Category 4, H312 Acute toxicity (inhalation:dust,mist) Category 4, H332 Skin corrosion/irritation, Category 1A, H314 Serious eye damage/eye irritation, Category 1, H318 Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation, H335
Phenol, styrenated	(CAS-No.) 61788-44-1	5 - 10	Skin corrosion/irritation, Category 2, H315 Skin sensitisation, Category 1, H317 Hazardous to the aquatic environment — Acute Hazard, Category 2, H401 Hazardous to the aquatic environment — Chronic Hazard, Category 2, H411
m-Xylylenediamine	(CAS-No.) 1477-55-0	5 - <8	Acute toxicity (oral), Category 4, H302 Acute toxicity (inhalation:dust,mist) Category 4, H332 Skin corrosion/irritation, Category 1B, H314 Serious eye damage/eye irritation, Category 1, H318 Skin sensitisation, category 1B, H317 Hazardous to the aquatic environment — Acute Hazard, Category 3, H402 Hazardous to the aquatic environment — Chronic Hazard, Category 3, H412
2,4,6-tris(dimethylaminomethyl)phenol	(CAS-No.) 90-72-2	1 - 2,5	Acute toxicity (oral), Category 4, H302 Skin corrosion/irritation, Category 2, H315 Serious eye damage/eye irritation, Category 2A, H319
3-Aminopropyltriethoxysilan	(CAS-No.) 919-30-2	1 - 2,5	Acute toxicity (oral), Category 4, H302 Skin corrosion/irritation, Category 1B, H314

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation	Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	Wash with plenty of water/…. Take off immediately all contaminated clothing. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get immediate medical advice/attention.
First-aid measures after eye contact	Get immediate medical advice/attention. Immediately rinse with water for a prolonged period while holding the eyelids wide open. Remove contact lenses, if present and easy to do. Continue rinsing. Consult an eye specialist.
First-aid measures after ingestion	Do not induce vomiting. Rinse mouth. Immediately call a POISON CENTER/doctor.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects	Causes severe skin burns and eye damage.
Symptoms/effects after inhalation	May cause an allergic skin reaction.
Symptoms/effects after eye contact	Causes serious eye damage.
Potential adverse human health effects and symptoms	No additional information available.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Foam. Dry powder. Carbon dioxide. Water spray. Sand.
Unsuitable extinguishing media	Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighters

Firefighting instructions	Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.
Protection during firefighting	Self-contained breathing apparatus. Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures: Spilled material may present a slipping hazard.

6.1.1.For non-emergency personnel

Emergency procedures: Evacuate unnecessary personnel.

6.1.2.For emergency responders

Protective equipment	Use personal protective equipment as required. Equip cleanup crew with proper protection.
Emergency procedures	Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment. Full or only partially emptied cartridges must be disposed of as special waste in accordance with official regulations. After curing, the product can be disposed of with household waste.

6.3. Methods and material for containment and cleaning up

For containment	Collect spillage.
Methods for cleaning up	This material and its container must be disposed of in a safe way, and as per local legislation. Mechanically recover the product. On land, sweep or shovel into suitable containers. Store away from other materials.
Other information	Dispose of materials or solid residues at an authorized site.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	Wear personal protective equipment. Avoid contact with skin and eyes. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Avoid contact during pregnancy/while nursing.
Hygiene measures	Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures	Comply with applicable regulations.
Storage conditions	Protect from sunlight. Store in a well-ventilated place.
Incompatible products	Strong bases. Strong acids.
Incompatible materials	Sources of ignition. Direct sunlight.
Storage temperature	5 - 25 °C
Heat and ignition sources	Keep away from heat and direct sunlight.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Additional information	The product has a pasty consistency. Exposure limit values for respirable dusts are not relevant for this product.

8.2. Appropriate engineering controls

Appropriate engineering controls	Ensure good ventilation of the work station.
Environmental exposure controls	No specific measures are required provided the product is handled in accordance with the general rules of occupational hygiene and safety.
Consumer exposure controls	Avoid contact during pregnancy/while nursing.
Other information	Do not eat, drink or smoke during use.

8.3. Individual protection measures, such as personal protective equipment (PPE)

Materials for protective clothing	Long sleeved protective clothing
Hand protection	Wear protective gloves. The permeation time is not the maximum wearing time! Generally speaking, it must be reduced. Contact with either mixtures of substances or different substances may shorten the protective function's effective duration.

Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Disposable gloves	Nitrile rubber (NBR)	6 (> 480 minutes)	> 0,4		EN 374

Eye protection: Wear security glasses which protect from splashes

Type	Use	Characteristics	Standard
Safety glasses	Droplet	clear	EN 166, EN 170

Skin and body protection: Wear suitable protective clothing

8.4. Exposure limit values for the other components

No additional information available

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Solid
Appearance	Thixotropic paste.
Colour	red.
Odour	Amine-like.
Odour threshold	No data available
pH	11.5
Relative evaporation rate (butylacetate=1)	No data available
Melting point	No data available
Freezing point	No data available
Boiling point	No data available
Flash point	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Flammability (solid, gas)	Non flammable.
Vapour pressure	No data available
Relative vapour density at 20 °C	No data available
Relative density	No data available
Density	1.31 g/cm³
Solubility	insoluble in water.

Log Pow	No data available
Viscosity, kinematic	No data available
Viscosity, dynamic	50 - 70 Pa·s HN-0333
Explosive properties	No data available
Oxidising properties	No data available
Explosive limits	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Corrosive vapours.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No additional information available.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. Thermal decomposition generates : fume. Carbon monoxide. Carbon dioxide. Corrosive vapours.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	May be harmful if swallowed.
Acute toxicity (dermal)	Not classified
Acute toxicity (inhalation)	Not classified

2-methyl-1,5-pentanediamine (15520-10-2)	
LD50 oral rat	1690 mg/kg (Rat)
LD50 dermal rat	1870 mg/kg
LC50 inhalation rat (mg/l)	4.9 mg/l

Phenol, styrenated (61788-44-1)	
LD50 oral rat	> 2500 mg/kg
LD50 dermal rat	> 2000 mg/kg
LC50 inhalation rat (mg/l)	158.31 mg/l/4h

m-Xylylenediamine (1477-55-0)	
LD50 oral rat	1090 mg/kg
LD50 oral	660 mg/kg
LD50 dermal rat	> 3100 mg/kg
LD50 dermal	> 3100 mg/kg
LC50 inhalation rat (Dust/Mist - mg/l/4h)	1.34 mg/l/4h

3-Aminopropyltriethoxysilan (919-30-2)	
LD50 oral rat	1.57 ml/kg

2,4,6-tris(dimethylaminomethyl)phenol (90-72-2)	
LD50 oral rat	2169 mg/kg (Rat; Equivalent or similar to OECD 401; Literature study; 2169 mg/kg bodyweight; Rat; Experimental value)
LD50 dermal rat	> 2000 mg/kg (Rat; Literature study; Other; >1 ml/kg; Rat; Experimental value)

Skin corrosion/irritation	Causes severe skin burns and eye damage. pH: 11.5
Serious eye damage/irritation	Serious eye damage, category 1, implicit pH: 11.5
Respiratory or skin sensitisation	May cause an allergic skin reaction.
Germ cell mutagenicity	Not classified
Carcinogenicity	Not classified
Reproductive toxicity	Not classified
STOT-single exposure	May cause respiratory irritation.
STOT-repeated exposure	Not classified
Aspiration hazard	Not classified
Potential adverse human health effects and symptoms	No additional information available.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - water	Harmful to aquatic life with long lasting effects.
Hazardous to the aquatic environment, short-term (acute)	Harmful to aquatic life.
Classification procedure (Hazardous to the aquatic environment, short-term (acute))	Calculation method
Hazardous to the aquatic environment, long-term (chronic)	Harmful to aquatic life with long lasting effects.
Classification procedure (Hazardous to the aquatic environment, long-term (chronic))	Calculation method

2-methyl-1,5-pentanediamine (15520-10-2)	
LC50 fish 1	130 mg/l (LC50; 48 h)
LOEC (acute)	1800 mg/l
NOEC (acute)	1000 mg/l

Phenol, styrenated (61788-44-1)	
LC50 fish 1	5.6 mg/l
LC50 other aquatic organisms 1	9.7 mg/l
EC50 Daphnia 1	1.44 mg/l
NOEC (acute)	3.2 mg/l
Threshold limit algae 1	0.326 mg/l (72 h; Algae)
Threshold limit algae 2	0.14 mg/l (72 h; Algae)

m-Xylylenediamine (1477-55-0)	
LC50 fish 1	75 mg/l
LC50 other aquatic organisms 1	20.3 ppb
EC50 Daphnia 1	15 mg/l
LOEC (chronic)	15 mg/l
NOEC (acute)	10.5 mg/kg
NOEC (chronic)	4.7 mg/l
NOEC chronic crustacea	4.7 mg/l

2,4,6-tris(dimethylaminomethyl)phenol (90-72-2)	
LC50 fish 1	> 100 mg/l (96 h; Pisces; Nominal concentration)
EC50 Daphnia 1	10 - 100 mg/l (Invertebrata; Estimated value)
EC50 other aquatic organisms 1	84 mg/l (72 h; Desmodesmus subspicatus; growth rate; ECHA)

LC50 fish 2	70.9 mg/l (96 h; Pisces)
ErC50 (algae)	84 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Desmodesmus subspicatus, Static system, Fresh water, Experimental value, GLP)
NOEC (chronic)	2 mg/l (28 d; activated sludge, domestic; respiration rate; ECHA)
Threshold limit algae 1	10 - 100,Algae
Threshold limit algae 2	84 mg/l (72 h; Scenedesmus subspicatus; Growth rate)

12.2. Persistence and degradability

HIT-RE 500 V3, B	
Persistence and degradability	May cause long-term adverse effects in the environment.
Phenol, styrenated (61788-44-1)	
Biochemical oxygen demand (BOD)	0.000231 g O_2 /g substance
Chemical oxygen demand (COD)	0.004827 g O_2 /g substance

12.3. Bioaccumulative potential

HIT-RE 500 V3, B	
Bioaccumulative potential	Not established.
2-methyl-1,5-pentanediamine (15520-10-2)	
Log Pow	0.27 (Estimated value)
Bioaccumulative potential	Low bioaccumulation potential (Log Kow < 4).
Phenol, styrenated (61788-44-1)	
BCF fish 2	3246 mg/l
Log Pow	6.24 - 7.77 (Experimental value; OECD 123: Partition Coefficient (1-Octanol/Water): Slow-Stirring Method)
Bioaccumulative potential	Bioaccumulative potential.
2,4,6-tris(dimethylaminomethyl)phenol (90-72-2)	
Log Pow	0.77 (Literature; 0.219; Experimental value; Equivalent or similar to OECD 107; 21.5 °C)
Bioaccumulative potential	Low bioaccumulation potential (Log Kow < 4).

12.4. Mobility in soil

2-methyl-1,5-pentanediamine (15520-10-2)	
Log Pow	See section 12.1 on ecotoxicology
Phenol, styrenated (61788-44-1)	
Log Pow	See section 12.1 on ecotoxicology
Ecology - soil	No (test)data on mobility of the substance available.
2,4,6-tris(dimethylaminomethyl)phenol (90-72-2)	
Log Pow	See section 12.1 on ecotoxicology
Log Koc	See section 12.1 on ecotoxicology
Ecology - soil	Highly mobile in soil.

12.5. Other adverse effects

Ozone	Not classified
Other adverse effects	No additional information available
Other information	Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste)	Disposal must be done according to official regulations.
Product/Packaging disposal recommendations	After curing, the product can be disposed of with household waste. . Full or only partially emptied cartridges must be disposed of as special waste in accordance with official regulations. Packaging contaminated by the product : Dispose in a safe manner in accordance with local/national regulations.
Ecology - waste materials	Avoid release to the environment.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	RID
14.1. UN number			
3259	3259	3259	3259
14.2. UN proper shipping name			
AMINES, SOLID, CORROSIVE, N.O.S. (2-methyl-1,5-pentanediamine, m-Xylylenediamine)	AMINES, SOLID, CORROSIVE, N.O.S. (2-methyl-1,5-pentanediamine, m-Xylylenediamine)	Amines, solid, corrosive, n.o.s. (2-methyl-1,5-pentanediamine, m-Xylylenediamine)	AMINES, SOLID, CORROSIVE, N.O.S. (2-methyl-1,5-pentanediamine, m-Xylylenediamine)
Transport document description			
UN 3259 AMINES, SOLID, CORROSIVE, N.O.S. (2-methyl-1,5-pentanediamine, m-Xylylenediamine), 8, II, (E)	UN 3259 AMINES, SOLID, CORROSIVE, N.O.S. (2-methyl-1,5-pentanediamine, m-Xylylenediamine), 8, II	UN 3259 Amines, solid, corrosive, n.o.s. (2-methyl-1,5-pentanediamine, m-Xylylenediamine), 8, II	UN 3259 AMINES, SOLID, CORROSIVE, N.O.S. (2-methyl-1,5-pentanediamine, m-Xylylenediamine), 8, II
14.3. Transport hazard class(es)			
8	8	8	8
			
14.4. Packing group			
II	II	II	II
14.5. Environmental hazards			
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No	Dangerous for the environment : No
No supplementary information available			

14.6. Special precautions for user

- Overland transport

Classification code (ADR)	C8
Special provisions (ADR)	274
Limited quantities (ADR)	1kg
Packing instructions (ADR)	P002, IBC08
Mixed packing provisions (ADR)	MP10
Transport category (ADR)	2
Orange plates	
Tunnel restriction code (ADR)	E

- Transport by sea

Special provisions (IMDG)	274
Limited quantities (IMDG)	1 kg
Packing instructions (IMDG)	P002

EmS-No. (Fire)	F-A
EmS-No. (Spillage)	S-B
Stowage category (IMDG)	A
Stowage and segregation (IMDG)	Separated from' acids.
MFAG-No	154

- Air transport

PCA packing instructions (IATA)	859
PCA max net quantity (IATA)	15kg
CAO packing instructions (IATA)	863
Special provisions (IATA)	A3

- Rail transport

Special provisions (RID)	274
Limited quantities (RID)	1kg
Packing instructions (RID)	P002, IBC08
Carriage prohibited (RID)	No

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

No additional information available

SECTION 16: Other information

SDS Major/Minor	None
Issue date	13/05/2020
Revision date	13/05/2020
Supersedes	25/02/2019

Indication of changes:

Section	Changed item	Change	Comments
2.1	Classification (GHS UN)	Modified	

Abbreviations and acronyms	ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road ATE - Acute Toxicity Estimate BCF - Bioconcentration factor CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008 DMEL - Derived Minimal Effect level DNEL - Derived-No Effect Level IATA - International Air Transport Association EC50 - Median effective concentration IMDG - International Maritime Dangerous Goods LC50 - Median lethal concentration LD50 - Median lethal dose LOAEL - Lowest Observed Adverse Effect Level NOAEC - No-Observed Adverse Effect Concentration NOAEL - No-Observed Adverse Effect Level NOEC - No-Observed Effect Concentration PBT - Persistent Bioaccumulative Toxic PNEC - Predicted No-Effect Concentration REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006 RID - Regulations concerning the International Carriage of Dangerous Goods by Rail SDS - Safety Data Sheet vPvB - Very Persistent and Very Bioaccumulative
Other information	None.

Full text of H-statements:

H227	Combustible liquid
H302	Harmful if swallowed.
H303	May be harmful if swallowed
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H401	Toxic to aquatic life
H402	Harmful to aquatic life
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

SDS_UN_Hilti

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

HIT-RE 500 V3, A

Safety Data Sheet

according to the United Nations GHS (Rev. 4, 2011)

Issue date: 13/05/2020 Revision date: 13/05/2020 Supersedes: 25/02/2019

Version: 2.3

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form	Mixture
Product name	HIT-RE 500 V3, A
UN-No. (ADR)	1759
Product code	BU Anchor

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture	Composite mortar component for fasteners in the construction industry

1.3. Details of the supplier of the safety data sheet

Supplier
Hilti (Hong Kong) Ltd.
701-704, 7/F, Tower A, Manulife Financial Centre
223 Wai Yip Street, Kwun Tong
Kowloon - Hong Kong
T +852 27734 700
hksales@hilti.com

Department issuing data specification sheet
Hilti Entwicklungsgesellschaft mbH
Hiltistraße 6
86916 Kaufering - Deutschland
T +49 8191 906876
anchor.hse@hilti.com

1.4. Emergency telephone number

Emergency number	Schweizerisches Toxikologisches Informationszentrum – 24h Service +41 44 251 51 51 (international) +852 27734 700

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to the United Nations GHS (Rev. 4, 2011)

Skin Corr. 1C	H314
Skin Sens. 1	H317
Muta. 2	H341
Repr. 1B	H360
Aquatic Acute 2	H401
Aquatic Chronic 2	H411

Full text of H statements : see section 16

2.2. Label elements

Labelling according to the United Nations GHS (Rev. 4, 2011)

Hazard pictograms (GHS UN)

GHS05 GHS07 GHS08 GHS09

Signal word (GHS UN)	Danger
Hazardous ingredients	Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol ; butanedioldiglycidyl ether ; 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane; trimethylolpropane triglycidylether
Hazard statements (GHS UN)	H314 - Causes severe skin burns and eye damage. H317 - May cause an allergic skin reaction. H341 - Suspected of causing genetic defects. H360 - May damage fertility or the unborn child. H411 - Toxic to aquatic life with long lasting effects.

Precautionary statements (GHS UN)	P262 - Do not get in eyes, on skin, or on clothing. P280 - Wear eye protection, protective clothing, protective gloves. P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P333+P313 - If skin irritation or rash occurs: Get medical advice, medical attention. P337+P313 - If eye irritation persists: Get medical advice, medical attention. P302+P352 - IF ON SKIN: Wash with plenty of water.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to the United Nations GHS
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	(CAS-No.) 1675-54-3	25 - 40	Flammable liquids Not classified Skin corrosion/irritation, Category 2, H315 Serious eye damage/eye irritation, Category 2A, H319 Skin sensitisation, Category 1, H317 Hazardous to the aquatic environment — Acute Hazard, Category 2, H401 Hazardous to the aquatic environment — Chronic Hazard, Category 2, H411
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	(CAS-No.) 9003-36-5	10-20	Skin corrosion/irritation, Category 2, H315 Serious eye damage/eye irritation, Category 2A, H319 Skin sensitisation, Category 1, H317 Hazardous to the aquatic environment — Chronic Hazard, Category 2, H411
butanedioldiglycidyl ether	(CAS-No.) 2425-79-8	5 - 10	Acute toxicity (oral), Category 4, H302 Acute toxicity (dermal), Category 4, H312 Acute toxicity (inhal.), Category 4, H332 Skin corrosion/irritation, Category 2, H315 Serious eye damage/eye irritation, Category 1, H318 Skin sensitisation, Category 1, H317 Hazardous to the aquatic environment — Acute Hazard, Category 3, H402 Hazardous to the aquatic environment — Chronic Hazard, Category 3, H412
trimethylolpropane triglycidylether	(CAS-No.) 30499-70-8	5 - 10	Skin corrosion/irritation, Category 1C, H314 Serious eye damage/eye irritation, Category 1, H318 Skin sensitisation, category 1B, H317 Germ cell mutagenicity, Category 2, H341 Reproductive toxicity, Category 1B, H360 Hazardous to the aquatic environment — Chronic Hazard, Category 2, H411
[3-(2,3-epoxypropoxy)propyl]trimethoxysilane	(CAS-No.) 2530-83-8	2.5 - 5	Acute toxicity (dermal), Category 5, H313 Serious eye damage/eye irritation, Category 1, H318 Hazardous to the aquatic environment — Acute Hazard, Category 3, H402

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation	Remove person to fresh air and keep comfortable for breathing. Allow affected person to breathe fresh air. Allow the victim to rest.
First-aid measures after skin contact	Gently wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation occurs: Get immediate medical advice/attention.
First-aid measures after eye contact	Rinse immediately with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if pain, blinking or redness persists.
First-aid measures after ingestion	Rinse mouth. Get medical advice/attention. Do not induce vomiting. Obtain emergency medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after inhalation	May cause an allergic skin reaction.
Symptoms/effects after skin contact	Causes skin irritation.
Symptoms/effects after eye contact	Causes serious eye irritation.
Potential adverse human health effects and symptoms	No additional information available.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Water spray. Carbon dioxide. Dry powder. Foam. Sand.
Unsuitable extinguishing media	Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighters

Firefighting instructions	Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.
Protection during firefighting	Self-contained breathing apparatus. Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures: Spilled material may present a slipping hazard.

6.1.1.For non-emergency personnel

Emergency procedures: Evacuate unnecessary personnel.

6.1.2.For emergency responders

Protective equipment	Use personal protective equipment as required. Equip cleanup crew with proper protection.
Emergency procedures	Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment. Full or only partially emptied cartridges must be disposed of as special waste in accordance with official regulations. After curing, the product can be disposed of with household waste.

6.3. Methods and material for containment and cleaning up

For containment	Collect spillage.
Methods for cleaning up	This material and its container must be disposed of in a safe way, and as per local legislation. Mechanically recover the product. On land, sweep or shovel into suitable containers. Store away from other materials.
Other information	Dispose of materials or solid residues at an authorized site.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	Wear personal protective equipment. Avoid contact with skin and eyes. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.
Hygiene measures	Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	Protect from sunlight.
Incompatible products	Strong bases. Strong acids.
Incompatible materials	Sources of ignition. Direct sunlight.
Storage temperature	5 - 25 °C
Heat and ignition sources	Keep away from heat and direct sunlight.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Additional information	The product has a pasty consistency. Exposure limit values for respirable dusts are not relevant for this product.

8.2. Appropriate engineering controls

Appropriate engineering controls	No specific measures identified.
Environmental exposure controls	No specific measures are required provided the product is handled in accordance with the general rules of occupational hygiene and safety.
Consumer exposure controls	Avoid contact during pregnancy/while nursing.
Other information	Do not eat, drink or smoke during use.

8.3. Individual protection measures, such as personal protective equipment (PPE)

Materials for protective clothing	Long sleeved protective clothing
Hand protection	Wear protective gloves. The permeation time is not the maximum wearing time! Generally speaking, it must be reduced. Contact with either mixtures of substances or different substances may shorten the protective function's effective duration.

Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Disposable gloves	Nitrile rubber (NBR)	6 (> 480 minutes)	> 0,4		EN 374

Eye protection: Wear security glasses which protect from splashes

Type	Use	Characteristics	Standard
Safety glasses	Droplet	clear	EN 166, EN 170

Skin and body protection: Wear suitable protective clothing

8.4. Exposure limit values for the other components

No additional information available

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Solid
Appearance	Thixotropic paste.
Colour	Light grey.
Odour	characteristic.
Odour threshold	No data available
pH	6.6
Relative evaporation rate (butylacetate=1)	No data available
Melting point	No data available
Freezing point	No data available
Boiling point	No data available
Flash point	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Flammability (solid, gas)	Non flammable.
Vapour pressure	No data available
Relative vapour density at 20 °C	No data available
Relative density	No data available
Density	1.45 g/cm³
Solubility	insoluble in water.

Log Pow	No data available
Viscosity, kinematic	No data available
Viscosity, dynamic	45 - 59 Pa·s 23 °C
Explosive properties	No data available
Oxidising properties	No data available
Explosive limits	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No additional information available.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. Thermal decomposition generates : fume. Carbon monoxide. Carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	Not classified
Acute toxicity (dermal)	Not classified
Acute toxicity (inhalation)	Not classified

Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol (9003-36-5)	
LD50 oral rat	> 5000 mg/kg bodyweight (Rat; ECHA)
LD50 dermal rat	> 2000 mg/kg bodyweight (Rat; ECHA)

butanedioldiglycidyl ether (2425-79-8)	
LD50 oral rat	2980 mg/kg (Rat)
LD50 oral	1163 mg/kg (Rat; Exp. Key study ECHA)
LD50 dermal rabbit	1130 mg/kg (Rabbit)

[3-(2,3-epoxypropoxy)propyl]trimethoxysilane (2530-83-8)	
LD50 oral rat	8025 mg/kg bodyweight (Rat; Equivalent or similar to OECD 401; Experimental value)
LD50 dermal rabbit	4250 mg/kg bodyweight (Rabbit; Experimental value; Equivalent or similar to OECD 402)

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane (1675-54-3)	
LD50 dermal rat	> 2000 mg/kg (Rat; Experimental value; OECD 402: Acute Dermal Toxicity)

Skin corrosion/irritation	Causes severe skin burns and eye damage. pH: 6.6

Serious eye damage/irritation	Serious eye damage, category 1, implicit pH: 6.6
Respiratory or skin sensitisation	May cause an allergic skin reaction.
Germ cell mutagenicity	Suspected of causing genetic defects.
Carcinogenicity	Not classified
Reproductive toxicity	May damage fertility or the unborn child.
STOT-single exposure	Not classified
STOT-repeated exposure	Not classified
Aspiration hazard	Not classified
Potential adverse human health effects and symptoms	No additional information available.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - water	Toxic to aquatic life with long lasting effects.
Hazardous to the aquatic environment, short-term (acute)	Toxic to aquatic life.
Classification procedure (Hazardous to the aquatic environment, short-term (acute))	Calculation method
Hazardous to the aquatic environment, long-term (chronic)	Toxic to aquatic life with long lasting effects.
Classification procedure (Hazardous to the aquatic environment, long-term (chronic))	Calculation method

butanedioldiglycidyl ether (2425-79-8)	
LC50 fish 1	24 mg/l (96 h; Pisces) ECHA
LC50 other aquatic organisms 1	> 160 mg/l
NOEC (acute)	40 mg/l
Threshold limit algae 1	88930 mg/l (96 h; Algae)

[3-(2,3-epoxypropoxy)propyl]trimethoxysilane (2530-83-8)	
LC50 fish 1	55 mg/l (96 h; Cyprinus carpio; Young)
EC50 Daphnia 1	473 - 710 mg/l (48 h; Daphnia magna)
LC50 fish 2	237 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
Threshold limit algae 1	119 mg/l (7 days; Anabaena flosaquae)
Threshold limit algae 2	250 mg/l (72 h; Selenastrum capricornutum)

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane (1675-54-3)	
LC50 fish 1	2.3 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Oncorhynchus mykiss, Semi-static system, Fresh water, Experimental value, Nominal concentration)
EC50 Daphnia 1	2 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value)
LC50 fish 2	2.3 mg/l (96 h; Oncorhynchus mykiss; Nominal concentration)
Threshold limit algae 1	> 11 mg/l (72 h; Scenedesmus sp.)
Threshold limit algae 2	4.2 mg/l (72 h; Scenedesmus sp.)

12.2. Persistence and degradability

HIT-RE 500 V3, A	
Persistence and degradability	May cause long-term adverse effects in the environment.

Quartz (SiO2)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)

butanedioldiglycidyl ether (2425-79-8)	
Biochemical oxygen demand (BOD)	0.01982 g O_2 /g substance

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane (1675-54-3)	
Persistence and degradability	Not readily biodegradable in water.

12.3. Bioaccumulative potential

HIT-RE 500 V3, A	
Bioaccumulative potential	Not established.

Quartz (SiO2)	
Bioaccumulative potential	No bioaccumulation data available.

butanedioldiglycidyl ether (2425-79-8)	
Log Pow	-0.15

[3-(2,3-epoxypropoxy)propyl]trimethoxysilane (2530-83-8)	
Log Pow	-0.92 (Estimated value)

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane (1675-54-3)	
BCF other aquatic organisms 1	31 (Estimated value, Fresh weight)
Log Pow	3 (Estimated value, 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

12.4. Mobility in soil

Quartz (SiO2)	
Ecology - soil	Low potential for mobility in soil.

butanedioldiglycidyl ether (2425-79-8)	
Log Pow	See section 12.1 on ecotoxicology

[3-(2,3-epoxypropoxy)propyl]trimethoxysilane (2530-83-8)	
Log Pow	See section 12.1 on ecotoxicology

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane (1675-54-3)	
Surface tension	59 mN/m (20 °C, 0.09 g/l)
Log Pow	See section 12.1 on ecotoxicology
Log Koc	See section 12.1 on ecotoxicology
Ecology - soil	Low potential for adsorption in soil.

12.5. Other adverse effects

Ozone	Not classified
Other adverse effects	No additional information available
Other information	Avoid release to the environment.

SECTION 13: Disposal considerations

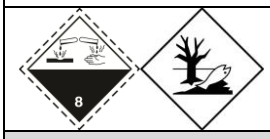
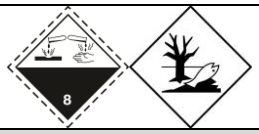
13.1. Waste treatment methods

Regional legislation (waste)	Disposal must be done according to official regulations.
Product/Packaging disposal recommendations	After curing, the product can be disposed of with household waste. . Full or only partially emptied cartridges must be disposed of as special waste in accordance with official regulations. Packaging contaminated by the product : Dispose in a safe manner in accordance with local/national regulations.
Ecology - waste materials	Avoid release to the environment.

SECTION 14: Transport information

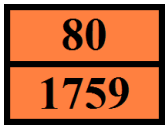
In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	RID
14.1. UN number			
1759	1759	1759	1759
14.2. UN proper shipping name			
CORROSIVE SOLID, N.O.S. (trimethylolpropane	CORROSIVE SOLID, N.O.S. (trimethylolpropane	Corrosive solid, n.o.s. (trimethylolpropane	CORROSIVE SOLID, N.O.S. (trimethylolpropane

ADR	IMDG	IATA	RID
triglycidylether)	triglycidylether)	triglycidylether)	triglycidylether)
Transport document description			
UN 1759 CORROSIVE SOLID, N.O.S. (trimethylolpropane triglycidylether), 8, III, (E), ENVIRONMENTALLY HAZARDOUS	UN 1759 CORROSIVE SOLID, N.O.S. (trimethylolpropane triglycidylether), 8, III, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS	UN 1759 Corrosive solid, n.o.s. (trimethylolpropane triglycidylether), 8, III, ENVIRONMENTALLY HAZARDOUS	UN 1759 CORROSIVE SOLID, N.O.S. (trimethylolpropane triglycidylether), 8, III, ENVIRONMENTALLY HAZARDOUS
14.3. Transport hazard class(es)			
8	8	8	8
			
14.4. Packing group			
III	III	III	III
14.5. Environmental hazards			
Dangerous for the environment : Yes	Dangerous for the environment : Yes Marine pollutant : Yes	Dangerous for the environment : Yes	Dangerous for the environment : Yes
No supplementary information available			

14.6. Special precautions for user

- Overland transport

Classification code (ADR)	C10
Special provisions (ADR)	274
Limited quantities (ADR)	5kg
Packing instructions (ADR)	P002, IBC08, LP02, R001
Mixed packing provisions (ADR)	MP10
Transport category (ADR)	3
Orange plates	
Tunnel restriction code (ADR)	E

- Transport by sea

Special provisions (IMDG)	223, 274
Packing instructions (IMDG)	P002, LP02
EmS-No. (Fire)	F-A
EmS-No. (Spillage)	S-B
Stowage category (IMDG)	A

- Air transport

PCA packing instructions (IATA)	860
PCA max net quantity (IATA)	25kg
CAO packing instructions (IATA)	864
Special provisions (IATA)	A3, A803

- Rail transport

Special provisions (RID)	274
Packing instructions (RID)	P002, IBC08, LP02, R001
Carriage prohibited (RID)	No

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

No additional information available

SECTION 16: Other information

SDS Major/Minor	None
Issue date	13/05/2020
Revision date	13/05/2020
Supersedes	25/02/2019

Indication of changes:

Section	Changed item	Change	Comments
9	pH	Added	
14	Transport information	Modified	
16	Additional information	Added	

Abbreviations and acronyms

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road

ATE - Acute Toxicity Estimate

BCF - Bioconcentration factor

CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008

DMEL - Derived Minimal Effect level

DNEL - Derived-No Effect Level

IATA - International Air Transport Association

EC50 - Median effective concentration

IMDG - International Maritime Dangerous Goods

LC50 - Median lethal concentration

LD50 - Median lethal dose

LOAEL - Lowest Observed Adverse Effect Level

NOAEC - No-Observed Adverse Effect Concentration

NOAEL - No-Observed Adverse Effect Level

NOEC - No-Observed Effect Concentration

PBT - Persistent Bioaccumulative Toxic

PNEC - Predicted No-Effect Concentration

REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006

RID - Regulations concerning the International Carriage of Dangerous Goods by Rail

SDS - Safety Data Sheet

vPvB - Very Persistent and Very Bioaccumulative

Other information

None.

Full text of H-statements:

H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H313	May be harmful in contact with skin
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H341	Suspected of causing genetic defects.
H360	May damage fertility or the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.
H401	Toxic to aquatic life
H402	Harmful to aquatic life
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

SDS_UN_Hilti

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

Hilti HIT-RE500V3 Injectable Mortar Job Reference

Year	Project Name	Customer Name	Project type
2023	R6 CTL KLN ROUTE-CENTRAL TUNNEL HY/2018/08	BOUYGUES TRAVAUX PUBLICS	Infrastructure
2023	ANDERSON ROAD QUARRY, SITE R2-2	AGGRESSIVE CONSTRUCTION COMPANY	Residential
2023	New - Infrastructure - Island Eastern Corridor	CHINA CONSTRUCTION STEEL STRUCTURE	Infrastructure
2023	R6 TRUNK ROAD T2 ED/2018/04	BOUYGUES TRAVAUX PUBLICS	Infrastructure
2023	TKO LOHAS PARK PH13	CHINA OVERSEAS BUILDING	Residential
2023	TUEN MUN AREA 55 (463) RES	AGGRESSIVE CONSTRUCTION ENGINEERING	Residential
2023	TKO DESALINATION PLANT PH1 13/WSD/17	AA-JEC IJV	Utilities
2023	R6 CTL KLN ROUTE-KAI TAK EAST HY/2018/02	ALCHMEX-PAUL Y JOINT VENTURE	Infrastructure
2023	HANG TAI RD, MA ON SHAN AREA 86B PH 1&2 - HOUSING	CHINA STATE CONSTRUCTION	Residential
2023	KAI TAK AREA 1E, SITE 1 - HKHS APARTMENT & ELDERLY HOME	TYSAN FOUNDATION LIMITED	Residential
2024	SITE 1A & 1B, AREA 19, KWU TUNG NORTH - PUBLIC HOUSING	YAU LEE CONSTRUCTION CO LTD	Residential
2024	R6 CTL KLN ROUTE-CENTRAL TUNNEL HY/2018/08	BOUYGUES TRAVAUX PUBLICS	Infrastructure
2024	BAILEY ST / WING KWONG ST DEVELOPMENT PROJECT (KC-009	CHINA OVERSEAS BUILDING	Residential
2024	R6 TRUNK ROAD T2 ED/2018/04	BOUYGUES TRAVAUX PUBLICS	Infrastructure
2024	R6 CTL KLN ROUTE-KAI TAK EAST HY/2018/02	ALCHMEX-PAUL Y JOINT VENTURE	Infrastructure
2024	New - Infrastructure - Island Eastern Corridor	CHINA CONSTRUCTION STEEL STRUCTURE	Infrastructure
2024	ANDERSON ROAD QUARRY, SITE R2-8 HOUSING	UNISTRESS BUILDING CONSTRUCTION	Residential
2024	TUNG CHUNG WEST STATION & TUNNELS (CONTRACT NO. 1201	BOUYGUES - DRAGAGES (1201)	Transport
2024	LEI YUE MUN PUBLIC HOUSING PH4	CHINA STATE CONSTRUCTION	Residential
2024	R6 CTL KLN ROUTE-YMT WEST HY/2014/20	H.K. SHING TAT CIVIL ENG. CO.	Infrastructure
2025	TUNG TAU TSUEN RD - MEI TUNG ESTATE	CHINA STATE CONSTRUCTION	Residential
2025	ORGANIC RESOURCES RECOVERY CENTRE PH2 (WASTE TREA	CHINA STATE CONSTRUCTION	Utilities
2025	SITE 1A & 1B, AREA 19, KWU TUNG NORTH - PUBLIC HOUSING	YAU LEE CONSTRUCTION CO LTD	Residential