HILTI

HIT-HY 10 PLUS

Adhesive Anchor

On the job. Every day.

Hilti. Outperform. Outlast.

An economical solution for multiple base materials.

HIT-HY 10 PLUS Adhesive Anchoring System

Hilti has you covered with the latest addition to the anchoring portfolio: The new Hilti HIT-HY 10 PLUS Adhesive Anchor System. This new adhesive can be used in a variety of base materials including concrete, grouted CMU, hollow brick and CMU*. HIT-HY 10 PLUS is an economical solution when an ICC Evaluation Report is not required and the versatility makes it great for many jobsite conditions. It is a high-value, everyday adhesive that is easy to dispense with the same dispensers as the rest of the Hilti adhesive portfolio (MD 2500 manual dispenser and ED 3500-A battery dispenser).

Order Information

Description	Package Contents	Qty of Foil Packs	Item No.
HIT-HY 10 PLUS (11.1 fl oz/330 ml)	Includes 1 foil pack with 1 mixer and 3/8" filler tube per pack	1	00422710
HIT-HY 10 PLUS (16.9 fl oz/330 ml)	Includes 20 foil packs with 1 mixer and 3/8" filler tube per pack	20	00422711

Composite Mesh Sleeves for Hollow Masonry and Brick Material

Description	For use with:	Qty	Item No.
Mesh Sleeve HIT-SC 12x50	1/4" dia. rods	20	00375979
Mesh Sleeve HIT-SC 12x85	1/4" dia. rods	20	00375980
Mesh Sleeve HIT-SC 16x50	5/16", 3/8" dia. rods and 5/16" HIT-IC rods	20	00375981
Mesh Sleeve HIT-SC 16x85	5/16", 3/8" dia. rods and 5/16" HIT-IC rods	20	00375982
Mesh Sleeve HIT-SC 18x50	1/2" dia. rods	20	00360485
Mesh Sleeve HIT-SC 18x85	1/2" dia. rods	20	00360486

*For hollow brick and CMU, composite sleeves are required. See catalog for full ordering information.

Applications

- Slab extension through doweling
- Sign, fence or awning attachment to masonry or concrete
- Scaffolding, pipe or fixture attachment to masonry or concrete
- Small hole filling where anchors have been removed

Outperform and Outlast

- Works in a variety of base materials acting as a universal anchor adhesive
- Cures in approximately 45 minutes at 70°F providing quick installation times to finish the job earlier
- Achieve various embedment depths by combining mesh sleeves to customize lengths in hollow base materials
- Rebar and threaded rod tested in a wide variety of depths and diameter sizes to solve the application needs on a jobsite

Technical Data	HIT-HY 10 PLUS
Product	Hybrid Urethane Methacrylate
Base material temperature	32° F to 104° F (0° C to 40° C)
Diameter range	3/8" to 3/4"

Package volume
- Volume of HIT-HY 10 PLUS 11.1 fl oz/330 ml foil pack is 20.1 in^3
- Volume of HIT-HY 10 PLUS 16.9 fl oz/500 ml foil pack is 30.5 in^3

HIT-HY 10 PLUS Adhesive Anchor System

1.1 Product Description

Hilti HIT-HY 10 PLUS is a new hybrid adhesive mortar combining resin, hardener, cement and water. It's formulated for fast curing and easy installation in a wide range of solid and hollow concrete and masonry base material with temperatures during installation from 32°F (0°C) up to 104°F (40°C). HIT-HY 10 PLUS is styrene free and virtually odorless.

HIT-HY 10 PLUS Adhesive Anchor System is easy to use in a wide variety of applications. The system consists of a side-by-side self opening adhesive cartridge which fits all Hilti MD and ED dispensers, a mixing nozzle which comes with every cartridge, and either a threaded rod or rebar (purchased separately).

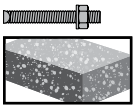
HIT-HY 10 PLUS is designed for fastenings into solid base materials, such as concrete, and is also suitable for fastening into base materials containing voids and holes such as hollow block and clay brick with holes when used with a screen tube.

Features	Benefits
For virtually all base materials	Good performance from one product for many applications
Reusable	Open cartridges may be stored for up to 20 days by leaving the mixer attached
Easy to use	Low dispensing forces
Suitable for dry and saturated base materials	Application versatility
Suitable for in-service temperatures up to 122°F (long term) and 176°F (short term)	Flexibility for use in demanding environments

1.2 Material Specifications

Material Specifications	Mechanical Properties			
	f_y ksi (MPa)		*min.* f_u ksi (MPa)	
Standard threaded rod, ASTM A 36, 9SMNPB36K and/or 9SMN36K conforming to DIN 1651.	36	(248)	58	(400)
HAS-E Rod material meets the requirements of ISO 898 Class 5.8	58	(400)	72.5	(500)
HAS-H Rod material meet the requirements of ASTM A 193 Grade B7	105	(724)	125	(862)
Stainless HAS rod material meets the requirements of ASTM F 593 (AISI 304) Condition CW 3/8"-5/8"	65	(448)	100	(689)
Stainless HAS rod material meets the requirements of ASTM F 593 (AISI 304) Condition CW 3/4"	45	(310)	85	(586)
HAS-E Standard Nut Material meets the requirements of SAE J995 Grade 5				
HAS Stainless Steel Nut material meets the requirements of ASTM F 594				
HAS-E Carbon Steel and Stainless Steel Washers meet dimensional requirements of ANSI B18.22.1 Type A Plain				
HAS Stainless Steel Washers meet the requirements of AISI 304 or AISI 316 conforming to ASTM A 240				
HAS-E Standard Washers meet the requirements of ASTM F 884, HV				
All HAS-H and HAS-E rods, nuts & washers are zinc plated to ASTM B 633 SC 1				

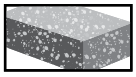
HIT-HY 10 PLUS Allowable Bond/Concrete Capacity and Steel Strength for HAS / Threaded Rods in Normal Weight Concrete [1, 2, 3, 4]



Anchor Diameter in. (mm)	Enbedment Depth in. (mm)	HIT-HY 10 PLUS Allowable Bond/Concrete Capacity $f'_c \geq 2500$ psi (≥17 MPa)		Allowable Bolt Strength[4]			
				HAS-E Standard Carbon Steel		HAS-SS AISI (304/316) Stainless Steel	
		Tensile lb (kN)	Shear lb (kN)	Tensile lb (kN)	Shear lb (kN)	Tensile lb (kN)	Shear lb (kN)
3/8 (9.5)	2-1/4 (57)	750 (3.3)	1325 (5.9)	2640 (11.7)	1360 (6.0)	3645 (16.2)	1880 (8.4)
	3-3/8 (86)	1985 (8.8)	3135 (13.9)				
	4-1/2 (114)	2140 (9.5)	4820 (21.4)				
1/2 (12.7)	3 (76)	1405 (6.2)	2730 (12.1)	4700 (20.9)	2420 (10.8)	6480 (28.8)	3340 (14.9)
	4-1/2 (114)	3530 (15.7)	5570 (24.8)				
	6 (152)	4295 (19.1)	8575 (38.1)				
5/8 (15.9)	3-3/4 (95)	1925 (8.6)	4065 (18.1)	7340 (32.6)	3780 (16.8)	10125 (45.0)	5215 (23.2)
	5-5/8 (143)	4290 (19.1)	8580 (38.2)				
	7-1/2 (191)	5715 (25.4)	11430 (50.8)				
3/4 (19.1)	4-1/2 (114)	2740 (12.2)	6065 (27.0)	10570 (47.0)	5445 (24.2)	12390 (55.1)	6385 (28.4)
	7-1/2 (191)	5880 (26.2)	11760 (52.3)				
	9 (229)	7055 (31.4)	14110 (62.8)				

1 Concrete/bond values above to be compared to the steel value. The lesser of the values is to be used for the design.
2 Allowable concrete tension and shear capacity based on the Strength Design method.
3 All values based on holes drilled with the specified carbide bit.
4 Steel strength as defined in AISC Manual of Steel Construction (ASD):
Tensile - 0.33 x F_u x Nomimal Area
Shear - 0.17 x F_u x Nominal Area

HIT-HY 10 PLUS Anchor Spacing and Edge Distance Guideliness for Normal Weight Concrete [1]



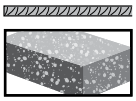
Spacing
Tension and Shear
$s_{min} = 3.0\ h_{ef}$

Edge Distance
Tension and Shear
$c_{min} = 2.0\ h_{ef}$

1 Minimum anchor spacing and edge distance necessary to have no reduction in anchor capacity, where h_{ef} is the effective embedment of the anchor.

1.3 Technical Data

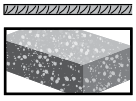
HIT-HY 10 PLUS Allowable Bond/Concrete Capacity and Steel Strength for Rebar in Normal Weight Concrete [1, 2, 3, 4]



Anchor Diameter in. (mm)	Enbedment Depth in. (mm)	HIT-HY 10 PLUS Allowable Bond/Concrete Capacity $f'_c \geq$ 2500 psi (≥17 MPa)		Grade 60 Rebar	
		Tensile lb (kN)	Shear lb (kN)	Yield Strength lb (kN)	Tensile Strength lb (kN)
#3 (9.5)	2-1/4 (57)	750 (3.3)	1325 (5.9)	6600 (29.4)	9900 (44.0)
	4-1/2 (114)	2140 (9.5)	4820 (21.4)		
#4 (12.7)	3 (76)	1405 (6.2)	2730 (12.1)	12000 (53.4)	18000 (80.1)
	6 (152)	4295 (19.1)	8575 (38.1)		
#5 (15.9)	3-3/4 (95)	1925 (8.6)	4065 (18.1)	18600 (82.7)	27900 (124.1)
	7-1/2 (191)	5715 (25.4)	11430 (50.8)		
#6 (19.1)	4-1/2 (114)	2740 (12.2)	6065 (27.0)	26400 (117.4)	39600 (176.1)
	9 (229)	7055 (31.4)	14110 (62.8)		

1 Concrete/bond values above to be compared to the steel value. The lesser of the values is to be used for the design.
2 Allowable concrete tension and shear capacity based on the Strength Design method.
3 All values based on holes drilled with the specified carbide bit.
4 Rebar steel strength based on minimum steel strength and cross sectional area of rebar per ASTM.

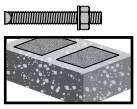
HIT-HY 10 PLUS Allowable Bond/Concrete Capacity and Steel Strength for Canadian Rebar in Normal Weight Concrete [1, 2, 3, 4]



Rebar Size	Enbedment Depth (mm)	HIT-HY 10 PLUS Allowable Bond/Concrete Capacity $f'_c \geq$ 14.0 Mpa		Strength Properties of Metric Rebar $f_y \geq$ 400 Mpa	
		Tensile (kN)	Shear (kN)	Yield Strength (kN)	Tensile Strength (kN)
10M	55	3.3	5.9	40	60
	115	9.5	21.4		
15M	95	8.6	18.1	80	120
	190	25.4	50.8		
20M	115	12.2	27.0	120	180
	230	31.4	62.8		

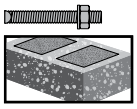
1 Concrete/bond values above to be compared to the steel value. The lesser of the values is to be used for the design.
2 Allowable concrete tension and shear capacity based on the Strength Design method.
3 All values based on holes drilled with the specified carbide bit.
4 Rebar steel strength based on minimum steel strength and cross sectional area of rebar per ASTM.

1.3 Technical Data



Allowable Tension Loads for Threaded Rods in the Vertical Face of Grout-Filled Concrete Masonry Units (lb)[1, 2, 7, 8, 9, 10, 11]

Anchor Diameter (inches)	Embedment (inches)[3]	Load @ c_{cr} and s_{cr}	Spacing[4]			Edge Distance[5]		
			Critical, s_{cr} (inches)	Minimum, s_{min} (inches)	Load Reduction Factor at s_{min}[6]	Critical, c_{cr} (inches)	Minimum, c_{min} (inches)	Load Reduction Factor at c_{min}[6]
3/8	3-3/8	950	13.5	4	0.50	12	4	0.75
1/2	4-1/2	1500	18	4	0.50	20	4	0.75
5/8	5-5/8	2125	22.5	4	0.50	20	4	0.60
3/4	6-3/4	2850	27	4	0.50	20	4	0.60

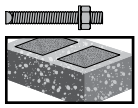


Allowable Shear Loads for Threaded Rods in the Vertical Face of Grout-Filled Concrete Masonry Units (lb) [1, 2, 7, 8, 9, 10, 11]

Anchor Diameter (inches)	Embedment (inches)[3]	Load @ c_{cr} and s_{cr}	Spacing[4]			Edge Distance[5]			
			Critical, s_{cr} (inches)	Minimum, s_{min} (inches)	Load Reduction Factor at s_{min}[6]	Critical, c_{cr} (inches)	Minimum, c_{min} (inches)	Load Reduction Factor at c_{min}[6]	
								Load Perpendicular to Edge	Load Parallel to Edge
3/8	3-3/8	675	13.5	4	0.50	12	4	0.88	1.00
1/2	4-1/2	1125	18	4	0.50	12	4	0.50	1.00
5/8	5-5/8	1950	22.5	4	0.50	20	4	0.33	0.75
3/4	6-3/4	3000	27	4	0.50	20	4	0.25	0.60

1 All values are for anchors installed in fully grouted concrete masonry with minimum masonry prism strength of 1500 psi. Concrete masonry units shall be light-, medium-, or normal-weight conforming to ASTM C 90.
2 Anchors may be installed in any location in the face of the masonry wall (cell, bed joint, or web), except anchors must not be installed in or within one inch in any direction of a vertical (head) joint.
3 Embedment depth is measured from the outside face of the concrete masonry unit.
4 The critical spacing, s_{cr}, is the anchor spacing where full load values in the Table may be used. The minimum spacing, s_{min}, is the minimum anchor spacing for which values are available and installation is recommended. Spacing is measured from the center of one anchor to the center of an adjacent anchor.
5 The critical edge distance, c_{cr}, is the edge distance where full load values in the Table may be used. The minimum edge distance, c_{min}, is the minimum edge distance for which values are available and installation is recommended. Edge distance is measured from the center of the anchor to the closest edge.
6 Load reduction factors are multiplicative, both spacing and edge distance load reduction factors must be considered.
Load values for anchors installed at less than s_{cr} and c_{cr} must be multiplied by the appropriate load reduction factor for all edge distances (c) or anchor spacings (s).
7 Linear interpolation of load values between minimum spacing (s_{min}) and critical spacing (s_{cr}) and between minimum edge distance (c_{min}) and critical edge distance (c_{cr}) is permitted.
8 Concrete masonry wall thickness must be equal to or greater than 1.5 times the anchor embedment depth. EXCEPTION: the 5/8-inch- and the 3/4-inch-diameter anchors may be installed in minimum nominally 8-inch-thick concrete masonry.
9 When using the basic load combinations in accordance with IBC Section 1605.3.1, tabulated allowable loads must not be increased for seismic or wind loading. When using the alternative basic load combinations in IBC Section 1605.3.2 that include seismic or wind loads, tabulated allowable loads may be increased by 33-1/3 percent, or the alternative basic load combinations may be reduced by a factor of 0.75.
10 Tabulated allowable loads shall be adjusted for increased base material temperatures in accordance with Figure 1, as applicable.
11 For combined tension and shear loading: $\frac{Tapplied}{Tallowable} + \frac{Vapplied}{Vallowable} \leq 1$

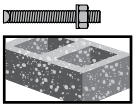
1.3 Technical Data



Allowable Tension and Shear Loads for Threaded Rods in the Top of Grout-Filled Concrete Masonry Units (lb)[1, 2, 3, 5, 6, 7]

Anchor Diameter (inches)	Embedment (inches)	Edge Distance[4] (inches)	Minimum Edge Distance (inches)	Tension Load	Shear Load	
					Load Parallel to Edge of Masonry Wall	Load Perpendicular to Edge of Masonry Wall
1/2	4-1/2	1-3/4	8	880	640	260
		4		1190	1090	405
5/8	5-5/8	1-3/4		1100	950	305
		4		1400	1370	490

1 All values are for anchors installed in fully grouted concrete masonry with minimum masonry prism strength of 1500 psi. Concrete masonry units they shall be light-, medium-, or normal-weight conforming to ASTM C 90.
2 When using the basic load combinations in accordance with IBC Section 1605.3.1, tabulated allowable loads must not be increased for seismic or wind loading. When using the alternative basic load combinations in IBC Section 1605.3.2 that include seismic or wind loads, tabulated allowable loads may be increased by 33-1/3 percent, or the alternative basic load combinations may be reduced by a factor of 0.75.
3 No more than one anchor shall be permitted to be installed in each CMU block.
4 The tabulated edge distance is measured from the anchor centerline to the edge of the CMU block.
5 Anchors are not permitted to be installed in a head joint, flange or web of the concrete masonry unit.
6 Linear interpolation of load values between the two tabulated edge distances is permitted.
7 Tabulated allowable loads shall be adjusted for increased base material temperatures in accordance with Figure 1, as applicable.



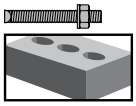
Allowable Tension and Shear Loads for Threaded Rods in the Vertical Face of Hollow Concrete Masonry Units (lb)[1, 3, 4, 5, 6, 7]

Anchor Diameter (inches)	Embedment (inches)[2]	Tension Load	Shear Load	Minimum Edge Distance, c_{min} (inches)
1/4	2	115	170	4
5/16	2	185	250	4
3/8	2	260	395	4
1/2	2	260	615	4

1 All values are for anchors installed in light-, medium-, or normal-weight hollow concrete masonry units conforming to ASTM C 90.
2 Tabulated embedment depth is the length of the plastic HIT-SC screens.
3 Anchors shall be installed in the face of the hollow CMU masonry wall. A maximum of two anchors for each cell of the HCMU block is allowed.
4 Tabulated values are for one anchor installed in the center of the cell of the hollow CMU. When two anchors are installed in the same cell, they shall be spaced a minimum of 4 inches apart, and their allowable load reduced by 30%.
5 The minimum edge distance, c_{min}, is the minimum edge distance for which values are available and installation is recommended. Edge distance is measured from the center of the anchor to the closest edge.
6 Anchors are not recognized for resisting earthquake forces. For short-term loading due to wind forces, the allowable loads shall not be increased.
7 Tabulated allowable loads shall be adjusted for increased base material temperatures in accordance with Figure 1, as applicable.

1.3 Technical Data

Allowable Tension and Shear Loads for Threaded Rods in the Vertical Face of Hollow Clay Brick (lb)



Anchor Diameter (inches)	Embedment (inches)[2]	Tension Load	Shear Load	Minimum Spacing, s_{min} (inches)	Minimum Edge Distance, c_{min} (inches)
1/4	3-1/4	275	230	8	12
5/16	3-1/4	425	400		
3/8	3-1/4	580	700		
1/2	3-1/4	580	1030		

1 All values are based on mortar shear strength of 40 psi or greater.
2 Tabulated embedment depth is the length of the plastic HIT-SC screens.
3 Anchors shall be installed in the face of the brick wall and in the center of the individual brick.
4 No more than one anchor shall be permitted to be installed in each brick.
5 The minimum edge distance, c_{min}, and the minimum spacing, s_{min}, are the minimum distances for which values are available and installation is recommended. Edge distance is measured from the center of the anchor to the closest edge. Spacing is measured from the center of one anchor to the center of an adjacent anchor
6 No adjustment for wind or earthquake loading is permitted with the tabulated loads.
7 Tabulated allowable loads shall be adjusted for increased base material temperatures in accordance with Figure 1, as applicable.

Gel Time Table (Approximate)

Minimum Base-Material Temperature		Approximate Gel Time
°F	°C	
32	0	10 minutes
41	5	10 minutes
50	10	8 minutes
68	20	5 minutes
86	30	3 minutes
104	40	2 minutes

For SI: °C = 5/9 (°F - 32 °F)

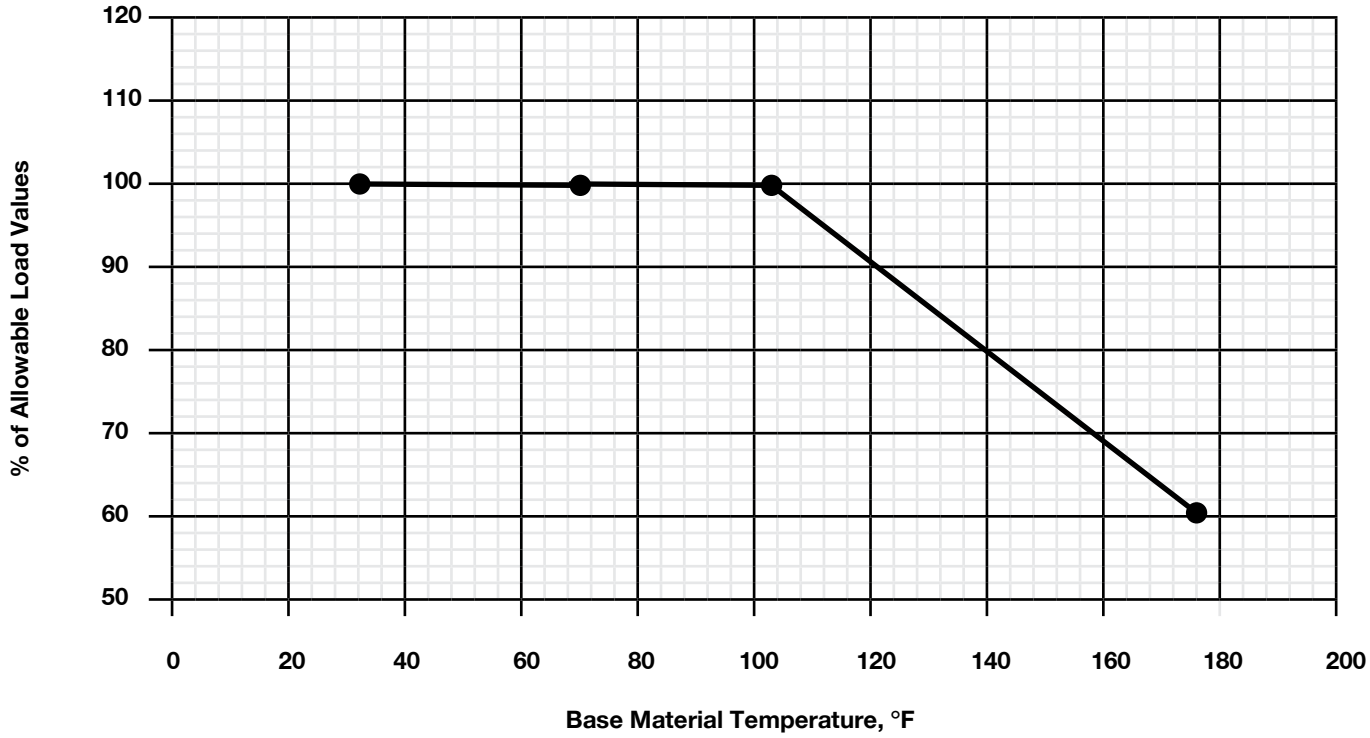
Curing Time Table (Approximate)

Minimum Base-Material Temperature		Approximate Curing Time
°F	°C	
32	0	4 hours
41	5	2 hours
50	10	1.5 hours
68	20	45 minutes
86	30	30 minutes
104	40	20 minutes

For SI: °C = 5/9 (°F - 32 °F)

1.3 Technical Data

Figure 1 — Influence of Base Material Temperature on Bond Strength of Hilti HIT-HY 10 PLUS[1, 2]



1 Short term temperature loading only for temperatures greater than 122 °F. Short term elevated temperatures are those that occur over brief intervals, e.g., as a result of diurnal cycling. Long term temperatures are roughly constant over significant periods of time.
2 Published allowable tension and shear loads shall be reduced by the reduction percentage listed above.

Figure 2 — Locations for HIT-HY 10 PLUS Anchor System in Grout-Filled CMU (Anchor Installation is Restricted to Non-Shaded Area)

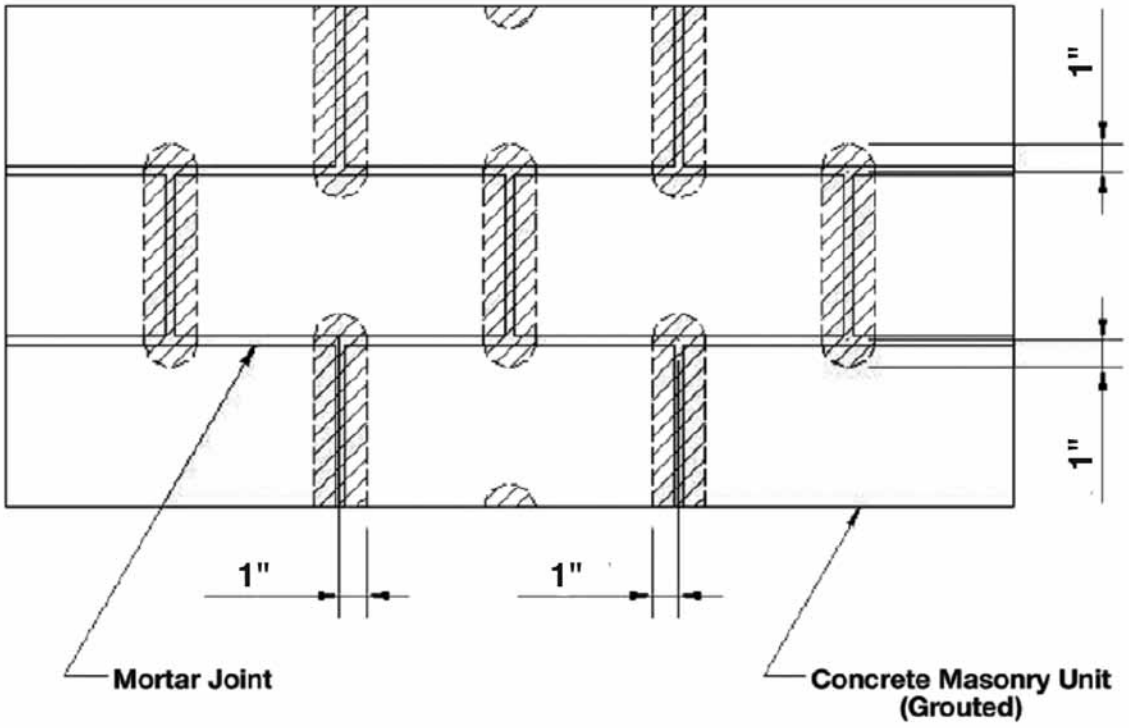
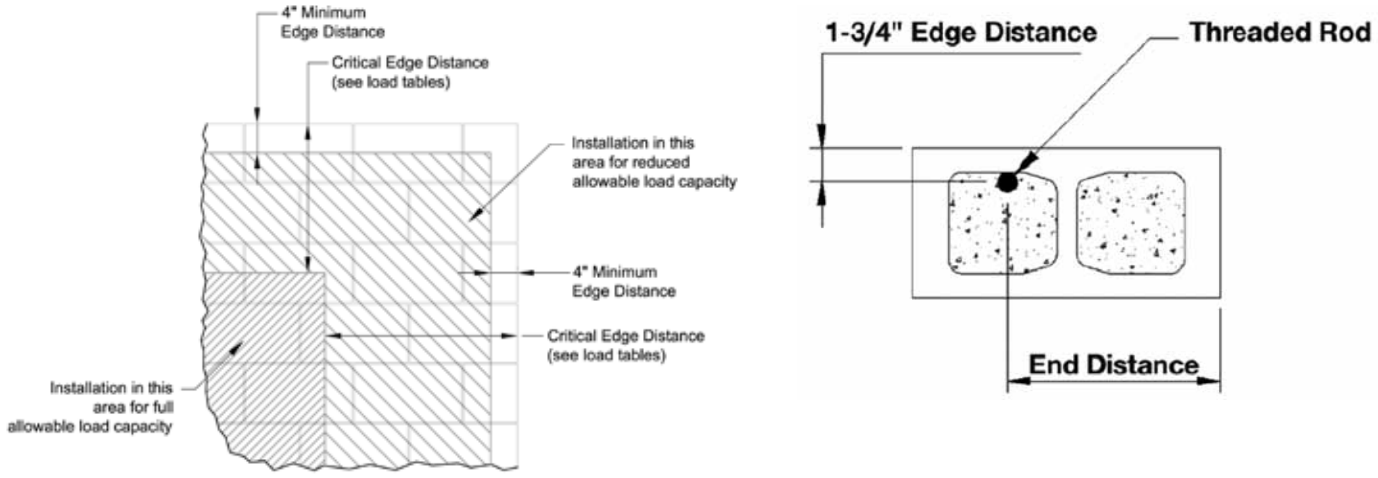


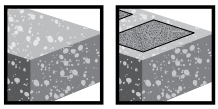
Figure 3 — Edge Distances for Anchors Installed in the Vertical Face of Concrete Masonry Wall Contruction (Left); Edge and End Distances for Threaded Rods Installed in the Top of Grout-Filled CMU Masonry Wall Construction

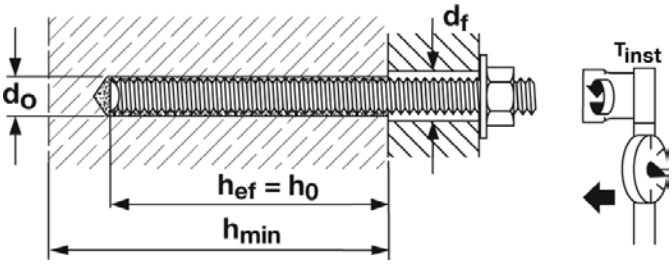


1.3 Technical Data

HIT-HY 10 PLUS Installation Specification Tables

Setting Details of Hilti HIT-HY 10 PLUS with Threaded Rod HAS

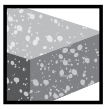


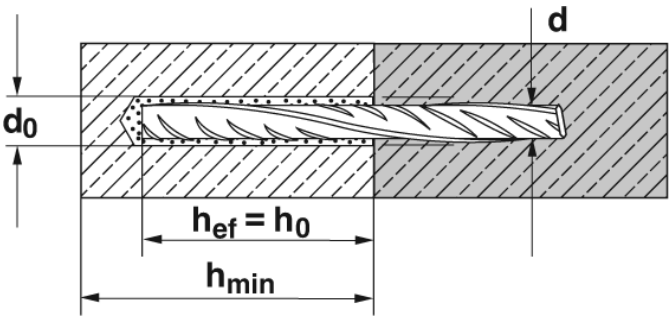


Inch Sizes

Rod Diameter / Setting Detail	d		in.	3/8	1/2	5/8	3/4
Drill Bit Diameter	d_0		in.	7/16	9/16	3/4	7/8
Embedment Depth (concrete)	h_{ef}		in.	2-1/4 to 4-1/2	3 to 6	3-3/4 to 7-1/2	4-1/2 to 9
Embedment Depth (grout-filled CMU)	h_{ef}		in.	3-3/8	4-1/2	5-5/8	6-3/4
Installation Torque	T_{inst}		ft-lb	15	20	50	105
Diameter of Clearance Hole	d_f		in.	7/16	9/16	11/16	13/16
Minimum Base Material Thickness	h_{min}		in.	h_{ef} + 2 in.	h_{ef} + 2 in.	h_{ef} + 2 in.	h_{ef} + 2 in.

Setting Details of Hilti HIT-HY 10 PLUS with Reinforcement Bars





US Inch Reinforcement Bar Sizes

Setting Parameter	Symbol	unit	# 3	# 4	# 5	# 6
Rod Diameter / Setting Detail	d	in.	3/8	1/2	5/8	3/4
Drill Bit Diameter[1]	d_0	in.	7/16	9/16	3/4	7/8
Embedment Range $h_{ef,min}$ - $h_{ef,max}$	h_{ef}	in.	2-1/4 to 4-1/2	3 to 6	3-3/4 to 7-1/2	4-1/2 to 9
Minimum Base Material Thickness	h_{min}	in.	h_{ef} + 2 in.	h_{ef} + 2 in.	h_{ef} + 2 in.	h_{ef} + 2 in.

1 Rebar diameter may vary. Use smallest drill bit that will accommodate rebar.

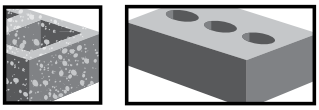
Canadian Reinforcement Bar Sizes

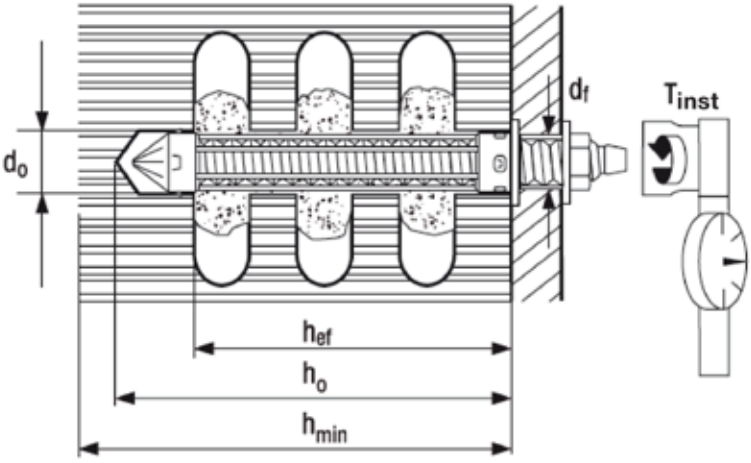
Setting Parameter	Symbol	unit	10M	15M	20M
Rod Diameter / Setting Detail	d	mm	10	15	20
Drill Bit Diameter[1]	d_0	in.	9/16	3/4	1
Embedment Range $h_{ef,min}$ - $h_{ef,max}$	h_{ef}	mm	60 - 115	95 - 190	115 - 230
Minimum Base Material Thickness	h_{min}	mm	h_{ef} + 50	h_{ef} + 50	h_{ef} + 50

1 Rebar diameter may vary. Use smallest drill bit that will accommodate rebar.

1.3 Technical Data

Setting Details of Hilti HIT-HY 10 PLUS with HAS





Characteristic	Symbol	Units	Hollow Concrete Masonry				Clay Brick with Holes		
			HAS Rod				HAS Rod		
Anchor Rod Size	d	in.	1/4	5/16	3/8	1/2	5/16	3/8	1/2
Drill Bit Diameter	d_0	in.	1/2	5/8	5/8	11/16	5/8	5/8	7/8
Minimum Hole Depth	h_0	in.	Through face cell				3-3/4		
Effective Embedment Depth	h_{ef}	in.	2				3-1/8		
Required Screen		mm	12 x 50	16 x 50	16 x 50	18 x 50	16 x 85	16 x 85	18 x 85
Installation Torque	T_{inst}	ft-lb	2.2	2.2	3.0	4.5	2.2	3.0	4.5
Approximate Fastening per Cartridge[1]	-	Small	24	16	16	9	8	8	5
		Medium	38	25	25	15	13	13	8
Approximate Filling Volume[2]	-	ml	12	18	18	30	35	35	55
MD 2500	-	Approx. number of trigger pulls	2	3	3	5	6	6	9
ED 3500	-	Approx. number of trigger pulls	3	4	4	7	8	8	12

1 Assumes no waste.
2 Screen must filled entirely prior to inserting threaded rod.

Product name: **HILTI HY10 Plus Adhesive**

Description: Methacrylate resin and hardener. Part A is in the large tube; Part B is in the small one.

Supplier: Hilti, Inc. P.O. Box 21148, Tulsa, OK 74121

Emergency # (Chem-Trec.): 1 800 424 9300 (USA, PR, Virgin Islands, Canada); 001 703 527 3887 (other countries)

INGREDIENTS AND EXPOSURE LIMITS

Ingredients:	CAS Number:	TLV:	PEL:	STEL:
Part A:				
Quartz sand	14808-60-7	0.025 mg/m³ (R)	$\frac{10\ mg/m^3(R)}{\%SiO_2 + 2}$	NE
Hydroxypropyl methacrylate	27813-02-1	NE	NE	NE
Trimethylolpropane trimethacrylate	3290-92-4	NE	NE	NE
Amorphous silica	7631-86-9	NE	NE	NE
Part B:				
Quartz sand	14808-60-7	0.025 mg/m³ (R)	$\frac{10\ mg/m^3(R)}{\%SiO_2 + 2}$	NE
Dibenzoyl peroxide	00094-36-0	5 mg/m³	5 mg/m³	NE

Abbreviations: **(R)** indicates “as respirable dust”. **PEL** = OSHA Permissible Exposure Limit. **TLV** = ACGIH Threshold Limit Value. **STEL** = Short Term Exposure Limit (15 minute time-weighted average). **NE** = None Established.

PHYSICAL DATA

Appearance:	Gray paste	**Odor:**	Ester-like odor
Vapor Density: (air = 1)	Not determined	**Vapor Pressure (@68° F)**	Not determined
Boiling Point:	464° F	**VOC Content:**	36 g/l
Evaporation Rate:	Not determined	**Solubility in Water:**	Insoluble
Specific Gravity:	1.7	**pH:**	6 (part B)

FIRE AND EXPLOSION HAZARD DATA

Flash Point:	>214° F	**Ignition Temperature:**	671° F
Extinguishing Media:	CO_2, Dry Chemical, Foam, Water spray		
Special Fire Fighting Procedures:	Use a self-contained breathing apparatus when fighting fires involving chemicals.		
Unusual Fire and Explosion Hazards:	None known. Thermal decomposition products can be formed.		

REACTIVITY DATA

Stability:	Dibenzoyl peroxide decomposes (non-violently) at 150° F. Ignition does not occur due to the water content (> 5%).
Hazardous Polymerization:	Will not occur.
Incompatibility:	Strong acids and oxidizing agents. Do not store in direct sunlight.
Decomposition Products:	Thermal decomposition can yield C 0O and NO_x.
Conditions to Avoid:	Avoid temperature extremes which could shorten the shelf-life of this product; i.e. below 41° F and above 77° F. (See handling and storage requirements).

HEALTH HAZARD DATA

Known Hazards:	Eye and skin irritation. Possible sensitizer.
Signs and Symptoms of Exposure:	**Eyes:** Can cause irritation. **Skin:** Prolonged and repeated contact can cause irritation. An allergic skin reaction (sensitization e.g. rash, itching, reddening) can occur with some individuals. **Inhalation:** Possible irritation. **Ingestion:** Not a likely route of exposure.

Routes of Exposure:	Contact. Inhalation.
Carcinogenicity:	IARC classifies crystalline silica (quartz sand) as a Gp I carcinogen based upon evidence among workers in industries where there has been long-term and chronic exposure (via inhalation) to silica dust. This product does not pose a dust hazard; therefore, this classification is not relevant.
Medical Conditions Aggravated by Exposure:	Eye, skin, and respiratory conditions.

EMERGENCY AND FIRST AID PROCEDURES

Eyes:	Flush with plenty of water. Contact a physician if symptoms occur.
Skin:	Wash with soap and water.
Inhalation:	Move victim to fresh air. Contact a physician if symptoms persist.
Ingestion:	Do not induce vomiting unless directed by a physician. Contact a physician immediately.
Other:	Referral to a physician is recommended if there is any question about the seriousness of the injury/exposure.

CONTROL MEASURES AND PERSONAL PROTECTIVE EQUIPMENT

Ventilation:	General (natural or mechanically induced fresh air movements).
Eye Protection:	Safety glasses with side shields.
Skin Protection:	Impermeable gloves recommended.
Respiratory Protection:	None normally required. Where ventilation is inadequate to control vapors, use a NIOSH-approved respirator with organic vapor cartridges. If dusts are generated during demolition or removal, wear an appropriate dust mask or respirator.

PRECAUTIONS FOR SAFE HANDLING AND USE

Handling and Storing Precautions:	Store in a cool, dry area preferably between 41º and 77º F. Do not store in direct sunlight. Avoid prolonged or repeated contact. Use with adequate ventilation. Always wash thoroughly after handling chemical products. For industrial use only. Keep out of reach of children.
Spill Procedures:	Take up with an absorbent material and place in a container for proper disposal.

REGULATORY INFORMATION

Hazard Communication:	This MSDS has been prepared in accordance with the federal OSHA Hazard Communication Standard. 29 CFR 1910.1200.
HMIS Codes:	Health 1, Flammability 1, Reactivity 0, PPE B
DOT Shipping Name:	Not regulated
IATA / ICAO Shipping Name:	Not regulated
TSCA Inventory Status:	All chemical components listed on TSCA inventory.
SARA Title III, Section 313:	This product contains 5 - 10% Benzoyl peroxide (CAS #94-36-0) which is subject to reporting under Section 313 of SARA Title III (40 CFR Part 372).
EPA Waste Code(s):	Not regulated by EPA as a hazardous waste
Waste Disposal Methods:	Consult with regulatory agencies or your corporate personnel for disposal methods that comply with local, state, and federal safety, health and environmental regulations.

CONTACTS

Customer Service:	1 800 879 8000	**Technical Service:** 1 800 879 8000
Health / Safety:	1 800 879 6000	
Emergency # (Chem-Trec):	1 800 424 9300 (USA, PR, Virgin Islands, Canada); 001 703 527 3887 (other countries)	

The information and recommendations contained herein are based upon data believed to be correct; however, no guarantee or warranty of any kind expressed or implied is made with respect to the information provided.

Hilti. Outperform. Outlast.

P.O. Box 21148, Tulsa, OK 74121 • Hilti, Inc. (U.S.) 1-800-879-8000 • **www.us.hilti.com** • en español 1-800-879-5000 • Hilti (Canada) Corp. 1-800-363-4458 **www.hilti.ca** • Hilti is an equal opportunity employer • Hilti is a registered trademark of Hilti, Corp.
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The data contained in this literature was current as of the date of publication. Updates and changes may be made based on later testing. If verification is needed that the data is still current, please contact the Hilti Technical Support Specialists at 1-800-363-4458. All published load values contained in this literature represent the results of testing by Hilti or test organizations. Local base materials were used. Because of variations in materials, on-site testing is necessary to determine performance at any specific site. Laser beams represented by red lines in this publication. Printed in the United States

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