



Attached are page(s) from the 2008 Hilti North American Product Technical Guide. For complete details on this product, including data development, product specifications, general suitability, installation, corrosion, and spacing & edge distance guidelines, please refer to the Technical Guide, or contact Hilti.

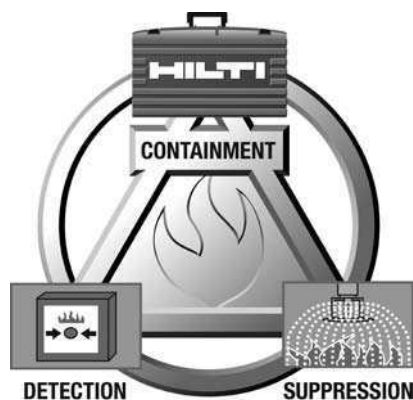


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## Hilti Diaphragm Deck Design

The Hilti Diaphragm Deck Design Program allows designers to quickly and accurately design roof deck and composite floor deck diaphragms.

- Ability to design with innovative Hilti fasteners for frame and sidelap connection
- Creates easy to use load tables with span ranges based on user input
- Allows for different safety factors depending on load type, building code and field quality control
- Direct link to Hilti website



## Hilti Online

- Technical Library
- Design Centers
- Interactive Product Advisors
- Full-line Product Catalog
- Online Ordering
- Maps to Hilti locations
- "Contact Us" program to answer your questions



## MI - Industrial Pipe Support Technical Guide

A guide to specifying the Hilti modular pipe support system for medium to heavy loads without welding.

- MI System is the ideal solution for pipes up to 24 in. diameter
- Reliable fastenings without welds
- Easily installed

## 4.2.8 HIT-HY 20 for Masonry Construction

4.2.8.1 Product Description

4.2.8.2 Material Specifications

4.2.8.3 Technical Data

4.2.8.4 Installation Instructions

4.2.8.5 Ordering Information

### Listings/Approvals

**ICC-ES (International Code Council)**

ER-4815 (URM only)

**City of Los Angeles**

Research Report No. 24564 (URM only)

### Code Compliance

**IBC®/IRC® 2000 (ICC-ES AC60)**

**UBC® 1997 (ICC-ES AC60)**

**LEED®: Credit 4.1-Low Emitting**

**Materials**

The Leadership in Energy and Environmental Design (LEED®) Green Building Rating system™ is the nationally accepted benchmark for the design, construction and operation of high performance green buildings.

### Components

Std. HIT-A Anchor Rod with Nut & Washer

Std. HIT-I Internally Threaded Insert

Anchor Rod with Nut and Washer (URM) or  
HAS-E Rod with 22.5° beveled square washer

HAS-E with Nut and Washer

Rebar for URM (supplied by contractor)

### 4.2.8.1 Product Description

The Hilti HIT HY 20 System is based on a hybrid adhesive. The system consists of a dual cylinder adhesive refill pack, a mixing nozzle, a screen tube, a HIT dispenser with refill pack holder, and either a threaded rod, rebar or HIT internally threaded insert. HIT HY 20 is specifically designed for fastening into material containing voids and holes such as hollow block, lightweight hollow block, brick with holes, multi-wythe brick walls and clay tile.

#### Product Features

- Accurate dispensing of resin and hardener into the wire mesh screen tube
- Mixing tube ensures proper mixing and eliminates measuring errors
- Contains no styrene; virtually odorless
- For use in hollow or multi-wythe base materials
- Excellent weathering resistance
- Enhanced load values in a variety of base materials
- Suitable for seismic retrofitting in unreinforced masonry. Please refer to ER-4815 (ICC-ES AC60)

# HIT-HY 20 for Masonry Anchoring System 4.2.8

## Guide Specifications

### Master Format Section:

**03250** (Concrete accessories)

### Related Sections:

**03200** (Concrete Reinforcing-Reinforcing Accessories)

**05050** (Metal Fabrication)

**05120** (Structural Steel)

Adhesive anchors shall consist of a threaded anchor rod, nut, and washer; a cylindrical mesh screen tube, and an injectable adhesive material.

Injection adhesive shall be packaged in side by side refill packs which keep separate component A and component B. Side by side packs shall be designed to compress during use to minimize waste volume. Side by side packs shall also be designed to accept static mixing nozzle which thoroughly blends component A and component B and allows injection directly into a mesh screen tube. Alternately, product may be furnished in large rigid

cartridges for high volume work. Only injection tools and static mixing nozzles as recommended by the manufacturer shall be used. Manufacturer's instructions shall be followed.

Injection adhesive shall be formulated to include resin, hardener, cement and water to provide optimal curing speed as well as high strength and stiffness. Typical curing time at 68°F shall be 60 minutes.

Injection adhesive shall be HIT HY 20, as manufactured by Hilti.

**Anchor Rods** Furnish with chamfered ends so that either end will accept a nut and washer. Manufactured to meet the following requirements: 1. ISO 898 Class 5.8 2. AISI 304 or AISI 316 stainless steel, meeting the requirements of ASTM F 593 (condition CW).

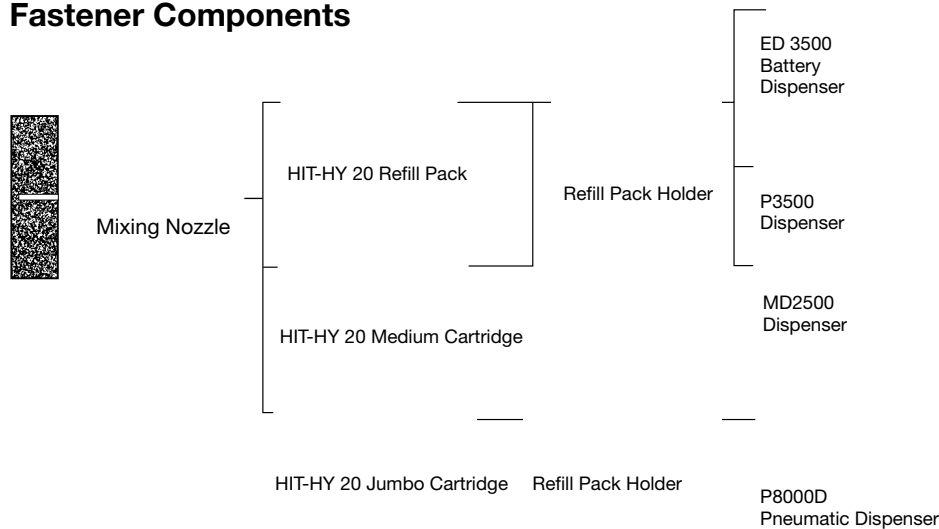
Special order length HAS or HIT Rods may vary from standard product.

Furnish Nuts and Washers to meet the requirements of the above anchor rod specifications.

**Mesh Screen Tube** Shall be formed into a cylindrical shape, with one end closed to prevent extrusion of adhesive through that end. Screen tube shall be manufactured with a mesh size, length and diameter as specified by the adhesive manufacturer. Mesh shall be manufactured from: 1. Low carbon steel with zinc electro-plating or 2. AISI 304 stainless steel or 3. plastic.

Anchor rods and screens shall be the Hilti HIT system as manufactured by Hilti.

## Fastener Components



## 4.2.8 HIT-HY 20 for Masonry Anchoring System

### 4.2.8.2 Material Specifications

#### Material Properties for HIT-HY 20—Cured Adhesive

Compressive Strength	ASTM D 695/DIN 53454	7410 psi	51.1 MPa
Modulus of elasticity (Compression test)	ASTM D 790/DIN 53452	0.33 x 10 <sup>6</sup> psi	2300 MPa
Water absorption	ASTM D 570/DIN 53495	2.5%	2.5%
Electrical resistance	VDE/DIN 0303T3	7.9 x 10 <sup>10</sup> ohm/in.	2 x 10 <sup>11</sup> ohm/cm

#### Material

HIT-A Rod material ASTM A 36, 9SMNPB36K &/or 9SMN36K conforming to DIN 1651.

Mechanical properties meet or exceed values for ASTM A 36

HAS-E Rod material meets the requirements of ISO 898 Class 5.8.

Stainless HAS rod material meets the requirements of ASTM F 593 (AISI 304) Condition CW 3/8"-5/8"

Stainless HAS rod material meets the requirements of ASTM F 593 (AISI 304) Condition CW 3/4"-1"

HIT-I Insert, 11SMnPb30+C steel conforming to 10277-3

HIT and HAS-E Standard Nut material meets the requirements of ASTM A 563, Grade A

HAS Stainless Steel Nut material meets dimensional requirements of ASTM F 594

HIT Standard and Stainless Steel Washer material meets the requirements of ANSI B18.22.1 Type A Plain

All standard HIT and HAS-E Rods, inserts, nuts & washers are plated to ASTM B 633 SC 1

**Note:** Special Order product may vary from standard materials.

Mechanical Properties	
f <sub>y</sub> ksi (MPa)	min. f <sub>u</sub> ksi (MPa)
36 (248)	58 (400)
58 (400)	72.5 (500)
65 (448)	100 (689)
45 (310)	85 (586)
54.4 (375)	66.7 (460)

### 4.2.8.3 Technical Data

#### HY 20 Installation Specification Table for HAS-E Threaded Rods in Masonry Construction

Anchor Rod Size		in.	3/8 x 8	3/8 x 12	1/2 x 8	1/2 x 12	5/8 x 8	5/8 x 12	3/4 x 10	3/4 x 17
Details		(mm)	(9.5 x 203)	(9.5 x 305)	(12.7 x 203)	(12.7 x 305)	(15.9 x 203)	(15.9 x 305)	(19.1 x 254)	(19.1 x 432)
d <sub>bit</sub>	Bit diameter <sup>1</sup>	in.	1/2	1/2	11/16	11/16	27/32	27/32	1	1
h <sub>ef</sub>	Actual depth of embedment	in. (mm)	6 (152)	10 (254)	6 (152)	10 (254)	6 (152)	10 (254)	8 (203)	13 (330)
	Required screen size	in. (mm)	3/8 x 6 (9.5 x 152)	3/8 x 10 (9.5 x 254)	1/2 x 6 (12.7 x 152)	1/2 x 10 (12.7 x 254)	5/8 x 6 (15.9 x 152)	5/8 x 10 (15.9 x 254)	3/4 x 8 (19.1 x 203)	3/4 x 13 (19.1 x 330)
T <sub>max</sub>	Max. tightening torque	ft lb (Nm)	10 (13)	10 (13)	30 (41)	30 (41)	45 (62)	45 (62)	60 (81)	60 (81)
Approximate fastenings per Cartridge	Small		15	9	7	4	4	3	3	2
	Medium		24	14	11	6	6	5	5	3
	Jumbo		70	42	33	19	19	14	14	9.5

<sup>1</sup> Hilti matched tolerance carbide tipped drill bits

# HIT-HY 20 for Masonry Anchoring System 4.2.8

## HIT-HY 20 Installation Specifications for HIT-A Rods in Hollow Block, Tile & Brick with Holes

Anchor System Application Details	Anchor Rod Size in. (mm)	HIT Combi-Rod Tile	HIT-A Short Rod Hollow and Lightweight Block			HIT-A Standard Rod Brick w/Holes, Clay Tile		
		1/4 x 2-1/2 (6.4 x 64)	5/16 x 2-1/2 (7.9 x 63.5)	3/8 x 3 (9.5 x 76.2)	1/2 x 3-1/8 (12.7 x 79.4)	5/16 x 4 (7.9 x 101.6)	3/8 x 4-3/8 (9.5 x 111.1)	1/2 x 4-1/2 (12.7 x 114.3)
d <sub>bit</sub> bit diameter <sup>1</sup>	in.	1/2	5/8					
minimum hole depth	in. (mm)	Through Material	Through Face of Hollow Base Material			3-1/2 (90)		
required screen		HIT S - 12A	HIT S - 16/2			HIT S - 16		
t max. thickness fastened	in. (mm)	1/2 (13)	1/2 (13)	3/4 (19)	3/4 (19)	1/2 (13)	3/4 (19)	3/4 (19)
T <sub>inst</sub> recommended max. install. torque	ft lb (Nm)	Finger Tight	3.7 (5)	5.9 (8)	7.4 (10)	3.7 (5)	5.9 (8)	7.4 (10)
Approximate fastenings per cartridge	Small	38	13			10		
	Medium	60	20			16		
	Jumbo	180	61			47		

1 Hilti matched tolerance carbide tipped drill bits

## HIT-HY 20 Installation Specifications for HIT-I Inserts in Hollow Block, Tile & Brick with Holes

Anchor System Application Details	Anchor Rod Size in. (mm)	HIT Combi-Insert Tile	HIT-I Short Insert Hollow and Lightweight Block			HIT-I Standard Insert Brick w/Holes, Clay Tile		
		#14 —	5/16 x 2 (7.9 x 51)	3/8 x 2 (9.5 x 51)	1/2 x 2 (12.7 x 51)	5/16 x 3-3/16 (7.9 x 30)	3/8 x 3-3/16 (9.5 x 30)	1/2 x 3-3/16 (12.7 x 30)
d <sub>bit</sub> bit diameter <sup>1</sup>	in.	1/2	5/8	27/32	27/32	5/8	27/32	27/32
minimum hole depth	in. (mm)	Through Material	Through Face of Hollow Base Material			3-1/2 (90)		
required screen		HIT S - 12/I	HIT S - 16/2	HIT S - 22/2	HIT S - 22/2	HIT S - 16	HIT S - 22	HIT S - 22
T <sub>inst</sub> recommended max install. torque	ft lb (Nm)	Finger Tight	3.7 (5)	5.9 (8)	7.4 (10)	3.7 (5)	5.9 (8)	7.4 (10)
Approximate fastenings per cartridge	Small	38	13			10		
	Medium	60	20			16		
	Jumbo	180	61			47		

1 Hilti matched tolerance carbide tipped drill bits

## HIT-HY 20 Allowable Tension and Shear Strength for Threaded HAS-E Rods in Multi-Wythe Brick Walls<sup>1, 2</sup>

Anchor Diameter in. (mm)	Embedment Depth in. (mm)	Allowable Tension lb (kN)	Allowable Shear lb (kN)
3/8 (9.5)	6 (152)	685 (3.1)	590 (2.6)
3/8 (9.5)	10 (254)	815 (3.6)	590 (2.6)
1/2 (12.7)	6 (152)	745 (3.3)	930 (4.1)
1/2 (12.7)	10 (254)	1270 (5.6)	930 (4.1)
5/8 (15.9)	6 (152)	815 (3.6)	1355 (6.0)
5/8 (15.9)	10 (254)	1285 (5.7)	1355 (6.0)
3/4 (19.1)	8 (203)	1400 (6.2)	1800 (8.0)
3/4 (19.1)	13 (330)	2100 (9.3)	1800 (8.0)

1 Values based on mortar shear strength of 45 psi or greater.

2 Based on using a safety factor of 5.

### Combined Shear and Tension Loading

$$\frac{N_d}{N_{rec}} + \frac{V_d}{V_{rec}} \leq 1.0 \text{ (Ref. Section 4.1.8.3)}$$

## 4.2.8 HIT-HY 20 for Masonry Anchoring System

### HIT HY 20 Allowable Loads for Threaded HIT-A Rods in Hollow Concrete Block, Lightweight Concrete Block, Brick with Holes, Clay Tile<sup>1, 2</sup>

Anchor Type	Anchor Diameter in. (mm)	HIT-A Short 2" (51mm) Embedment		HIT-A Standard 3-3/8" (86mm) Embedment			
		L/W or N/W Hollow Concrete Block		Brick with Holes		Clay Tile	
		Tension lb (kN)	Shear lb (kN)	Tension lb (kN)	Shear lb (kN)	Tension lb (kN)	Shear lb (kN)
HIT-A Rod Anchor	1/4 <sup>3</sup> (6.4) <sup>3</sup>	255 (1.1)	340 (1.5)	365 (1.6)	305 (1.4)	130 (0.6)	100 (0.4)
	5/16 (7.9)	370 (1.6)	505 (2.2)	565 (2.5)	530 (2.4)	150 (0.7)	220 (1.0)
	3/8 (9.5)	525 (2.3)	790 (3.5)	775 (3.4)	930 (4.1)	150 (0.7)	220 (2.2)
	1/2 (12.7)	525 (2.3)	1230 (5.5)	775 (3.4)	1375 (6.1)	150 (0.7)	500 (2.2)

1 Based on using a safety factor of 6 for tension and 4 for shear.

2 Due to wide strength variations encountered in masonry, these values should be considered as guide values.

3 1/4" anchor diameter installed at 2" embedment in brick with holes and clay tile.

### HIT HY 20 Allowable Loads for Threaded HIT-I Inserts in Hollow Concrete Block, Lightweight Concrete Block, Brick with Holes, Clay Tile<sup>1, 2</sup>

Anchor Type	Anchor Diameter in. (mm)	HIT Short 2" (51mm) Embedment		HIT Standard 3-3/8" (86mm) Embedment			
		L/W or N/W Hollow Concrete Block		Brick with Holes		Clay Tile	
		Tension lb (kN)	Shear lb (kN)	Tension lb (kN)	Shear lb (kN)	Tension lb (kN)	Shear lb (kN)
HIT-I Insert Anchor	No 14 screw w/ insert <sup>3</sup> (6.4)	240 (1.1)	510 (2.3)	300 (1.3)	530 (2.4)	85 (0.4)	150 (0.7)
	5/16 (7.9)	400 (1.8)	780 (3.5)	585 (2.6)	750 (3.3)	175 (0.8)	220 (1.0)
	3/8 (9.5)	400 (1.8)	1425 (6.3)	1160 (5.2)	1380 (6.1)	185 (0.8)	435 (1.9)
	1/2 (12.7)	400 (1.8)	1800 (8.0)	1160 (5.2)	1635 (7.3)	185 (0.8)	500 (2.2)

1 Based on using a safety factor of 6 for tension and 4 for shear.

2 Due to wide strength variations encountered in masonry, these values should be considered as guide values.

3 1/4" anchor installed at 2" embedment in brick with holes and clay tile.

### Anchor Spacing and Edge Distance Guidelines

#### Brick with Holes & Multi-Wythe Brick Walls

Spacing:

$s_{cr} = s_{min} =$  Two (2) complete bricks in any direction

Edge Distance:

$c_{cr} = c_{min} =$  Two (2) complete bricks, or 16" (406 mm) in any direction (whichever is less.)

#### Clay Tile

Spacing:

$s_{cr} = s_{min} =$  One (1) anchor per tile cell

Edge Distance:

$c_{cr} = c_{min} = 12"$  (305 mm) from free edge

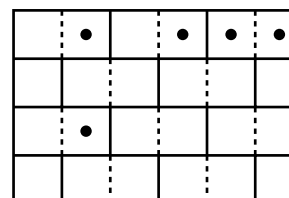
#### Hollow, Normal Weight & Lightweight Concrete Block

Spacing:

$s_{cr} = s_{min} =$  One (1) anchor per block cell

Edge Distance:

$c_{cr} = c_{min} = 12"$  (305 mm) min. from free edge



Wall Elevation

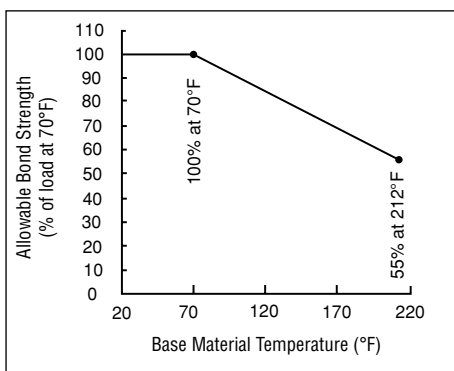
# HIT-HY 20 for Masonry Anchoring System 4.2.8

## Resistance of HIT HY 20 to Chemicals

Chemical		Behavior
Sulphuric acid	conc.	-
	30%	•
	10%	+
Hydrochloric acid	conc.	•
	10%	+
Nitric acid	conc.	-
	10%	•
Phosphoric acid	conc.	+
	10%	+
Acetic acid	conc.	•
	10%	+
Formic acid	conc.	-
	10%	•
Lactic acid	conc.	+
	10%	+
Citric acid	10%	+
Caustic soda	40%	•
	20%	+
	5%	+
Ammonia	conc.	•
	5%	+
Soda solution	10%	+
Common salt solution	10%	+
Chlorinated lime solution	10%	+
Sodium hypochlorite	2%	+
Hydrogen peroxide	10%	+
Carbolic acid solution	10%	-
Ethanol		-
Sea water		+
Glycol		+
Acetone		-
Carbon tetrachloride		-
Toluene		+
Petrol/Gasoline		•
Machine oil		•
Diesel oil		•

**Key:** - non-resistant + resistant • partially resistant

## Influence of Temperature on Bond Strength



**Note:** Test procedure involves the concrete being held at the elevated temperature for 24 hours then removing it from the controlled environment and testing to failure.

Long term creep test in accordance with AC58 is available; please contact Hilti Technical Services.

Samples of the HY 20 resin were immersed in the various chemical compounds for up to one year. At the end of the test period, the samples were analyzed. Any samples showing no visible damage and having less than a 25% reduction in bending (flexural) strength were classified as **“Resistant.”** Samples that had slight damage, such as small cracks, chips, etc. or reduction in bending strength of 25% or more, were classified as **“Partially Resistant.”** Samples that were heavily damaged or destroyed were classified as **“Not Resistant.”**

**Note:** In actual use, the majority of the resin is encased in the base material, leaving very little surface area exposed. In some cases, this would allow the HY 20 to be used where it would be exposed to the **“Partially Resistant”** chemical compounds.

## Curing Time Table<sup>1</sup> (Approximate)

Base Material Temperature		Approx. Curing Time
°F	°C	
23	-5	6 hrs
32	0	4 hrs
41	5	2 hrs
50	10	90 mins
68	20	60 mins
86	30	45 mins
104	40	30 mins

## Gel Time Table<sup>1</sup> (Approximate)

Base Material Temperature		Approx. Gel Time
°F	°C	
23	-5	40 Minutes
32	0	30 Minutes
41	5	20 Minutes
50	10	11 Minutes
68	20	6 Minutes
86	30	3 Minutes
104	40	1 Minute

<sup>1</sup> Minimum product temperature must be maintained above 41°F (5°C) prior/during installation.

## Influence of High Energy Radiation<sup>1,2</sup>

Radiation Exposure	Detrimental Effect	Recommendation for Use
< 10 Mrad	Insignificant	Full Use
10 – 100 Mrad	Moderate	Restricted Use $F_{rec.} = 0.5 F_{perm.}$
> 100 Mrad	Medium to strong	No recommendation for use

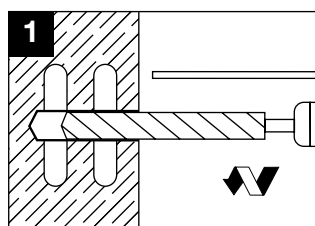
<sup>1</sup> Mrad = Megarad

<sup>2</sup> Dosage over life span.

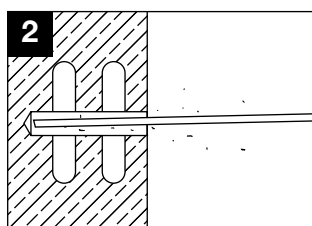
## 4.2.8 HIT-HY 20 for Masonry Anchoring System

### 4.2.8.4 Installation Instructions

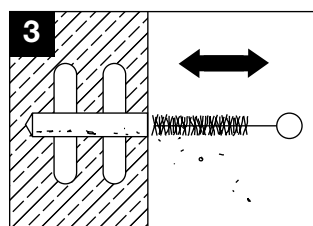
HIT-I Inserts and HIT-A Rods into Hollow Brick, Hollow Block or Tile



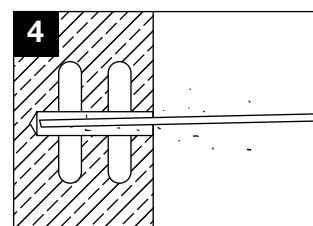
1. Select the proper bit. Set the depth gauge, drill the hole, rotation only. Hilti URM bits are recommended for drilling into masonry.



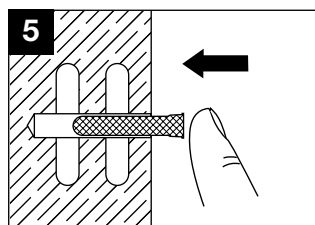
2. Use compressed air to blow out the hole from the bottom. The Hilti air nozzle is designed for hole cleaning.



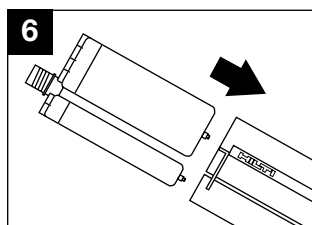
3. Proper hole cleaning is essential. Use a nylon brush to remove loose material. Do not use brushes with metal bristles.



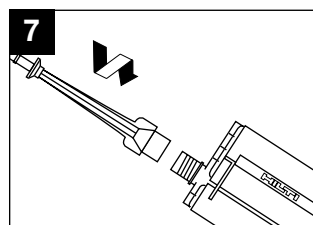
4. Use compressed air to blow out the hole from the bottom. The Hilti air nozzle is designed for hole cleaning.



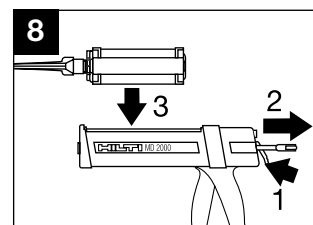
5. Insert specified HIT-S type screen tube into hole.



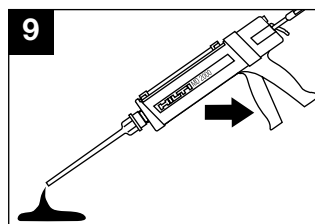
6. Insert refill pack into holder.



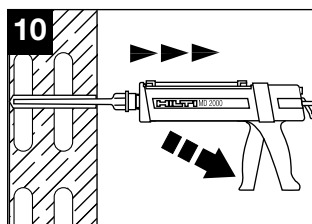
7. Screw on mixing nozzle with extension.



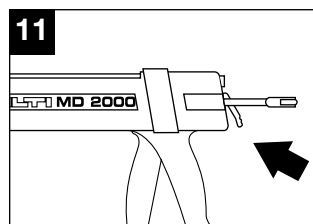
8. Put holder into dispenser.



9. DISCARD FIRST THREE TRIGGER-PULLS OF ADHESIVE FROM EACH REFILL PACK.

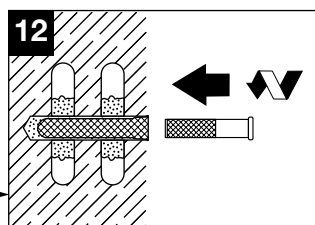


10. Fill HIT-S type screen tube completely from back to front edge of screen using the minimum number of trigger pulls listed in table.

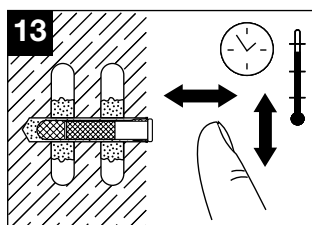


11. Unlock dispenser.

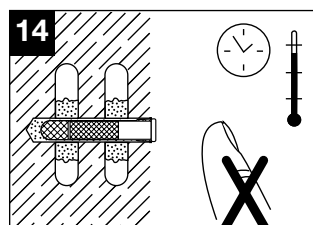
The minimum number of trigger pulls to fill each screen is as follows:	
S12	1 pump
S16/2	4 pumps
S16	6 pumps
S22/2	4 pumps
S22	6 pumps



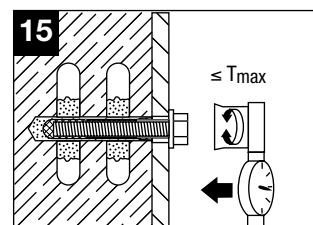
12. Insert HIT-I Insert, or HIT-A Rod into adhesive-filled screen, twisting slightly.



13. Fastener may be adjusted during specified gel time.

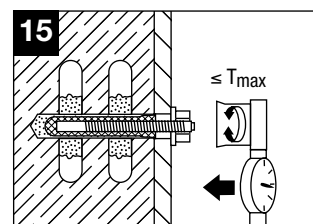
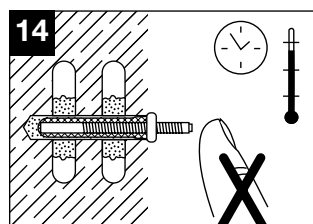
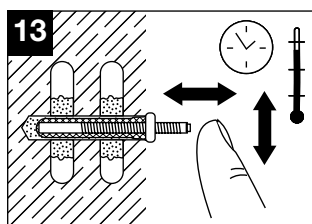
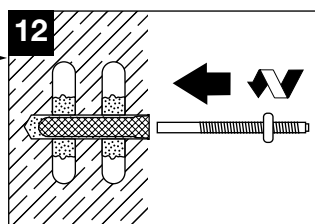


14. Do not disturb fastener between specified gel and cure time.



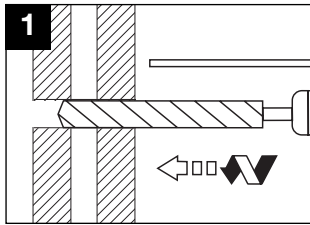
15. Apply torque to anchor. Do not exceed maximum recommended torque.

HIT-I INSERT  
OR  
HIT-A ROD

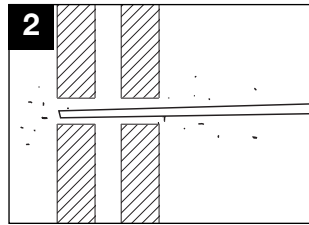


# HIT-HY 20 for Masonry Anchoring System 4.2.8

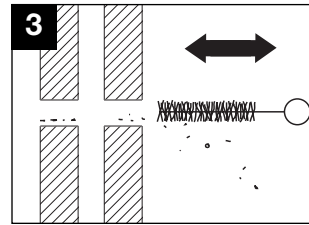
## Installation of HAS-E Rods in Masonry Construction with Voids (e.g. Multi-wythe Construction)



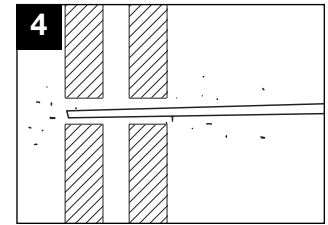
1. Select the proper bit. Set the depth gauge. Drill the hole, rotation only (unless otherwise specified).



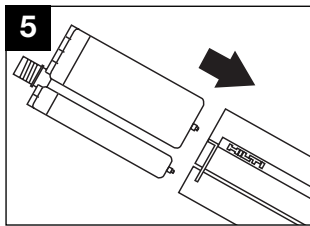
2. Use compressed air to blow out the hole from the bottom. The Hilti air nozzle is designed for hole cleaning.



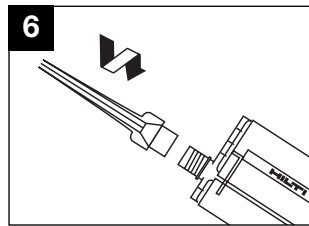
3. Proper hole cleaning is essential. Use a nylon brush to remove loose material. Do not use brushes with metal bristles.



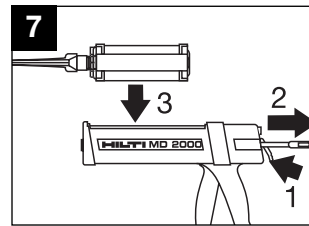
4. Use compressed air to blow out the hole from the bottom. The Hilti air nozzle is designed for hole cleaning.



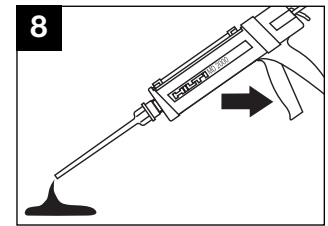
5. Insert refill pack into holder.



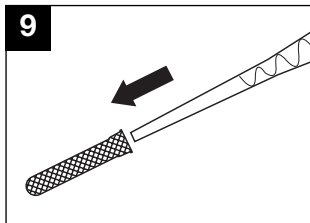
6. Screw on mixer and remove extension.



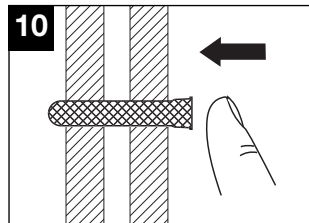
7. Put holder into dispenser.



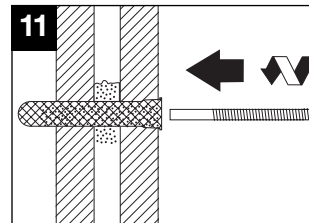
8. **DISCARD FIRST THREE TRIGGER PULLS OF ADHESIVE FROM EACH REFILL PACK.**



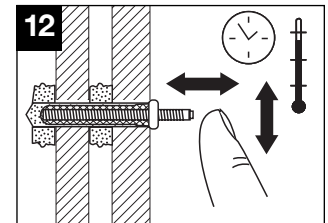
1. **Fill the screen tube completely**, beginning at the bottom. Use mixer filler extension tubes when needed to reach the screen tube bottom.



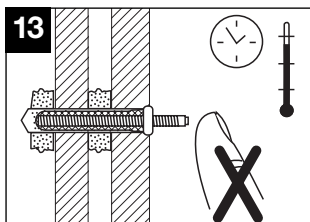
2. Insert specified screen tube into hole.



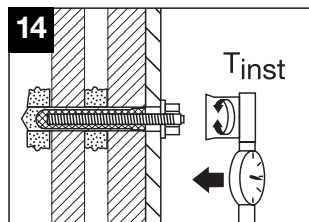
3. Insert HAS-E or HIT Rod into adhesive-filled screen, twisting slightly.



4. Fastener may be adjusted during specified gel time.



1. Do not disturb faster between specified gel and cure time.

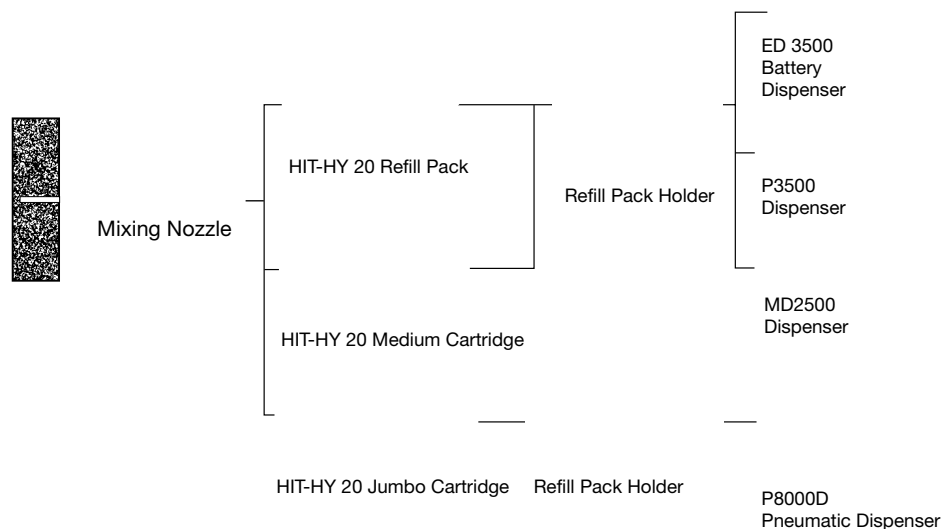


2. Load fastener only after cure time has elapsed.

## 4.2.8 HIT-HY 20 for Masonry Anchoring System

### 4.2.8.5 Ordering Information

#### Fastener Components



#### HIT Adhesives

Item No.	Description	Contents	Includes in Pkg	Application
371959	HY 20 (11.1 oz)	1 Refill Pack	1 Mixer with extension	Use with screen in hollow base
285595	HY 20 Medium (16.9 oz)	20 Cartridges	20 Mixers	Use with screen in hollow base
373957	HY 20 Jumbo (47.3 oz)	4 Cartridges	4 Mixers	Use with screen in hollow base

#### HIT Dispensers

Item No.	Description
354180	P-3500 Pneumatic Dispenser, + 1 refill holder
373959	HIT P-8000 D Pneumatic Dispenser, jumbo cartridge
229154	MD2000 Dispenser + 1 refill holder
338853	MD2500 Manual Dispenser
229170	Refill Holder Replacement for MD2000, ED 3500 or P-3000HY dispensers
3245363	ED 3500 Dispenser Kit Complete
373960	Jumbo Pack Holder Replacement for P-8000D

#### Mixers and Filler Tubes

Item No.	Description	Notes
68071	HIT-ME, Mixer with extension	Mixer with extension for S16, S16/2, S22, S22/2 screen tubes – Qty 1
68156	HIT-M, Mixer for HY	For use with small HIT-HY refill packs – Qty 1
337111	HIT-RE-M Static Mixer	For use with jumbo HIT-HY cartridge – Qty 1

## HIT-HY 20 for Masonry Anchoring System 4.2.8

### HAS-E Threaded Rods and Screen Tubes for Threaded Rods

Description	Item No.	Qty	Description <sup>1</sup>	Item No.	Qty/Pkg	Filler Tube Incl/Pkg
HAS-E 3/8 x 8 with Nut and Washer	333186	10	Screen Tube 3/8" x 6"	20953	10	3/8" x 8"
HAS-E 3/8 x 12 with Nut and Washer	333187	10	Screen Tube 3/8" x 10"	20954	10	3/8" x 8"
HAS-E 1/2 x 8 with Nut and Washer	333191	10	Screen Tube 1/2" x 6"	20955	10	–
HAS-E 1/2 x 12 with Nut and Washer	333193	10	Screen Tube 1/2" x 10"	20956	10	1/2" x 11-1/2"
HAS-E 5/8 x 8 with Nut and Washer	333194	20	Screen Tube 5/8" x 6"	63930	10	–
HAS-E 5/8 x 12 with Nut and Washer	333195	10	Screen Tube 5/8" x 10"	63931	10	1/2" x 11-1/2"
HAS-E 5/8 x 17 with Nut and Washer	333196	10				
HAS-E 3/4 x 10 with Nut and Washer	333201	10	Screen Tube 3/4" x 8"	20836	10	–
HAS-E 3/4 x 12 with Nut and Washer	333202	10				
HAS-E 3/4 x 14 with Nut and Washer	333203	10				
HAS-E 3/4 x 17 with Nut and Washer	333204	10	Screen Tube 3/4" x 13"	20837	10	1/2" x 11-1/2"
HAS-E 3/4 x 19 with Nut and Washer	333205	10	Screen Tube 3/4" x 17"	20838	10	1/2" x 17-1/2"
HAS-E 3/4 x 21 with Nut and Washer	333206	10				
HAS-E 3/4 x 25 with Nut and Washer	333207	10	Screen Tube 3/4" x 21"	20839	10	1/2" x 17-1/2"

<sup>1</sup> For stainless steel screens and rods contact the Hilti Customer Service Department.

### HIT-A Standard and Short Threaded Rods

Description	Item No.	Qty/Pkg
HIT-A Rod 1/4" x 2-1/2"	78739	10
HIT-A Rod 5/16" x 2-1/2"	88392	10
HIT-A Rod 5/16" x 4"	88977	10
HIT-A Rod 3/8" x 3"	88393	10
HIT-A Rod 3/8" x 4-3/8"	88978	10
HIT-A Rod 1/2" x 3-1/8"	88394	10
HIT-A Rod 1/2" x 4-1/2"	88979	10

### HIT-I Standard and Short Inserts

Description	Item No.	Qty/Pkg
HIT-I Insert 5/16" x 2"	88397	10
HIT-I Insert 5/16" x 3-3/16"	88996	10
HIT-I Insert 3/8" x 2"	88398	10
HIT-I Insert 3/8" x 3-3/16"	88997	10
HIT-I Insert 1/2" x 2"	88399	10
HIT-I Insert 1/2" x 3-3/16"	88998	10

### HIT-S Screen Tubes for HIT-A Rods and HIT-I Inserts

Description	Item No.	Qty/Pkg
HIT S-12/A (1/4" rod)	49765	10
HIT S-16/2 (5/16" rod)	77810	10
HIT S-16 (5/16" rod)	68613	10

Description	Item No.	Qty/Pkg
HIT S-12/I (1/4" screw)	49766	10
HIT S-22/2 (1/2" & 3/8" rod)	77811	10
HIT S-22 (1/2" & 3/8" rod)	68615	10

### Accessories

#### 22.5° Applications

Description	Item No.	Qty/Pkg	Notes
Beveled 22.5° Square Washer	65797	10	Use 3/4" diameter threaded HAS-E rod and screen tube in seismic upgrade of URM buildings for 22.5° shear/tension anchor
Hilti Rod 3/4 x 19 Bent	20951	10	Seismic upgrade of URM buildings

**In The United States**

<b>PAYMENT TERMS:</b>	Net 30 days from date of invoice. Customer agrees to pay all costs incurred by Hilti in collecting any delinquent amounts, including attorney's fees.
<b>FREIGHT:</b>	All sales are F.O.B. Destination with transportation allowed via Hilti designated mode. Delivery dates are estimates only. Additional charges for expedited shipments, special handling requirements, and orders below certain dollar amounts shall be the responsibility of Customer. Fuel surcharges may apply depending on market conditions.
<b>CREDIT:</b>	All orders sold on credit are subject to Credit Department approval.
<b>RETURN POLICY:</b>	Products must be in saleable condition to qualify for return. Saleable condition is defined as unused items in original undamaged packaging and unbroken quantities and in as-new condition. All returns are subject to Hilti inspection and acceptance, and a \$125 restocking charge if returned more than 90 days after invoice date. Proof of purchase is required for all returned materials. Special orders products and discontinued items are not eligible for return credit. Dated materials are only returnable in case quantity, and within 30 days after invoice date.
<b>WARRANTY:</b>	<p>Hilti warrants that for a period of 12 months from the date it sells a product it will, at its sole option and discretion, refund the purchase price, repair, or replace such product if it contains a defect in material or workmanship. Absence of Hilti's receipt of notification of any such defect within this 12-month period shall constitute a waiver of all claims with regard to such product.</p> <p>THE FOREGOING WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Hilti shall in no event be liable for, and Customer hereby agrees to indemnify Hilti against all claims related to special, direct, indirect, incidental, consequential, or any other damages arising out of or related to the sale, use, or inability to use the product.</p>
<b>ACCEPTANCE OF ORDER:</b>	Acceptance is limited to the express terms contained herein, and terms are subject to change by Hilti without notice. Additional or different terms proposed by Customer are deemed material and are objected to and rejected, but such rejection shall not operate as a rejection of the offer unless it contains variances in the terms of the description, quantity, price or delivery schedule of the goods. Orders are not deemed "accepted" by Hilti unless and until it ships the associated items.
<b>DOMESTIC ORIGIN:</b>	Any non-domestic Hilti product will be so identified on shipping documents and invoices for customers who properly identify themselves as a federal government entity. All other customers may obtain such information by written request to Hilti, Inc., Contract Compliance, P.O. Box 21148, Tulsa, Oklahoma 74121. Hilti's Quality Department personnel are the only individuals authorized to warrant the country of origin of Hilti products.
<b>BUSINESS SIZE:</b>	Hilti is a large business.
<b>PRICES:</b>	Prices are those stated on the order, and unless otherwise noted are based on purchasing all items on the order — pricing for individual products may vary for purchases of different quantities or item combinations. Hilti does not maintain most favored customer records, makes no representation with respect to same, and rejects any price warranty terms proposed by Customer. Hilti's published net price list is subject to change without notice.
<b>CONSENT TO JURISDICTION:</b>	All transactions made pursuant hereto shall be deemed to have been made and entered into in Tulsa, Oklahoma. Any and all disputes arising directly or indirectly from such transactions shall be resolved in the courts of the County of Tulsa, State of Oklahoma, to the exclusion of any other court, and any resulting judgment may be enforced by any court having jurisdiction of such an action. All transactions shall be governed by and construed in accordance with the laws of the State of Oklahoma.
<b>INDEMNIFICATION:</b>	Customer hereby agrees to indemnify Hilti for any costs, including attorney's fees, incurred by Hilti as a result, in whole or in part, of any violation by Customer of any Federal, State or Local statute or regulation, or of any nationally accepted standard. It shall be Customer's sole responsibility to comply with all applicable laws and regulations regarding the handling, use, transportation, or disposal of products upon taking possession of same.
<b>AUTHORIZATION:</b>	HILTI LEGAL DEPARTMENT PERSONNEL ARE THE ONLY INDIVIDUALS AUTHORIZED TO MODIFY THESE TERMS AND CONDITIONS, WARRANT PRODUCT SUITABILITY FOR SPECIFIC APPLICATIONS, OR EXECUTE CUSTOMER DOCUMENTS, AND ANY SUCH ACTION IS NULL AND VOID UNLESS IN WRITTEN FORM SIGNED BY SUCH INDIVIDUAL.

**In Canada**

<b>PAYMENT TERMS:</b>	Net 30 days from date of invoice. Customer agrees to pay all costs incurred by Hilti in collecting delinquent amounts, if any, including reasonable attorney's fees.
<b>FREIGHT:</b>	Sales are F.O.B. Destination Point with transportation allowed via Hilti designated mode. Additional charges may apply for expedited delivery, special handling requirements, and order under certain limits. A fuel surcharge may apply depending on market conditions.
<b>CREDIT:</b>	All orders sold on credit are subject to Credit Department approval.
<b>RETURN POLICY:</b>	Product may be returned prepaid (unless otherwise authorized) to Hilti provided: <ul style="list-style-type: none"> <li>i) it is returned by the original purchaser</li> <li>ii) it is not dated product returned more than 30 days after the original delivery date</li> <li>iii) it is not discontinued, clearance or special order product</li> <li>iv) it is unused, in original packaging and in unbroken quantities.</li> </ul> <p>Hilti will inspect product and, if the above requirements are satisfied, will credit to customer the original purchase price. A 15% restocking fee may apply.</p>
<b>WARRANTY:</b>	Other than the manufacturer's published warranty, no warranties or conditions, express or implied, written or oral, statutory or otherwise are implied. Any and all conditions and warranties implied by law or by the Sale of Goods Act or any similar statutes of any Province are hereby expressly waived.
<b>TITLE TO PRODUCT:</b>	Title to product remains with Hilti until the total purchase price of product is paid.
<b>PRICES:</b>	Customer agrees to pay Hilti prices set out on invoice. Customer agrees to pay taxes as indicated on invoice unless Hilti receives acceptable exemption certificates.
<b>INDEMNIFICATION:</b>	Customer agrees to use product at own risk and to indemnify Hilti against all liabilities, including legal fees, to third parties arising out of the use or possession thereof. Hilti shall in no event be liable for special, incidental or consequential damages.
<b>CHANGES:</b>	Hilti sales personnel are not authorized to modify these Terms and Conditions or modify Customer's credit terms. Terms are subject to change by Hilti with reasonable notice to Customer.
<b>CASH SALES:</b>	Payment in full is due prior to goods being released.
<b>QUOTATIONS:</b>	All terms and conditions apply once customer agrees to purchase product. Quotations on special promotion products are only valid until end of promotion period.