

# HILTI

**Hilti Chemical  
Anchor  
Systems**



**High performance. Easy to install. Very versatile.**

**Hilti. Outperform. Outlast.**

## Applications

- Heavy duty fastenings into concrete.
- Wet applications.
- Ideal for dynamic loads.
- Suitable for small spacing and edge distance.

## Benefits

- Fast curing.
- Virtually odourless resin.
- Ideal for cored & drilled holes.
- High load capacity.
- Ideal for dynamic loads.
- Easy installation.
- Overhead applications.
- Fire rated.
- High bond strength.
- Elimination of expansion force in the base material.
- Good resistance to chemicals.
- Minimising work related injury due to absence of glass.
- Ideal for wet or damp applications.
- Minimum product damage in transport and storage due to foil packaging of capsules.
- No wastage, one capsule per hole.
- Wide installation temps (-5 to +40 deg C).

## HVU adhesive capsules.

Hilti HVU adhesive anchor is designed for concrete and hard stone\*. With very high load capacity, fast curing time and versatility in applications, HVU adhesive capsules can truly maximise efficiency whilst minimising downtime. HVU adhesive capsules can be used with HAS (external threaded rod) and HIS (internal threaded rod).



\* Natural stone applications subject to suitability and site testings.

## Curing time

Base material temperature	≥ + 20°C	≥ + 10°C	≥ + 0°C	≥ - 5°C
Time between setting and loading	20 min.	30 min.	1 hour	5 hours



Fire rating can provide more versatility.



Very easy to install in vertical, horizontal and even in irregular holes.



Very high load capacity.

Flexibility & safety due to plastic capsules



### Technical Data

For external thread HAS-E					For internal thread HIS-N/HIS-RN				
Hole depth h1 (mm)	Designation threaded rod	Hole diameter d1 (mm)	Nrec kN fc1cyl=20MPa	Vrec kN fc1cyl=20MPa	Designation internally threaded	Hole diameter d1 (mm)	Nrec* kN fc1cyl=20MPa	Vrec* kN fc1cyl=20MPa	Foil capsule size Designation HVU
80	HAS M8	10	7.8	5.6	–	–	–	–	HVU M8 x 80
90	HAS M10	12	11.8	9.0	HIS-N M8	14	8.7	6.3	HVU M10 x 90
110	HAS M12	14	17.0	13.1	HIS-N M10	18	13.8	9.9	HVU M12 x 110
125	HAS M16	18	24.8	24.7	HIS-N M12	22	20.1	14.5	HVU M16 x 125
170	HAS M20	24	44.9	38.6	HIS-N M16	28	37.4	26.9	HVU M20 x 170
210	HAS M24	28	64.7	55.6	HIS-N M20	32	58.6	42.0	HVU M24 x 210
270	HAS M30	35	104.0	142.4	–	–	–	–	HVU M30 x 270
330	HAS M36	40	145.2	208.2	–	–	–	–	HVU M36 x 330

\*Loads using grade 5.8 bolt.      Nrec=Recommended working load in tension      Vrec=Recommended load in shear      fc1cyl=20MPa concrete



High performance in core drilled holes with smooth hole surface.



Excellent ability to carry dynamic loads.



Comprehensive technical software, engineering support and site testing.

**Applications**

- Fastening in old or new concrete and natural stone.\*
- Horizontal, vertical and overhead applications.
- Construction joints and structural extensions.
- Starter bars.
- Internal & External threaded rods.
- Floor slabs and temporary openings.
- New columns and piers.
- Structural enhancement.
- Bridge/parapet renovation.

**Benefits**

- Very high load capacity.
- Ideal for cored holes.
- Reinforcing bars ranging from N10-N40 (Up to 80mm diameter).
- Low sensitivity to oversize, dusty and wet holes.
- System for optimal productivity and efficiency.
- Foil packs can be almost completely emptied, less wastage.
- Red colour adhesive for easy inspection and proper setting on site.
- Comprehensive technical software for effective fastening design.
- Wide installation temperatures (-5 to +40 deg C).

# HIT-RE 500 High Performance Injection System.

Hilti HIT-RE 500 is high performance adhesive primarily for anchoring reinforcing bars of different diameters. The exceptional ease of use, longer working/gel time and wide installation temperature range (-5 to +40 deg C), allows more time for optimised setting of rebars. This makes HIT-RE 500 truly a reliable and versatile fastening system that can further increase productivity, efficiency and decrease downtime.



\* Natural stone applications subject to suitability and site testings.

Base material temperature	Gel time	Curing time before rebar can be fully loaded
40°C	12 min.	4 hours
30°C	20 min.	8 hours
20°C	30 min.	12 hours
10°C	2 hours	24 hours
0°C	3 hours	50 hours
-5°C	4 hours	72 hours



High performance in core drilled holes with smooth hole surface.



Good performance with tolerance to dusty and oversize holes.



Red colour adhesive for easy inspection and proper setting allows higher productivity and reduces downtime.



**Extremely low wastage**



**Technical Data**

Embedment depth details & loading criteria are available by contacting your local Hilti Engineer.

Bar size (mm)	N10	N12	N16	N20	N24	N28	N32	N36	N40
Drill bit dia. (mm)	12-14	16-18	20-22	25-28	29-32	34-37	39-42	44-46	48-50



Very easy to install in vertical and horizontal holes.



Very high load capacity.



Comprehensive technical software and engineering support.

## Applications

- Fastening in concrete, solid masonry and hard stone.\*
- Wide range of connections.
- Suitable for small spacing and edge distance.

## Benefits

- Fire rated.
- Quick curing.
- Suitable for dry and wet drilled holes.
- Versatility in types of fastenings installed and base material.
- Foil pack can be completely emptied hence minimising wastage.
- Easy and accurate dispensing of adhesive.
- Mixture provides accurate mixing of adhesive components.
- User friendly system.
- For indoor and outdoor application.
- Odourless: no styrene or plasticizers, can be used in confined areas.
- No expansion force in the base material.
- Wide installation temperatures (-5 to +40 deg C).

## HIT-HY 150 Fast Curing Injection System.

Hilti HIT-HY 150 is hybrid adhesive for use in concrete. It offers high bond strength and it can be easily installed under wide temperatures ranging from -5 to + 40 deg C. The exceptional ease of use of this reliable, fast curing fastening system further increases its suitability for a wide range of applications.



\* Natural stone applications subject to suitability and site testings.

Base material temperature	Gel Time	Curing time
-5°C	1.5 hours	6 hours
0°C	45 min.	3 hours
5°C	25 min.	1.5 hours
20°C	6 min.	50 min.
30°C	4 min.	40 min.
40°C	2 min.	30min.



Fire rating can provide more versatility.



Very easy to install in vertical and horizontal holes.



Can be used on a variety of base materials including concrete and solid masonry.



**Extremely low wastage**



Technical Data		HAS						HIS-N				
for anchor and int. threaded sleeve		M8	M10	M12	M16	M20	M24	M8	M10	M12	M16	M20
Nrec. Rec. tensile load in concrete $f_{c,cyl}=20\text{ MPa}$	(kN)	6.0	8.0	12.0	15.3	26.0	32.4	8.2	12.3	15.6	26.9	32.2
Vrec. Rec. shear load in concrete $f_{c,cyl}=20\text{ MPa}$	(kN)	6.3	10.1	14.6	27.7	43.3	62.3	6.3	9.9	14.5	26.9	42.0
$d_o$ Nominal drill bit diameter	(mm)	10	12	14	18	22	28	14	18	22	28	32
$h_1$ Min. hole depth	(mm)	80	90	115	130	175	215	95	115	130	175	210
P No. of trigger pulls		1	1	1-2	2-3	4-5	9-10	1-2	2	4	7	7+
$t_{fix}$ Max. fastenable thickness	(mm)	14	21	28	38	48	54	-	-	-	-	-
$T_{inst}$ Tightening torque when fastening	(Nm)	15	30	50	100	160	240	15	28	50	85	170
Tensile values of HIS-N (derived using grade 12.9 rod.) Shear (steel failure) rod/bolt of steel grade 5.8.												



Elimination of expansion force in the base material allows near edge applications & prevents concrete failure.

Fast curing to assure optimal productivity.

Comprehensive technical software and engineering support.

## Applications

- Quick and reliable fastening in:
- Hollow brick masonry.
  - Solid brick masonry.
  - Composite masonry.
  - Aerated light-weight concrete.
  - Glass construction/facades.

## Benefits

- Fire Rated.
- Quick curing.
- Versatility in types of fastenings installed and base material.
- Foil pack can be completely emptied hence minimising wastage.
- Easy and accurate dispensing of adhesive.
- Mixture provides accurate mixing of adhesive components.
- User friendly system.
- Odourless: no styrene or plasticizers, can be used in confined areas.
- No expansion force in the base material.
- Wide installation temperatures (-5 to +40 deg C).

# HIT-HY 70 Flexible, strong and reliable Injection System.

The all new Hilti HIT-HY 70 injection system provides maximum flexibility and versatility in a range of applications. This newly designed product with high performance in solid, hollow and various types of masonry is very easy to use and install therefore increasing efficiency and minimising downtime.



Base material temperature	Gel Time	Curing time
-5°C	10 hours	6 hours
0°C	10 min.	4 hours
5°C	10 min.	2.5 hours
20°C	4 min.	45 min.
30°C	2 min.	30 min.
40°C	1 min.	20 min.



Heavy dynamic applications such as automatic doors.



Reliable assembly of demanding air conditioning systems.



Perfect viscosity for evenly distributed chemical through sieves.



### Flexibility in embedment depth



### Performabce data

Recommended load values for Australian bricks	Base Material	Setting depth (mm)		HIT-AC, threaded rod			HIT-IG, internally threaded sleeve			
				M6	M8	M10	M12	M8	M10	M12
				Nrec.	Vrec	Nrec	Vrec	Nrec	Vrec	Nrec
Concrete Brick 16MPa	50	Nrec.	0.5	0.5	0.5	0.8				
		Vrec	1.0	1.5	1.5	2.0				
		Nrec	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
		Vrec	1.3	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Hollow Concrete Block 15MPa	50	Nrec.	0.6	0.6	0.6	0.6				
		Vrec	1.0	1.5	1.5	2.0				
		Nrec	0.6	0.9	0.9	1.7	0.9	1.7	1.7	1.7
		Vrec	1.3	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Clay Common (extruded)	80	Nrec.	1.5	1.5	1.5	1.5				
		Vrec	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
		Nrec	2.0	3.0	3.0	4.0	3.0	4.0	4.0	4.0
		Vrec	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Clay Common (dry pressed)	80	Nrec		2.5	3.0	4.0	2.5	3.0	4.0	4.0
		Vrec		2.0	2.0	2.0	2.0	2.0	2.0	2.0



Installation of various electric components, such as cable runs.



Easy and quick fastening of rods and rebars in masonry.



Comprehensive technical software and engineering support.

## Hilti Hit Manual dispensers:

A must have tool for everyone.

### Applications and benefits

- Injection of HIT range in 330ml and 1400ml
- Manual dispenser suitable for everyone in all trades.
- Ideal to have for everyday applications.



## Hilti Hit Profi Systems:

For post installed rebar installation and heavy duty anchor applications.

### Applications and benefits

- Unique system for safe installation of rebar and anchoring upto 40mm in diameter and 3200 mm deep.
- Comprehensive set of accessories to maximise Hit performance, productivity and reducing downtime.



## ED 3500 electric dispenser:

Mobile, rugged, efficient and powerful.

### Applications and benefits

- Injection of HIT range in 330ml and 500ml.
- Ideal for use in difficult to reach areas and repetitive applications.
- Powerful tool with pressure of a pneumatic pump.



## Hilti Hit Pneumatic dispensers:

Heavy duty, efficient and highly productive:

### Applications and benefits

- Injection of HIT range in 500ml and 1400ml
- Powerful tool for heavy duty and repetitive rebar and anchor installation.
- Ideal for deep holes.



**Please refer to Hilti catalogue for more and detailed list of accessories.**

# Engineering team, softwares and support:

## Hilti PROFIS—Pure anchor design power:

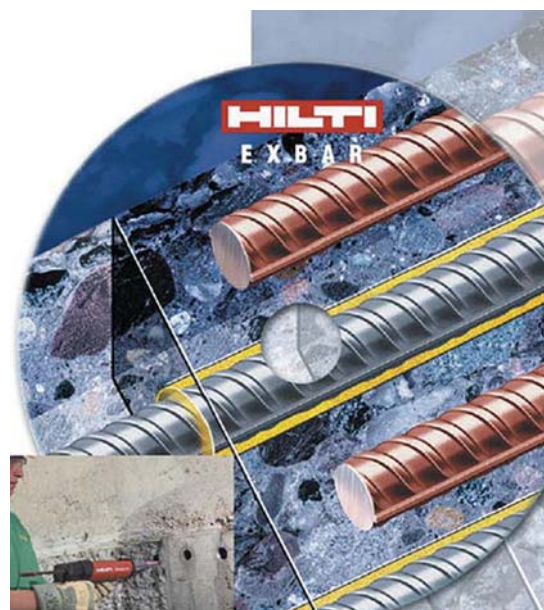
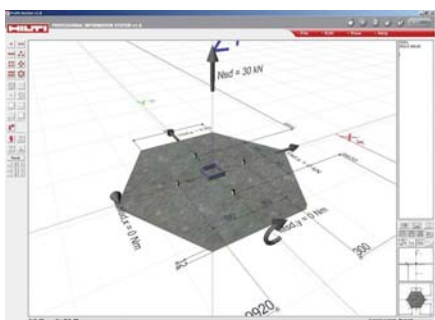
Hilti PROFIS Anchor puts a wealth of application expertise and a 3D virtual anchor design at a specifier's fingertips. This will allow specifiers to have more anchor selection, more confidence in less time, more application safety and user friendly. PROFIS Anchor is available free of charge, downloadable at [www.hilti.com.au](http://www.hilti.com.au) or order the CD version by simply calling 131 292.

## Hilti EXBAR Rebar Design Software:

Quick, simple, accurate and a powerful tool for calculating post installed reinforcement which complies with AS 3600-2001. Hilti EXBAR is available F.O.C. To order the CD version simply call 131 292.

## Field Engineering Team:

Highly trained and qualified team of Field Engineers across Australia can ensure your needs are met and also provide right products and solutions for your applications and also help you using our range of software. For further information you can call us on 131 292.



	HIT-HY 150	HIT-RE 500	HVU	HIT-HY 70
Concrete	✓	✓	✓	x
Stone*	✓	✓	✓	x
Rebar	✓ 1	✓	x	N/A
Masonry	✓ 1 Solid only	✓ 1 Solid only	x	✓
Threaded Rod	✓	✓	✓	✓
Damp Holes	✓	✓	✓	✓
Water Saturated Holes (0.7 reduction factor applies)	✓	✓	✓	x
Dynamic Loads	x	✓	✓	x
Resistance to sewage	x	✓	✓	x
Odourless	✓	✓	✓	✓
Fire Rated	✓	✓	✓	✓
Core holes	x	✓	✓	N/A
Strength	Medium	High	High	N/A
Cure Time	Fast	Longer gel time	Fast	Fast

\*Subject to suitability & site testing

1. Not optimum

**Hilti. Outperform. Outlast.**

Hilti Australia | Level 5 | 1G Homebush Bay Drive | Rhodes | NSW 2128 | T 131 292 | F 1300 135 042 | [www.hilti.com.au](http://www.hilti.com.au)