

HILTI

Bi-Metal
KWIK-FLEX
Self-Drilling Fasteners



Bi-Metal KWIK FLEX Fasteners: 300 series (18-8) stainless steel for maximum corrosion resistance with carbon steel tip for maximum drilling performance.

Owners, architects and design engineers expect longer life cycles from buildings. Extended warranties and use of more sustainable materials add up to greater expectations for performance – from structural integrity to the purely aesthetic – of all building components.

The Solution: Bi-Metal KWIK-FLEX Self-Drilling Fasteners

- Made of 300 series (18-8) stainless steel alloy to provide unmatched corrosion resistance in your toughest applications
- Fused and hardened carbon steel drill point and lead threads quickly drill and tap structural steel and aluminum up to 1/2" thick
- Coated with silver-colored Kwik-Cote, a galvanic barrier to help protect aluminum components from accelerated corrosion when in contact with 300 series stainless steel
- 300 series stainless alloy is virtually immune to delayed embrittlement failures seen with hardened 400 series stainless self-drilling fasteners

300 series stainless alloy is virtually immune to Hydrogen-Assisted Stress-Corrosion Cracking (HASCC). Hardened 410 stainless steel, 410 super-passivated stainless steel and 400 modified stainless steel self-drilling screws are generally considered susceptible to HASCC. Conventional hardened carbon steel screws with coatings that do not have Kwik Flex technology (differential hardness) are also generally considered susceptible to HASCC.

Minimize Corrosion in Your Applications

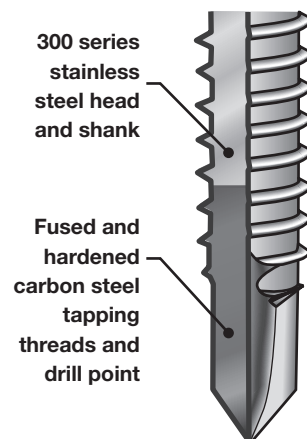
- Exposed anchoring/coastal/aggressive environments
- Curtain wall/window wall systems/rain screen systems
- Windows/doors/awnings/thresholds
- Panel systems to steel or aluminum framing
- Aluminum enclosures
- ACQ-treated wood (especially for applications with unknown or uncontrolled moisture conditions)
- Brick veneer anchoring

Installation recommendation - Since the Bi-Metal KWIK FLEX fasteners are 300 series (18-8) stainless steel and generally considered non-magnetic, conventional magnetic setters will not retain them. Hilti offers Red Ring Setters to provide fast, reliable and consistent driving of the Bi-Metal Kwik Flex fasteners.



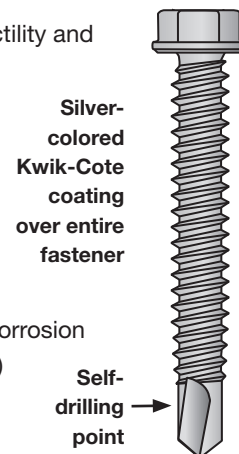
Features

- Bi-metal technology – 300 (18-8) stainless steel head and shank
- Fused and hardened carbon steel drill point
- Silver-colored Kwik-Cote coating
- Wide variety of sizes and head styles

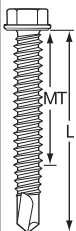



Benefits

- Outstanding corrosion resistance and long service life
- Corrosion resistance superior to hardened 400 series stainless fasteners and conventional carbon steel fasteners with coatings
- High strength, ductility and reliability
- Virtually immune to delayed embrittlement failures
- Virtually immune to Hydrogen-Assisted Stress-Corrosion Cracking (HASCC)
- Greater galvanic compatibility in dissimilar metal applications involving aluminum
- Quickly drill and tap into steel or aluminum up to 1/2" thick
- High in-place value over the life of structures, components and systems



Selection Guide

	Description	Size	Length (L)	Socket Recess	Point Size	Max. Drilling Cap (DC)	Max. Total Thickness ¹ (MT)
Hex Washer Head							
	S-MD 10-16 x 3/4" HWH #2 BM Kwik-Flex	12-14	3/4"	5/16" hex	2	.110"	0.320"
	S-MD 12-14 x 1" HWH #3 BM Kwik-Flex		1"		3	.210"	0.500"
	S-MD 12-14 x 1-1/2" HWH #3 BM Kwik-Flex		1-1/2"				1.00"
	S-MD 12-14 x 2-1/2" HWH #3 BM Kwik-Flex		2-1/2"				2.00"
	S-MD 12-24 x 2" HWH #5 BM Kwik-Flex	12-24	2"	3/8" hex	5	.500"	1.100"
	S-MD 14-20 x 1" HWH #3 BM Kwik-Flex	1/4-20	1"		3	.312"	0.500"
	S-MD 14-20 x 1-1/2" HWH #3 BM Kwik-Flex		1-1/2"				1.00"
	S-MD 14-20 x 2" HWH #3 BM Kwik-Flex		2"				1.500"
	S-MD 14-20 x 2-1/2" HWH #3 BM Kwik-Flex		2-1/2"				2.00"
	S-MD 14-20 x 2" HWH #5 BM Kwik-Flex	1/4-20	2"		5	.500"	1.100"
Flat Head Reamers w/wings							
	S-WW 10-16 x 1-1/2" PFH #2 BM Kwik-Flex	10-16	1-1/2"	#2 phillips	3	.140"	0.800"
	S-WW 12-24 x 2-13/16" PFH #5 BM Kwik-Flex	12-24	2-13/16"	#3 phillips	5	.500"	1.710"
	S-WW 14-20 x 2-13/16" PFH #5 BM Kwik-Flex	1/4-20	2-13/16"				1.710"
Flat Head Undercut							
	S-WD 12-14 x 1" PFHUC #3 BM Kwik-Flex	12-14	1"	#3 phillips	2	.140"	0.500"
	S-WD 12-14 x 1-1/2" PFHUC #3 BM Kwik-Flex		1-1/2"				1.00"

1 Maximum total thickness (MT) describes the maximum thickness of all attachments plus the base material thickness and is the load-bearing length of 300 series stainless under the hex head or including the flat head. Hardened carbon steel length (lead threads and point) should be completely through the base material and not in the load bearing section of the connection.

Identification

The head marking consists of the number "3" as shown below.



flat head



hex washer head

Performance Data

Ultimate Tensile Strengths - Pullout (Tension)^{1,3}

Screw Size	Drill Point Type	Drill Cap (in.)	Pull-Out (lb)								
			Steel RB60-75 50 – 66 ksi							Aluminum 6063-T5 22 ksi	
			18 ga.	16 ga.	14 ga.	12 ga.	1/8"	3/16"	1/4"	1/8"	1/4"
10-16	2	0.150	455	677	793	1394	1906	–	–	994	–
10-16	3	0.187	–	616	684	1242	1605	1527	–	961	–
12-14	2	0.187	528	750	892	1536	2602	2514	–	1132	–
12-14	3	0.210	417	679	802	1371	2028	2499	–	974	–
12-24	5	0.500	–	–	–	–	–	2110	2781	538	1995
1/4-14	2	0.210	619	885	1082	1830	2943	3535	–	1310	–
1/4-20	3	0.312	–	680	780	1442	2623	3684	4069	1037	2786
1/4-20	5	0.500	–	–	–	–	–	–	2622	–	1724

1 All performance data shown is based on tests performed under laboratory conditions at independent construction testing facilities. The appropriate safety factor should be applied and code requirements factored into specification and use of these fasteners. A safety factor of 4:1 or 25% of the ultimate average values shown is generally accepted as an appropriate working load for most applications. Final determination of the appropriate safety factor and use of these fasteners is the sole responsibility of the responsible person designing the connection. Due to a wide variety of application conditions or intervening factors not under our control, Hilti assumes no liability for the use of the information provided in this document. For additional product information and technical assistance, please contact Hilti directly at 1-877-749-6337.

2 Values are for 300 series stainless fastener threaded shank.

3 The lower of the ultimate pull-out and tensile fastener strength of screw should be used for design. Pullover or shear bearing capacity of the material being fastened must be independently evaluated.

Ultimate Fastener Strength of Screw^{1,2,3}

Size	Tensile (lb)	Shear (lb)
10-16	1847	1282
12-14	2628	1950
12-24	2734	2284
1/4-14	3459	2676
1/4-20	4124	2860

Ordering information - Please contact Hilti directly at 800-879-8000 (US) or 800-363-4459 (Canada) for pricing and lead times.

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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 1-800-879-8000 (U.S.) or 1-800-363-4458 (Canada). 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.