

Hilti HIT-M-S Injection Adhesive with HIT-V / HIT-VR

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f. Appearance Not specified	According to the sample submitted
g. Color + Not specified	Light Grey
h. Specification Not specified	Attached
i. Manufacturer's Catalogue Not specified	Attached
j. Test Report (Original/Certificated True Copy) Not specified	Attached
k. Previous Job Reference Not specified	Attached
l. Supplementary Information Not specified	NIL

For and on behalf of the Contractor

(Quality Control Manager)

CONTRACT MANAGER'S COMMENTS	
To:	
From:	Contract Manager's Representative: _____
On the basis of the sample and information given, the above sample submitted is:	
(1) *	Approved.
(2) *	Not approved because _____

Remarks:	_____

Approval does not alter the requirements of the Contract	
	Contract Manager's Representative: _____

Date:	_____

cc. _____

(* Delete if appropriate)
(+ For glass or vitreous mosaic tiles, the contractor is required to confirm the colour range(s) of the submitted sample, i.e. a) light and or medium; or b) dark)

SAMPLE SUBMISSION AND APPROVAL FORM

Contract Title: _____ _____ Contract No: _____ File Reference: _____	Ref. No.: _____ Date: _____ Ref. No. of Previous Submission: _____ (1) _____ (2) _____
-------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------

DETAILS OF SUBMISSION

To: Contract Manager's Representative Attention: _____

From: _____

The enclosed sample and catalogue* / certificate of origin* / technical data* / test report* / job reference* as described below have been checked for compliance with the Specifications and Drawings, and are submitted for approval.

1. General Information

- a. Material Description POVEKAPVEUA&QIA[a

- b. Location: _____

- c. Specification Ref. Page: _____ Item: _____

- d. Drawing Ref. No. _____

- e. B.Q. Ref.No.: _____

- f. Anticipated date of approval: _____

2. Technical Information

The submitted sample has been checked against the specification and drawings as listed below:-

Specification Requirements	Submitted Sample (State details against each item)
a. Brand Not specified	Hilti
b. Country of Origin Not specified	Republic of China
c. Manufacturer's Name & Address Not specified	Hilti Corporation, FL-9494 Principality of Liechtenstein.
d. Factory's Name & Address(es) Not specified	Hilti (China Zhangjiang) Co. Ltd., Yongping Road South, Zhangjiang Development Zone, 524022 Zhangjiang, Guangdong Province, China.
e. Supplier (with Applicator, if any)	

Not specified	Hilti (Hong Kong) Ltd
f. Appearance Not specified	According to the sample submitted
g. Color + Not specified	Nil
h. Specification Not specified	Attached
i. Manufacturer's Catalogue Not specified	Attached
j. Test Report (Original/Certificated True Copy) Not specified	Attached
k. Previous Job Reference Not specified	Attached
l. Supplementary Information Not specified	NIL

For and on behalf of the Contractor

(Quality Control Manager)

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(2) *	Not approved because _____

Remarks:	_____

Approval does not alter the requirements of the Contract	
Contract Manager's Representative: _____	

Date: _____	

cc. _____

(* Delete if appropriate)

(+ For glass or vitreous mosaic tiles, the contractor is required to confirm the colour range(s) of the submitted sample, i.e. a) light and or medium; or b) dark)

Injectable mortar HIT-HY 70



Base materials

- Concrete (aerated)
- Concrete (uncracked)
- Drywall
- Glass
- Masonry (grout-filled CMU)
- Masonry (hollow)
- Masonry (hollow CMU)
- Masonry (multiple-wythe brick/ unreinforced masonry)
- Masonry (solid)
- Some types of natural stone

Applications

- Applications in hollow and solid masonry
- Suitable for glass structures
- For heavy bracing on insulated materials in applications such as the installation of sun shades
- For wall ties
- Refurbishment and renovation

Advantages

- Provides strong, reliable and easy-to-install fastenings in a variety of masonry materials
- Performs reliably where the quality of the brick and mortar is inconsistent, even when the size and location of voids are unknown
- HIT-SC composite sleeves offer greater flexibility through use of multiple sleeve combinations and also minimize mortar wastage by more accurate dosing in hollow base materials
- Fastenings are free of expansion forces and have technical approvals
- For use in indoor and outdoor applications in dry or wet drilled holes
- Can be used in the temperature range between -5°C and +40° C (except in solid brick)

Technical data

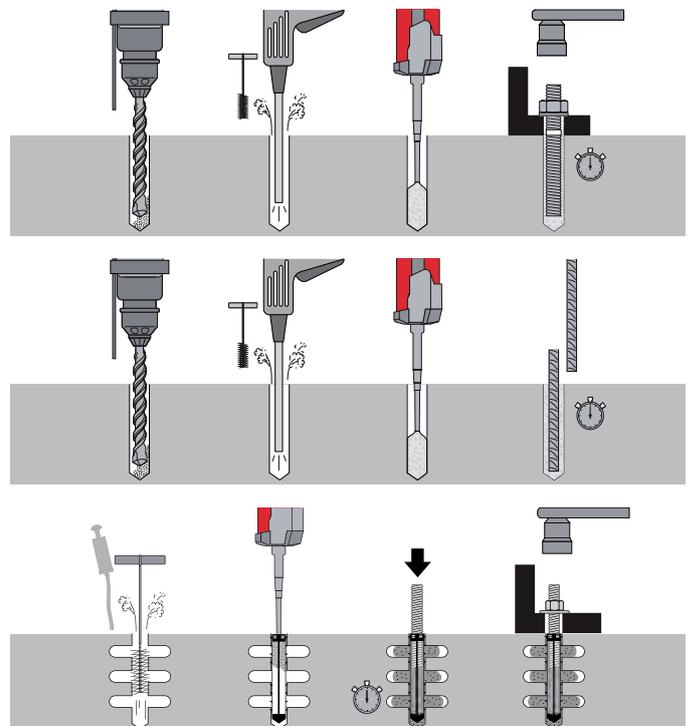
SAFEset	No
Material composition	Hybrid urethane methacrylate adhesive
Seismic	No
In-service temperature – range	-40 - 72 °C
IBC compliance	IBC 2006, IBC 2009
Additional product information	No



Approvals

ETA | ETA-09/0265 for HIT-HY70 concrete (ETAG 001-5, Option 7)

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



These are abbreviated instructions which may vary according to the application. Always observe/follow the instructions accompanying the product or refer to www.hilti.com/techlib.

Ordering designation	Package contents	Sales pack quantity	Item number
HIT-HY 70 330/2	1x Foil pack, 2x Mixer, 1x Mixer extension	1 pc	383677

Dispenser HDE 500-A22



Applications

- Injection of Hilti HIT adhesive mortar for fastening anchor rods and rebars in concrete and masonry
- No need for external power source supply
- Serial fastenings and/or injection in deep holes

Advantages

- Dose adjustment knob for accurate and controlled dispensing
- Fast, easy foil pack loading
- High battery capacity (up to 100x500ml foil packs)



Technical data

Dispenser, setting tool, accessory, tester type

Dispensers

Ordering designation	Weight	Sales pack quantity	Item number
HDE 500 CB DISPENSER KIT		1 pc	3499078 ¹⁾
HDE 500-A22 box	2.2 kg	1 pc	2005630
HDE 500-A22 CR/CB cas	2.2 kg	1 pc	2005637
HDE 500-A22 empty	2.4 kg	1 pc	434724

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

Dispenser HDM



Applications

- Injection of Hilti HIT adhesive mortar for fastening anchor rods and rebars in concrete and masonry

Advantages

- Fast, easy foil pack loading

Technical data

Dispenser, setting tool, accessory, tester type

Dispensers, n/a

Ordering designation	Weight	Sales pack quantity	Item number
HDM 330 CB DISPENSER KIT		1 pc	3499082 ¹⁾
HDM 330 CB CARDBOARD BOX		1 pc	3499103 ¹⁾
HDM 500 CB DISPENSER KIT (2060870 W/ACC)		1 pc	3499081
HDM 330 cas		1 pc	2060429
HDM 500 cas		1 pc	2060870
HDM 330 box	1.5 kg	1 pc	2005640
HDM 500 box	1.8 kg	1 pc	2005641

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

Accessories for blowing out drilled holes Hilti HIT



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
-------------------------------------------------	----------------------

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

Hilti HIT Profi accessories Air nozzle



Applications

- Clearing dust and debris from drilled holes under various conditions including where adhesive anchors are set at great depth

Technical data

Dispenser, setting tool, accessory, tester type	Cleaning accessories
-------------------------------------------------	----------------------

Advantages

- Fast, effective cleaning of drilled holes

Ordering designation	Drill hole diameter	Sales pack quantity	Item number
Air nozzle HIT-DL 20	20 mm	1 pc	371719 ¹⁾
Air nozzle HIT-DL 25	25 mm	1 pc	371720 ¹⁾
Air nozzle HIT-DL 32	32 mm	1 pc	371721 ¹⁾

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

Accessories for using brushes to clean holes Hilti HIT



Applications

- For the proper brushing of drilled holes of varying diameters and embedment depths

Technical data

Dispenser, setting tool, accessory, tester type	Cleaning accessories
-------------------------------------------------	----------------------

Ordering designation	Drill hole diameter	Sales pack quantity	Item number
Brush extension HIT-RBH		1 pc	229138 ¹⁾
Brush extension HIT-RBV		1 pc	238727 ¹⁾
Holder TE-Y		1 pc	263439 ¹⁾
Brush extension HIT-RBS 10/0.7		1 pc	336645 ¹⁾
Round brush 13 HG	12 mm	1 pc	229133
Round brush 18 HG	18 mm	1 pc	229134
Round brush 18 GA	18 mm	1 pc	229136 ¹⁾
Round steel brush HIT-RB 20	20 mm	1 pc	336552 ¹⁾
Round steel brush HIT-RB 25	25 mm	1 pc	336553 ¹⁾
Round brush 28 HG	28 mm	1 pc	229135
Round brush 28 GA	28 mm	1 pc	229137 ¹⁾
Round steel brush HIT-RB 30	30 mm	1 pc	380920 ¹⁾
Round brush 38 GA	38 mm	1 pc	229673 ¹⁾
Round steel brush HIT-RB 40	40 mm	1 pc	382260 ¹⁾
Round steel brush HIT-RB 47	47 mm	1 pc	382264 ¹⁾
Round brush 50 GA	50 mm	1 pc	229674 ¹⁾

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

Profi accessories for mortar injection Hilti HIT



Applications

- For injection of Hilti HIT adhesive mortars in a variety of situations including deep holes, overhead holes and in underwater applications

Advantages

- Injection pistons and flexible extension hoses help ensure consistent injection of the adhesive into the hole without formation of air voids

Technical data

Dispenser, setting tool, accessory, tester type	Mixing nozzles and injection accessories
--------------------------------------------------------	------------------------------------------

Ordering designation	Drill hole diameter	Sales pack quantity	Item number
Hose HIT-VL 11/1.0		10 pc	2042533 ¹⁾
Coupler VL-K		10 pc	335021 ¹⁾
Piston plug HIT-SZ 20	20 mm	10 pc	2039312 ¹⁾
Piston plug HIT-SZ 25	25 mm	10 pc	2039315 ¹⁾
Piston plug HIT-SZ 30	30 mm	10 pc	2039317 ¹⁾
Piston plug HIT-SZ 40	40 mm	10 pc	2039325 ¹⁾
Piston plug HIT-SZ 47	47 mm	10 pc	2039332 ¹⁾

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

Overhead cup



Technical data

Dispenser, setting tool, accessory, tester type	Mixing nozzles and injection accessories
--------------------------------------------------------	------------------------------------------

Ordering designation	Sales pack quantity	Item number
Drip guard HIT-OHC1	10 pc	387551
Drip guard HIT-OHC2	10 pc	387552
Wedge HIT-OHW	100 pc	387550

HIT Profi accessories (Glasses & empty cases)



Technical data

Dispenser, setting tool, accessory, tester type	Other accessories
--------------------------------------------------------	-------------------

Ordering designation	Sales pack quantity	Item number
Safety glasses	1 pc	5205 ¹⁾

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

Mixers and extensions Hilti HIT

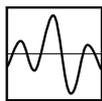


Technical data

Dispenser, setting tool, accessory,
tester typeMixing nozzles and injection
accessories

Ordering designation	Sales pack quantity	Item number
Mixer HIT-RE-M	1 pc	337111
Mixer HIT-M1 assy	100 pc	68156

Anchor rod (5.8 carbon steel) HIT-V-5.8



Approvals

ETA	(ETAG 001-05, Option 7)
	ETA-09/0265 for HIT-HY70 concrete (ETAG 001-5, Option 7)

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. 5 µm)
Material, corrosion	Steel, zinc-plated
Anchor type	Off-the-shelf rods
Approvals / test reports	ETA, Fire
Fire	Yes

Base materials

- Concrete (cracked)
- Concrete (uncracked)
- Masonry (solid)

Ordering designation	Anchor size	Drill bit diameter	Drilling depth	Base plate clearance hole	Sales pack quantity	Item number
HIT-V-5.8 M6x75	M6		60 mm	7 mm	20 pc	387144 ¹⁾
HIT-V-5.8 M6x105	M6		80 mm	7 mm	20 pc	387145 ¹⁾
HIT-V-5.8 M8x80	M8	10 mm	60 mm	9 mm	20 pc	387054 ¹⁾
HIT-V-5.8 M8x110	M8	10 mm	80 mm	9 mm	20 pc	387055
HIT-V-5.8 M10x95	M10	12 mm	90 mm	12 mm	10 pc	387057 ¹⁾
HIT-V-5.8 M10x130	M10	12 mm	90 mm	12 mm	10 pc	387058
HIT-V-5.8 M10x115	M10	12 mm	90 mm	12 mm	10 pc	387146 ¹⁾
HIT-V-5.8 M12x110	M12	14 mm	110 mm	14 mm	10 pc	387060 ¹⁾
HIT-V-5.8 M12x150	M12	14 mm	110 mm	14 mm	10 pc	387061
HIT-V-5.8 M12x120	M12	14 mm	110 mm	14 mm	10 pc	387147 ¹⁾
HIT-V-5.8 M16x150	M16	18 mm	125 mm	18 mm	5 pc	387064 ¹⁾
HIT-V-5.8 M16x200	M16	18 mm	125 mm	18 mm	5 pc	387065
HIT-V-5.8 M16x300	M16	18 mm	125 mm	18 mm	5 pc	387066 ¹⁾
HIT-V-5.8 M20x180	M20	22 mm	170 mm	22 mm	5 pc	387068 ¹⁾
HIT-V-5.8 M20x260	M20	22 mm	170 mm	22 mm	5 pc	387069
HIT-V-5.8 M20x380	M20	22 mm	170 mm	22 mm	10 pc	387070 ¹⁾

Ordering designation	Anchor size	Drill bit diameter	Drilling depth	Base plate clearance hole	Sales pack quantity	Item number
HIT-V-5.8 M20x480	M20	22 mm	170 mm	22 mm	10 pc	387071
HIT-V-5.8 M24x300	M24	28 mm	210 mm	26 mm	5 pc	387072
HIT-V-5.8 M24x450	M24	28 mm	210 mm	26 mm	5 pc	387073

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

Anchor rod (8.8 carbon steel) HIT-V 8.8



Approvals

ETA	(ETAG 001-05, Option 7)
	ETA-09/0265 for HIT-HY70 concrete (ETAG 001-5, Option 7)

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. 5 µm)
Material, corrosion	Steel, zinc-plated
Anchor type	Off-the-shelf rods
Approvals / test reports	ETA, Fire
Fire	Yes

Base materials

- Concrete (cracked)
- Concrete (uncracked)
- Masonry (solid)

Ordering designation	Anchor size	Drill bit diameter	Drilling depth	Base plate clearance hole	Required tightening torque	Sales pack quantity	Item number
HIT-V-8.8 M8X150	M8	10 mm	80 mm	10 mm	10 Nm	20 pc	387056
HIT-V-8.8 M10X190	M10	12 mm	90 mm	12 mm	20 Nm	10 pc	387059
HIT-V-8.8 M12X220	M12	14 mm	110 mm	14 mm	40 Nm	10 pc	387062
HIT-V-8.8 M12X280	M12	14 mm	110 mm	14 mm	40 Nm	10 pc	387063
HIT-V-8.8 M16X380	M16	18 mm	125 mm	18 mm	80 Nm	5 pc	387067

8

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



Approvals

ETA	(ETAG 001-05, Option 7)
	ETA-09/0265 for HIT-HY70 concrete (ETAG 001-5, Option 7)

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, Fire
Fire	Yes

Base materials

- Concrete (cracked)
- Concrete (uncracked)
- Masonry (solid)

Ordering designation	Anchor size	Drill bit diameter	Drilling depth	Base plate clearance hole	Required tightening torque	Sales pack quantity	Item number
HIT-V-R M8X110	M8	10 mm	80 mm	9 mm	10 Nm	20 pc	387075
HIT-V-R M8X150	M8	10 mm	80 mm	9 mm	10 Nm	20 pc	387076
HIT-V-R M10X115	M10	12 mm	80 mm	12 mm	20 Nm	10 pc	387148¹⁾
HIT-V-R M10X95	M10	12 mm	90 mm	12 mm	20 Nm	10 pc	387077¹⁾
HIT-V-R M10X130	M10	12 mm	90 mm	12 mm	20 Nm	10 pc	387078
HIT-V-R M10X190	M10	12 mm	90 mm	12 mm	20 Nm	10 pc	387079
HIT-V-R M12X120	M12	14 mm	90 mm	14 mm	40 Nm	10 pc	387149¹⁾
HIT-V-R M12X110	M12	14 mm	110 mm	14 mm	40 Nm	10 pc	387080¹⁾

Ordering designation	Anchor size	Drill bit diameter	Drilling depth	Base plate clearance hole	Required tightening torque	Sales pack quantity	Item number
HIT-V-R M12X150	M12	14 mm	110 mm	14 mm	40 Nm	10 pc	387081
HIT-V-R M12X220	M12	14 mm	110 mm	14 mm	40 Nm	10 pc	387082
HIT-V-R M12X280	M12	14 mm	110 mm	14 mm	40 Nm	10 pc	387083
HIT-V-R M16X150	M16	18 mm	125 mm	18 mm	80 Nm	5 pc	387084 ¹⁾
HIT-V-R M16X200	M16	18 mm	125 mm	18 mm	80 Nm	5 pc	387085
HIT-V-R M16X300	M16	18 mm	125 mm	18 mm	80 Nm	5 pc	387086 ¹⁾
HIT-V-R M16X380	M16	18 mm	125 mm	18 mm	80 Nm	5 pc	387087
HIT-V-R M20X260	M20	22 mm	170 mm	22 mm	150 Nm	5 pc	387088
HIT-V-R M20X380	M20	22 mm	170 mm	22 mm	150 Nm	10 pc	387089 ¹⁾
HIT-V-R M20X180	M20	22 mm	170 mm	22 mm	150 Nm	5 pc	387150 ¹⁾
HIT-V-R M20X480	M20	22 mm	170 mm	22 mm	150 Nm	10 pc	387151
HIT-V-R M24X300	M24	28 mm	210 mm	26 mm	200 Nm	5 pc	387152
HIT-V-R M24X450	M24	28 mm	210 mm	26 mm	200 Nm	5 pc	387153

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

Composite mesh sleeve HIT-SC



Technical data

Material composition	Plastic
Material, corrosion	Plastic
Anchor type	Mesh sleeve
Installation direction	All

Base materials

- Concrete (hollow deck)
- Drywall
- Masonry (hollow)
- Masonry (hollow CMU)
- Masonry (multiple-wythe brick/ unreinforced masonry)

Ordering designation	Anchor size	Drill bit diameter	Drilling depth	Sales pack quantity	Item number
HIT-SC 12X50	12	12 mm	60 mm	20 pc	375979 ¹⁾
HIT-SC 12X85	12	12 mm	95 mm	20 pc	375980 ¹⁾
HIT-SC 16X50	16	16 mm	60 mm	20 pc	375981
HIT-SC 16X85	16	16 mm	95 mm	20 pc	375982 ¹⁾
HIT-SC 18x50	18	18 mm	60 mm	20 pc	360485 ¹⁾
HIT-SC 18x85	18	18 mm	95 mm	20 pc	360486 ¹⁾
HIT-SC 22x85	22	22 mm	95 mm	10 pc	284511 ¹⁾

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

Hilti HIT-HY 70 injection mortar for masonry

Injection mortar system	Benefits
<p>Hilti HIT-HY 70 330 ml foil pack (also available as 500 ml and 1400 ml foil pack)</p> <p>Mixer</p> <p>HIT-V rod</p> <p>HAS-E rod</p> <p>HIS-RN sleeve</p> <p>HIT-SC composite sleeve</p>	<ul style="list-style-type: none"> - chemical injection fastening for all type of base materials: <ul style="list-style-type: none"> - hollow and solid - clay bricks, sand-lime bricks, normal and light weight concrete blocks, aerated light weight concrete, natural stones - two-component hybrid mortar - rapid curing - versatile and convenient handling - flexible setting depth and fastening thickness - small edge distance and anchor spacing - mortar filling control with HIT-SC sleeves - suitable for overhead fastenings - in-service temperatures: <ul style="list-style-type: none"> short term: max. 120°C long term: max 72°C

	Concrete embedment depth		Variable embedment depth		Solid brick		Hollow brick		Autoclaved aerated concrete		Fire resistance		A4 316		HCR		PROFIS Anchor design software
--	--------------------------	--	--------------------------	--	-------------	--	--------------	--	-----------------------------	--	-----------------	--	--------	--	-----	--	-------------------------------

Approvals / certificates

Description	Authority / Laboratory	No. / date of issue
Allgemeine bauaufsichtliche Zulassung (national German approval)	DIBt, Berlin	Z-21.3-1830 / 2009-01-20
Fiche technique SOCOTEC ^(a)	SOCOTEC, Paris	YX 0047 08.2006
Fire test report	MFPA, Leipzig	PB III/B-07-157 / 2007-06-04
Assessment report (fire)	warringtonfire	WF 166402 / 2007-10-26

Basic loading data (for a single anchor)

All data in the table below applies to

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

Recommended loads F_{rec} for brick breakout and pull out in [kN]:

Solid masonry: HIT-HY 70 with HIT-V, HAS, HAS-E

Anchor size	HIT-V, HAS, HAS-E			
	M6	M8	M10	M12
Base material	Setting depth [mm]	80	80	80
Solid sand-lime brick KS 12/2.0 DIN 106/ EN 771-2 $f_b^{b)} \geq 12 \text{ N/mm}^2$ Germany, Austria, Switzerland	80	80	80	80

a) Recommended load values for German base materials are based on national regulations.

b) f_b = brick strength

c) Values only valid for Mz (DIN 105) with brick strength $\geq 29 \text{ N/mm}^2$, density 2.0 kg/dm^3 , minimum brick size NF (24.0cm x 11.5cm x 7.1cm), not covered by national German approval Z-21.3-1830 / 2009-01-20

d) Values only valid for KS (DIN 106) with brick strength $\geq 23 \text{ N/mm}^2$, density 2.0 kg/dm^3 , minimum brick size NF (24.0cm x 11.5cm x 7.1cm), not covered by national German approval Z-21.3-1830 / 2009-01-20

Recommended loads F_{rec} for brick breakout and pull out in [kN]:

Solid masonry: HIT-HY 70 with HIT-V, HAS, HAS-E

Anchor size Base material	Setting depth [mm]	HIT-V, HAS, HAS-E				
		M6	M8	M10	M12	
Aerated concrete PPW 2-0.4 DIN 4165/ EN 771-4 $f_b^{b)} \geq 2 \text{ N/mm}^2$  Germany, Austria, Switzerland	80	-	0.5	0.6	0.6	
			N_{rec} [kN]			
Lightweight concrete acc. TGL (haufwerks- poriger Leichtbeton), Germany	80	-	0.1	0.1	0.2	
			V_{rec} [kN]			
		-	1.0	1.0	1.5	
			N_{rec} [kN]			
		-	1.0	1.0	1.5	
			V_{rec} [kN]			

a) Recommended load values for German base materials are based on national regulations.

b) f_b = brick strength

Recommended loads F_{rec} for brick breakout and pull out in [kN]:

Hollow masonry: HIT-HY 70 with HIT-SC and HIT-V, HAS, HAS-E

Anchor size Base material	Setting depth [mm]	HIT-V, HAS, HAS-E				
		M6	M8	M10	M12	
Concrete Block EN 771-3 $f_b^{b)} \geq 7.0 \text{ N/mm}^2$ $L \times H \times B$ [mm] 440 x 215 x 215  (Shell thickness 48 mm) Great Britain	50	0.3	0.8	1.1	2.0	
		N_{rec} [kN]				
		1.0	1.6	2.0	2.0	
		V_{rec} [kN]				
Concrete Block EN 771-3 $f_b^{b)} \geq 7 \text{ N/mm}^2$ $L \times H \times B$ [mm] 440 x 215 x 138  (Shell thickness 48 mm) Great Britain	50	0.4	0.6	0.7	1.5	
		N_{rec} [kN]				
		0.9	1.7	1.7	1.7	
		V_{rec} [kN]				
Concrete Block EN 771-3 $f_b^{b)} \geq 7 \text{ N/mm}^2$ $L \times H \times B$ [mm] 440 x 215 x 112  (Shell thickness 48 mm) Great Britain	80	0.4	0.6	0.7	1.5	
		N_{rec} [kN]				
		0.9	1.7	1.7	1.7	
		V_{rec} [kN]				
		0.5	0.8	0.9	0.9	
		N_{rec} [kN]				
		1.1	1.3	1.3	2.0	
		V_{rec} [kN]				

a) Recommended load values with consideration of a global safety factor $\gamma_{global} = 3.0$: $F_{rec} = F_{Rk} / \gamma_{global}$

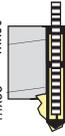
b) f_b = brick strength

c) HIT-SC 18x ... with HIT-IC M10 only! HIT-IG M10 elements do not fit.

Recommended loads F_{rec} for brick breakout and pull out in [kN]:

Hollow masonry: HIT-HY 70 with HIT-SC and HIT-V, HAS, HAS-E and HIT-IG/HIT-IC

Values in brackets: mean ultimate loads $F_{u,m}$ [kN]:

Anchor size	HIT-V, HAS, HAS-E				
	M6	M8	M10	M12	HIT-SC 22x...
Concrete block $f_b^{b)} \geq 23 \text{ N/mm}^2$ $L \times H \times B$ [mm] 390 x 190 x 120  Japan (Shell thickness 25 mm)	N_{rec} [kN]	1,25 (8,1)	1,5	1,5	2,0 (10,9)
	V_{rec} [kN]	1,25 (6,7)	1,5 (11,4)	1,5	2,0 (17,2)
	N_{rec} [kN]	1,25 (9,0)	1,5 (10,3)	1,5	2,0
	V_{rec} [kN]	1,25 (7,1)	1,5	1,5	2,0
Spancrete (Hollow Core Slab) $f_b^{b)} \geq 83 \text{ N/mm}^2$ $L \times H \times B$ [mm] 1000 x 1000 x 125  Japan (Shell thickness 27,5 mm)	N_{rec} [kN]	1,25 (8,5)	2,0 (15,0)	2,0	2,5 (23,7)
	V_{rec} [kN]	1,25 (7,0)	2,5 (12,0)	2,5	3,0 (24,3)
Aerated concrete block $f_b^{b)} \geq 6 \text{ N/mm}^2$ $L \times H \times B$ [mm] 1900 x 600 x 100 Special application: through fastening HIT-SC HIT-SC ...x85 ...x50  Japan 100	N_{rec} [kN]	1,25 (8,1)	1,75 (8,6)	1,75	2,0 (9,9)
	V_{rec} [kN]	0,75 (6,3)	1,00 (9,2)	1,00	1,25 (12,8)

a) Recommended load values with consideration of a global safety factor $\gamma_{global} = 3,0$: $F_{rec} = F_{Rk} / \gamma_{global}$

b) f_b = brick strength

c) HIT-SC 18x ... with HIT-IC M10 only! HIT-IG M10 elements do not fit.

Recommended loads F_{rec} for brick breakout and pull out in [kN]

Solid masonry: HIT-HY 70 with HIT-V, HAS, HAS-E and HIT-IG / HIT-IC

Values in brackets: mean ultimate loads $F_{u,m}$ [kN]:

Anchor size	HIT-V, HAS, HAS-E			
	M6	M8	M10	M12
Aerated concrete block $f_b^{b)} \geq 6 \text{ N/mm}^2$ $L \times H \times B$ [mm] 1900 x 600 x 100  Japan	N_{rec} [kN]	-	-	0,75
	V_{rec} [kN]	-	-	1,0
	N_{rec} [kN]	-	-	1,5 (7,3)
	V_{rec} [kN]	-	-	0,75 (4,2)

a) Recommended load values with consideration of a global safety factor $\gamma_{global} = 3,0$: $F_{rec} = F_{Rk} / \gamma_{global}$

b) f_b = brick strength

Design

Influence of joints:

- If the joints of the masonry are not visible the recommended load N_{rec} has to be reduced with the factor $\alpha_j = 0.75$.
- If the joints of the masonry are visible (e.g. unplastered wall) following has to be taken into account:
- The recommended load N_{rec} may be used only, if the wall is designed such that the joints are to be filled with mortar.
 - If the wall is designed such that the joints are not to be filled with mortar then the recommended load N_{rec} may be used only, if the minimum edge distance c_{min} to the vertical joints is observed. If this minimum edge distance c_{min} can not be observed then the recommended load N_{rec} has to be reduced with the factor $\alpha_j = 0.75$.

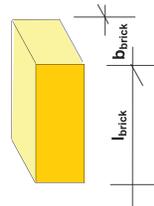
The decisive resistance to tension loads is the lower value of N_{rec} (brick breakout, pull out) and $N_{max,pb}$ (pull out of one brick).

Pull out of one brick:

The allowable load of an anchor or a group of anchors in case of pull out of one brick, $N_{max,pb}$ [kN], is given in the following tables:

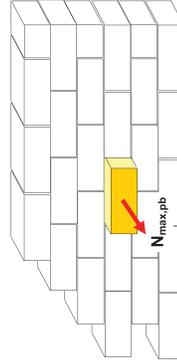
$N_{max,pb}$ [kN]	brick breadth b_{brick} [mm]					
	80	120	200	240	300	360
240	1,1	1,6	2,7	3,3	4,1	4,9
300	1,4	2,1	3,4	4,1	5,1	6,2
500	2,3	3,4	5,7	6,9	8,6	10,3

$N_{max,pb}$ = resistance for pull out of one brick
 l_{brick} = length of the brick
 b_{brick} = breadth of the brick



All other brick types:

$N_{max,pb}$ [kN]	brick breadth b_{brick} [mm]					
	80	120	200	240	300	360
240	0,8	1,2	2,1	2,5	3,1	3,7
300	1,0	1,5	2,6	3,1	3,9	4,6
500	1,7	2,6	4,3	5,1	6,4	7,7



For all applications outside of the above mentioned base materials and / or setting conditions site tests have to be made for the determination of load values.
 Due to the wide variety of natural stones site tests have to be made for determine of load values.

Materials

Material quality HAS

Part	Material
Threaded rod HAS-(E)	Strength class 5.8, EN ISO 898-1, $A_3 > 8\%$ ductile steel galvanized $\geq 5 \mu\text{m}$, EN ISO 4042
Threaded rod HAS-(E)R	Stainless steel grade A4, $A_3 > 8\%$ ductile strength class 70, EN ISO 3506-1, EN 10088; 1.4401; 1.4404; 1.4578; 1.4571; 1.4439; 1.4362
Washer ISO 7089	Steel galvanized, EN ISO 4042; Stainless steel, EN 10088; 1.4401; 1.4404; 1.4578; 1.4571; 1.4439; 1.4362
Nut EN ISO 4032	Strength class 8, ISO 898-2 steel galvanized $\geq 5 \mu\text{m}$, EN ISO 4042 Strength class 70, EN ISO 3506-2, stainless steel grade A4, EN 10088; 1.4401; 1.4404; 1.4578; 1.4571; 1.4439; 1.4362 Strength class 70, EN ISO 3506-2, high corrosion resistant steel, EN 10088; 1.4529; 1.4565

Material quality sleeves

Part	Material
HIT-IG sleeve	Carbon steel 1.0718; galvanized to min. 5 μm
HIT-IC sleeve	Carbon steel; galvanized to min. 5 μm
HIT-SC sleeve	PA/PP

Setting

Installation equipment

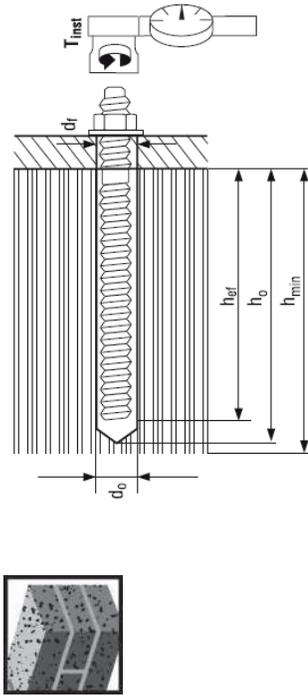
Anchor size	M6	M8	M10	M12
Rotary hammer	TE2 – TE16			
Other tools	blow out pump, set of cleaning brushes, dispenser			

Setting instruction in solid base materials



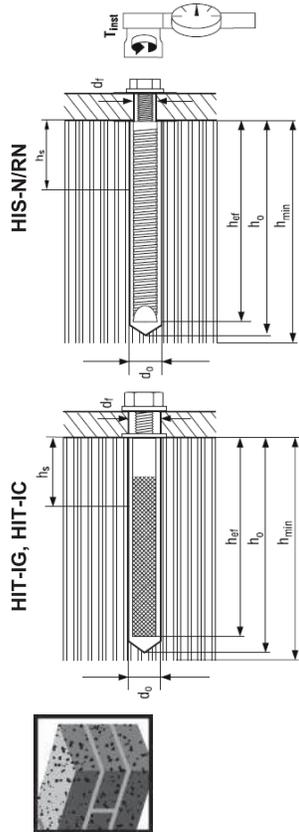
Step	Temperature (°C)	Temperature (°F)	Setting Time (t _{gel})	Load Time (t _{load})
15	23	73	10 min	6 h
15	32	90	10 min	4 h
15	41	105	10 min	2.5 h
15	50	122	7 min	1.5 h
15	68	158	4 min	45 min
15	86	187	2 min	30 min
15	104	217	1 min	20 min

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



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

a) In case of shear loads towards a free edge: $c_{min} = 200$ mm
 A distance from the edge of a broken brick of $c_{min} = 200$ mm is recommended, e.g. around window or door frames.



Setting details HIT-IG, HIT-IC

Anchor size	HIT-IG			HIT-IC			HIS-N/RN		
	M8	M10	M12	M8	M10	M12	M8	M10	M12
Nominal diameter of drill bit	14	18	18	14	16	18	14	18	22
Effective anchorage depth	80	80	80	80	80	80	90	110	125
Hole depth	85	85	85	85	85	85	95	115	130
Minimum base material thickness	115	115	115	115	115	115	120	150	170
Diameter of clearance hole in the fixture	9	12	14	9	12	14	9	12	14
Length of bolt engagement	min. 10 – max. 75			min. 10 – max. 75			min. 8 min. 10 min 12 max.20 max.25 max.30		
Minimum spacing ^{a)}	100	100	100	100	100	100	100	100	100
Minimum edge distance ^{b)}	100	100	100	100	100	100	100	100	100
Torque moment	5	8	10	5	8	10	5	8	10
Filling volume	6	6	6	6	6	6	6	10	16

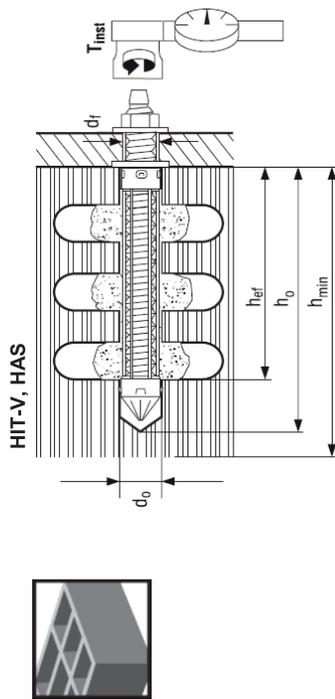
a) In case of shear loads towards a free edge: $c_{min} = 20\text{ cm}$
 A distance from the edge of a broken brick of $c_{min} = 20\text{ cm}$ is recommended, e.g. around window or door frames.

Setting instruction in hollow base material – using 330 ml foil pack



15	°F	°C	t _{typ}	t _{max}
	23	-5	10 min	6 h
	32	0	10 min	4 h
	41	5	10 min	2.5 h
	50	10	7 min	1.5 h
	68	20	4 min	45 min
	86	30	2 min	30 min
	104	40	1 min	20 min

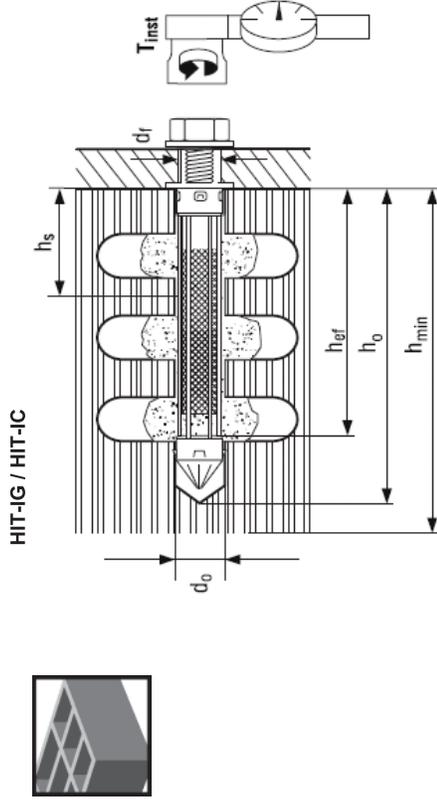
Setting details: hole depth h_0 and effective anchorage depth in hollow base materials
HAS / HIT-AC with HIT-SC



Setting details HIT-V / HAS / HIT-A... with sieve sleeve

Anchor size	M6		M8		M10		M12	
	12x50	12x85	16x50	16x85	16x50	16x85	18x50	18x85
Sieve sleeve HIT SC								
Nominal diameter of drill bit	12	16	16	16	16	16	18	22
Effective anchorage depth	50	80	50	80	50	80	50	80
Hole depth	60	95	60	95	60	95	60	95
Minimum base material thickness	80	115	80	115	80	115	80	115
Diameter of clearance hole in the fixture	7	9	9	12	12	14	14	14
Minimum spacing ^{a)}	100	100	100	100	100	100	100	100
Minimum edge distance ^{a)}	100	100	100	100	100	100	100	100
Torque moment	3	3	3	4	4	4	6	6
Filling volume	12	24	18	30	18	30	18	36
								30
								45

Setting details: hole depth h_0 and effective anchorage depth in hollow base materials
HIT-IG / HIT-IC with HIT-SC



Setting details HIT-IG / HIT-IC with sieve sleeve

Anchor size	HIT-IG			HIT-IC		
	M8	M10	M12	M8	M10	M12
Sieve sleeve HIT SC						
Nominal diameter of drill bit	16x85	22x85	22x85	16x85	18x85	22x85
Effective anchorage depth	16	22	22	16	18	22
Hole depth	80	80	80	80	80	80
Minimum base material thickness	95	95	95	95	95	95
Diameter of clearance hole in the fixture	115	115	115	115	115	115
Length of bolt engagement	9	12	14	9	12	14
Minimum spacing ^{a)}	min. 10 – max. 75					
Minimum edge distance ^{a)}	min. 10 – max. 75					
Torque moment	3	4	6	3	4	6
Filling volume	30	45	45	30	36	45

a) In case of shear loads towards a free edge: $c_{min} = 20$ cm

A distance from the edge of a broken brick of $c_{min} = 20$ cm is recommended, e.g. around window or door frames.

Hilti Injection Technique HIT HY70 + thread rod or sleeve in hollow brick system

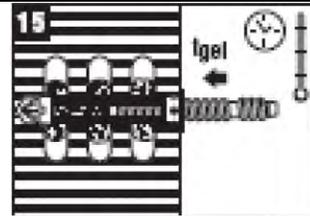
Material : Anchor rod : HIT-V/VR
 Threaded sleeve: HIT-IG
 Composite sleeve: HIT-SC
 Mortar cartridge : HIT HY70
 Dispenser : MD2000, MD2500, ED3500
 Reference : Hilti Fastening Technical Manual or Product Catalogue

Setting Operation:	
<p>1. Drill the hole with or without hammering to the dimension according to the installation details.</p>	
<p>2. Clean the drilled hole thoroughly by using the blow-pump & brushes. The hole should be free from water, or otherwise, the ultimate load will be reduced.</p>	
<p>3. Fit centering cap to composite sleeve (HIT-SC) body.</p> <p>If more than one composite sleeve (HIT-SC) is needed, simply connect an outer composite sleeve (HIT-SC) to an inner composite sleeve (HIT-SC).</p>	

<p>4. Insert sleeves into bore holes.</p>	
<p>5. Open the HIT HY70 cartridge cap, insert it into the holder and screw the mixer on it.</p>	
<p>6. Put the HIT HY70 cartridge into the dispenser.</p>	
<p>7. Throw away first 3 (for 500ml) or 2 (for 330ml) trigger pulls. Release dispenser to stop the grout flowing.</p>	
<p>8. Stick mixer tip through bottom of outer sleeve, fill sleeve with mortar.</p> <p>Set mixer tip at centering cap; fill outer composite sleeve with mortar until mortar escapes at centering cap (filling control)</p>	

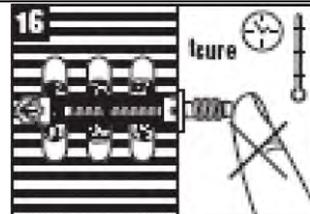
9. Push fastening elements into mortar filled composite sleeve; observe working time “t_{gel}”.

15	°F	°C	t _{gel} ⌚
	23	-5	10 min
	32	0	10 min
	41	5	10 min
	50	10	7 min
	68	20	4 min
	86	30	2 min
	104	40	1 min

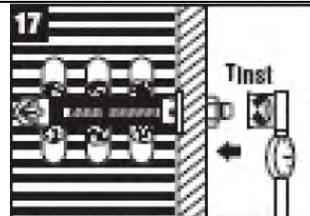


10. Do not touch or put load to the fastening element, until curing time “t_{cure}” has passed.

16	°F	°C	t _{cure} ⌚
	23	-5	6 h
	32	0	4 h
	41	5	2.5 h
	50	10	1.5 h
	68	20	45 min
	86	30	30 min
	104	40	20 min

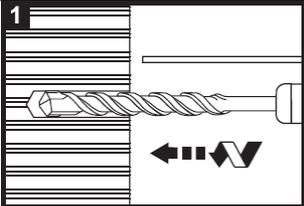
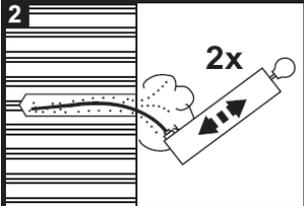
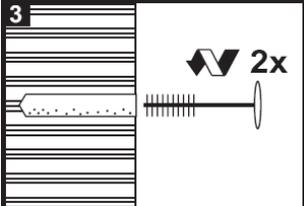
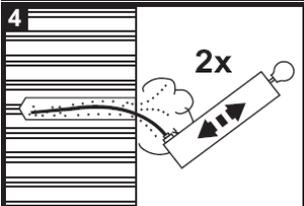
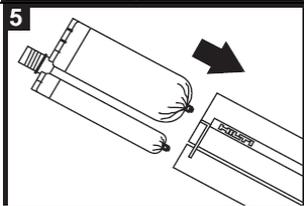
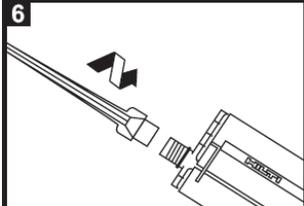


11. A load or tightening torque may be applied.



Hilti Injection Technique HIT HY70 + thread rod or sleeve in solid brick system

Material : Anchor rod : HIT-V/VR
Threaded sleeve: HIT-IG, HIS-N/RN
Mortar cartridge : HIT HY70
Dispenser : MD2000, MD2500, ED3500
Reference : Hilti Fastening Technical Manual or Product Catalogue

Setting Operation:	
1. Drill the hole with or without hammering to the dimension according to the installation details.	
2. Clean the drilled hole thoroughly by using the blow-pump & brushes. The hole should be free from water, or otherwise, the ultimate load will be reduced.	
	
	
3. Open the HIT HY70 cartridge cap, insert it into the holder and screw the mixer on it.	
	

<p>4. Put the HIT HY70 cartridge into the dispenser.</p>																											
<p>5. Throw away first 3 (for 500ml) or 2 (for 330ml) trigger pulls. Release dispenser to stop the grout flowing.</p>																											
<p>6. Fill the hole without trapping air.</p>																											
<p>7. Push fastening elements into mortar filled bore hole; observe working time "t_{gel}".</p> <table border="1" data-bbox="500 951 779 1228"> <thead> <tr> <th>15</th> <th>°F</th> <th>°C</th> <th>t_{gel}</th> </tr> </thead> <tbody> <tr> <td rowspan="7"></td> <td>23</td> <td>-5</td> <td>10 min</td> </tr> <tr> <td>32</td> <td>0</td> <td>10 min</td> </tr> <tr> <td>41</td> <td>5</td> <td>10 min</td> </tr> <tr> <td>50</td> <td>10</td> <td>7 min</td> </tr> <tr> <td>68</td> <td>20</td> <td>4 min</td> </tr> <tr> <td>86</td> <td>30</td> <td>2 min</td> </tr> <tr> <td>104</td> <td>40</td> <td>1 min</td> </tr> </tbody> </table>	15	°F	°C	t _{gel}		23	-5	10 min	32	0	10 min	41	5	10 min	50	10	7 min	68	20	4 min	86	30	2 min	104	40	1 min	
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Hilti (Hong Kong) Limited
17/F, Tower 6,
China Hong Kong City,
33 Canton Road,
Tsimshatsui,
Kowloon.

4 June, 1997

Attention: Mr. Denny Wu

Dear Sir,

Procedures for building materials submission

I refer to your letter dated 19 May, 1997 concerning the above.

2. Please be advised that there is no provision under the Buildings Ordinance for the Building Authority to approve any proprietary building products. Under the Buildings Ordinance, authorized persons and/or registered structural engineers are required to supervise building works including the selection and installation of proprietary building products and to certify compliance with the Buildings Ordinance upon completion of works. They are therefore responsible for ensuring the health and structural safety requirements, inter alia, of these building products in the building projects which they have been appointed by the developer to co-ordinate and supervise. It is also their responsibility to ensure these products have been installed in accordance with the manufacturers' specifications and complied with the Buildings Ordinance and Regulations.
3. In establishing the acceptability of the proprietary products in building works, reference may be made to the performance standards laid down in Building (Construction) Regulations 1990 and the current Practice Note for Authorized Persons and Registered Structural Engineers 140 in which performance requirements for compliance are given. Reliance may also be placed on the test/assessment report prepared by a recognized laboratory or an equivalent establishment.
4. Before the proprietary products are installed in a building project, the authorized person and/or registered structural engineer appointed for the project should be approached by the manufacturers or their agents for advice and guidance. **Prior approval/acceptance from the Buildings Department is not required.**
5. Generally, all relevant information supporting the use of the proprietary products in building works under the Buildings Ordinance should be submitted associated with the prescribed plans for approval on project basis.

/ Notwithstanding....

- 2 -

6. Notwithstanding the above, the proprietary building products to which 'No objection' letters have been given are still recognized as accepted constructional materials to be used in building works under the Buildings Ordinance provided that all conditions specified in the letters are satisfied. You are informed that the procedures currently adopted by the Building Authority for processing statutory approval of plans which involve the use of these proprietary building products remain unchanged.

7. It is a fact that the 'No objection' letter giving general acceptance to a proprietary building product is based on the technical information submitted to this Department at the time of its application. Should there be any significant modification to these technical information, the product will certainly be considered as 'new' product. The acceptability of such proprietary product in building works should be evaluated by the authorized person and/or registered structural engineer appointed for the project as mentioned above.

8. Should you have any further queries to the above, please feel free to contact the undersigned or Mr. T.C. Kan of this office at phone no. 2626 1583.

Yours faithfully,



(K.S. Chang)

Technical Secretary/Structural
for Building Authority

tck/



88 Empire Drive • St. Paul, Minnesota • 55103
 (651) 642-1150 • fax (651) 642-1239

VOC Content Test Certificate

Friday June 19, 2009

Supplier: Hilti Entwicklungsgesellschaft mbH
 BU Chemical Anchors
 Hiltistrasse 6
 86916 Kaufering
 GERMANY

Sample Description: Hilti HIT-HY 70

Date tested: May 2009

Test Method: SCAQMD method 304-91 Determination of Volatile Organic Compounds (VOC) in Various Materials as referenced by South Coast Air Quality Management District (SCAQMD) Rule 1168. The values also comply with the requirements of EPA test method #24.

Test Data:

Specification	Product
LEED 2009 (LEED 3.0) LEED 2.2 IEQ-4.1: Low-Emitting Materials – Adhesives and Sealants	Hilti HIT-HY 70
Green Building Council of Australia Green Star Office Design 3.0, IEQ-13 Green Star Office Design 2.0, IEQ-13 Green Star Office Interiors 1.1, IEQ-11	
Multipurpose Construction Adhesives; VOC Limit: 70 g/L	
Product contains: 36 g/L of VOC	

William Welbes
 Vice President of Laboratory Operations

Allen Noreen, Ph.D.
 Technical Director

Attn. : To whom it may concern

Date : 5 September 2011

Ref. : LE/TC/303/08

Subject : Hilti HIT-HY70 Injection Adhesive

Dear Sirs / Madams,

Enclosed please find the information of Hilti HIT-HY 70 Injection Adhesive

Brand Name : Hilti
Model Name : Hilti HIT-HY 70
Manufacturer : Hilti Corporation
Address of Manufacturer : FL-9494, Principality of Liechtenstein
Supplier : Hilti (Hong Kong) Limited
Address of Supplier : 701-704, 7/F, Tower A, Manulife Financial Centre, 223
Wai Yip Street, Kwun Tong, Kowloon, Hong Kong
Country of Origin : Germany

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

Yours sincerely,
Hilti (Hong Kong) Limited



Alan Lee
Marketing Manager

1 Identification of substance:

- **Product details:**
- **Trade name:** **Hilti HIT-HY 70**
- **Container size** 330 ml, 500 ml, 1400 ml
- **Application of the substance / the preparation** Adhesive mortar for anchor and rebar fastenings in solid and hollow masonry
- **Manufacturer/Supplier:**
 Hilti (Gt. Britain) Ltd.
 1 Trafford Wharf Road
 Trafford Park
 GB-M17 1BY Manchester M17 1 BY
 Tel: +44 161 886 1000 / 0800 886 100 Toll-free
 Fax +44 161 872 1240 / 0800 886 200 Toll-free
- **Informing department:** see section 16
- **Emergency information:**
 Tel. 0044 161/886 1000
 Fax. 0044 161 / 872 1240
 Schweizerisches Toxikologisches Informationszentrum - 24 h Service
 Tel.: 0041 / 1 251 51 51 (international)

2 Composition/Data on components:

- **Chemical characterization**
- **Description:**
 2-Component-foilpack, contains:
 Component A: Urethane methacrylate resin, inorganic filler
 Component B: Dibenzoyl peroxide, phlegmatized
 Mixture of the substances listed below with harmless additions.

· Dangerous components:			
CAS: 923-26-2 EINECS: 213-090-3	2-hydroxypropyl methacrylate	 Xi; R 36-43	2.5-10%
CAS: 43048-08-4	Tricyclodecane dimethanol dimethacrylate	 Xi; R 36/38	2-5%
CAS: 3290-92-4 EINECS: 221-950-4	propylidynetrimethyl trimethacrylate	 Xi; R 36/38	2-5%
CAS: 94-36-0 EINECS: 202-327-6	dibenzoyl peroxide	 Xi,  E; R 2-7-36-43	5-10%

- **Additional information** For the wording of the listed risk phrases refer to section 16.

3 Hazards identification

- **Hazard designation:**



Xi Irritant
 O Oxidising

- **Information pertaining to particular dangers for man and environment**

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

- R 7 May cause fire.
- R 36/38 Irritating to eyes and skin.
- R 43 May cause sensitisation by skin contact.

- **Classification system**

The classification is in line with current EC lists. It is expanded, however, by information from technical literature and by information furnished by supplier companies.

4 First aid measures

- **General information** Instantly remove any clothing soiled by the product.
- **After inhalation** Take affected persons into the open air and position comfortably
- **After skin contact** Instantly wash with water and soap and rinse thoroughly.
- **After eye contact** Rinse opened eye for several minutes under running water. Then consult doctor.
- **After swallowing** Seek immediate medical advice.

5 Fire fighting measures

- **Suitable extinguishing agents** CO₂, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.
- **For safety reasons unsuitable extinguishing agents** Water with a full water jet.
- **Special hazards caused by the material, its products of combustion or resulting gases:**
 Formation of toxic gases is possible during heating or in case of fire.
 Can be released in case of fire
 Nitrogen oxides (NO_x)

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(Contd. of page 1)

- Carbon monoxide (CO)
- Carbon dioxide (CO₂)
- **Protective equipment:**
Wear self-contained breathing apparatus.
Do not inhale explosion gases or combustion gases.

6 Accidental release measures

- **Person-related safety precautions:**
Wear protective equipment. Keep unprotected persons away.
Wear protective clothing.
wearing gloves
- **Measures for environmental protection:** Do not allow to enter drainage system, surface or ground water.
- **Measures for cleaning/collecting:**
Clean the accident area carefully; suitable cleaners are:
organic solvent
Dispose of the material collected according to regulations.

7 Handling and storage

- **Handling**
- **Information for safe handling:**
The usual precautionary measures for handling chemicals must be observed.
Check the expiry date before use. See imprint on the converter part of foil pack.
- **Information about protection against explosions and fires:** No special measures required.
- **Storage**
- **Requirements to be met by storerooms and containers:** Store in a cool (+5°C to +25°C), dry and dark place only in the original packaging.
- **Information about storage in one common storage facility:** Store away from foodstuffs.
- **Further information about storage conditions:**
Store in a cool place.
Protect from heat and direct sunlight.

8 Exposure controls and personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Components with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the compilation were used as basis.
- **Personal protective equipment**
- **General protective and hygienic measures**
The usual precautionary measures should be adhered to general rules for handling chemicals.
Avoid contact with the eyes and skin.
Do not eat, drink or smoke while working.
Keep away from foodstuffs, beverages and food.
Wash hands during breaks and at the end of the work.
- **Breathing equipment:** Not required.
- **Protection of hands:**
Protective gloves.
Avoid direct contact with the chemical/ the product/ the preparation by organizational measures.
If only a short-term loading of the glove material by splashes is expected, tricoted gloves with higher wearability for the better acceptance of the users are recommended.
Use gloves of stable material (e.g. Nitrile) - if necessary tricoted to improve the wearability.
- **Material of gloves**
Nitrile rubber, NBR
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**
The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **For the permanent contact gloves made of the following materials are suitable:** Nitrile rubber, NBR
- **For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:** Nitrile rubber, NBR
- **As protection from splashes gloves made of the following materials are suitable:** Nitrile rubber, NBR
- **Not suitable are gloves made of the following materials:**
Leather gloves
Strong gloves
- **Eye protection:** Tightly sealed safety glasses.
- **Body protection:** Protective work clothing.

9 Physical and chemical properties:

· General Information

Form: Pasty

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Colour:	Light grey
Odour:	Ester-like
Change in condition	
Melting point/Melting range:	Not determined
Boiling point/Boiling range:	240°C
Flash point:	96°C
Decomposition temperature:	Component B: 60°C
Self-inflammability:	Product is not selfigniting.
Danger of explosion:	Product is not explosive.
Density at 20°C	1.70 g/cm ³ (DIN 51757)
Solubility in / Miscibility with Water:	Unsoluble
pH-value:	Component B: ~ 6
Viscosity:	
dynamic at 20°C:	~ 70 Pa.s (DIN 53788)
kinematic at 20°C:	> 20 s (DIN 53211/4)
Solvent content:	
Organic solvents:	0,0 %
Water:	Comp.B: ~ 30 %
Solids content:	~ 60 %

10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Dangerous reactions:** No dangerous reactions known
- **Dangerous products of decomposition:** No dangerous decomposition products known

11 Toxicological information

- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritant effect.
- **Sensitization:** Sensitization possible by skin contact.
- **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EC Classification Guidelines for Preparations as issued in the latest version:
Irritant

12 Ecological information:

- **Additional ecological information:**
- **According to recipe contains the following heavy metals and compounds according to EC guideline NO. 76/464 EC: ---**
- **General notes:** Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water.

13 Disposal considerations

- **Product:**
- **Recommendation**
For disposal, local regulations issued by the authorities must be observed. Dispose of liquid components at a suitable incineration plant. After curing, the product can be disposed of with household waste.

European waste catalogue

08 00 00	WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS
08 04 00	wastes from MFSU of adhesives and sealants (including waterproofing products)
08 04 09	waste adhesives and sealants containing organic solvents or other dangerous substances
20 00 00	MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS
20 01 00	separately collected fractions (except 15 01)
20 01 27	paint, inks, adhesives and resins containing dangerous substances

- **Uncleaned packagings:**
- **Recommendation:**
Used/empty foilpacks: national waste collection and recovery systems
Disposal must be made according to official regulations.
15 00 00: WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED
15 01 00: packaging (including separately collected municipal packaging waste)

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15 01 06: mixed packaging

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14 Transport information

- **Land transport ADR/RID (cross-border)**
- **ADR/RID-GGVS/E Class:** -
- **Remarks:** Not classified as dangerous goods in terms of the ADR

- **Maritime transport IMDG:**
- **IMDG Class:** -
- **Marine pollutant:** No
- **Remarks:** Not classified as dangerous goods as per above regulation.

- **Air transport ICAO-TI and IATA-DGR:**
- **ICAO/IATA Class:** -
- **Remarks:** Not classified as dangerous goods as per above regulation.

15 Regulatory information

- **Designation according to EC guidelines:** The product has been labelled in accordance with EC Directives / relevant national laws.
- **Code letter and hazard designation of product:**



Xi Irritant
O Oxidising

- **Hazard-determining components of labelling:**
dibenzoyl peroxide
2-hydroxypropyl methacrylate
 - **Risk phrases:**
7 May cause fire.
36/38 Irritating to eyes and skin.
43 May cause sensitisation by skin contact.
 - **Safety phrases:**
3 Keep in a cool place.
24/25 Avoid contact with skin and eyes.
26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
28 After contact with skin, wash immediately with plenty of soap and water.
36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
 - **National regulations**
Council Directive 89/391/EEC of 12 June 1989 on the introduction of measures to encourage improvements in the safety and health of workers at work. Article 12 Training of workers
 - **Information about limitation of use:** Employment restrictions concerning young persons must be observed.
 - **Technical instructions (air):**
- | Class | Share in % |
|-------|------------|
| I | <2,5 |
- **Water hazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.

16 Other information:

- These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.
- **Relevant R-phrases**
2 Risk of explosion by shock, friction, fire or other sources of ignition.
36 Irritating to eyes.
36/38 Irritating to eyes and skin.
43 May cause sensitisation by skin contact.
7 May cause fire.
 - **Department issuing data specification sheet:**
Hilti Entwicklungsgesellschaft mbH
Hiltistrasse 6
D-86916 Kaufering
Tel: +49 8191 90 6310
Fax: +49 8191 90 6826
 - **Contact:** Monika Mönch
 - *** Data compared to the previous version altered.**

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Date	Project Name	Contractor	Application
Project Type:ASD			
2011	Tamar Development	UNITED ANEX ENGINEERING LIMITED	Window frame fixing
2012	Kai Tak Development	CHIT FU WATER PIPES ENGINEERING	Plumbing & drainage fixing
2012	Kai Tak Development	PERFECT CITY ENGINEERING LTD	Plumbing & drainage fixing
2013	Kai Tak Development	COMPANION ENG CO LTD	Plumbing & drainage fixing
Project Type:Buildings			
2012	Pak Shek Kok Development	MARMOLES HK LTD	Stone cladding fixing
2014	Lok Wo Sha Complex Development 落禾沙綜合發展	HIP HING / EMAN	Electrical services fixing
Project Type:HKAA			
2011	Airport Development 機場主要發展	GOLDWAVE DESIGN & ENGINEERING CO	Hand rail fixing
2014	Airport Development 機場主要發展	GAMMON	Blockwork tie fixing
Project Type:Macau - Casino & Hotel			
2014	Galaxy Maga Resort銀河渡假村	恆裕	Fixing on steel structural
2015	City of Dreams Hotel Tower D 新濠天地酒店大樓D	Dragages	Curtain wall fixing
Project Type:Railway			
2012	Che Kung Temple Depot	HANG FAI CONSTRUCTION ENGINEERING	Stone cladding fixing
2012	Tuen Mun Station Development (TMTL 447)	TEAMBO METAL ENGINEERING LIMITED	Hand rail fixing
2013	Tuen Mun Station Development (TMTL 447)	SIMBEL LTD	Stone cladding fixing
2014	MTR - West Island Line 地鐵西港島線	MTRC	Steel beam/bracket fixing
2015	MTR - Express Rail Link 港深廣高速鐵路	MTRC	Glass wall fixing