

HSL-3 Heavy Duty Sleeve Anchor



HSL-3 Heavy Duty Anchor



HSL-3-B Heavy Duty Anchor with Torque Cap

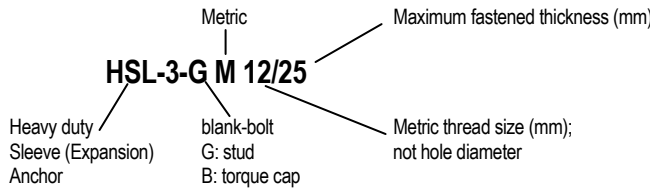


HSL-3-G Heavy Duty Anchor with Threaded Rod

Red Setting Indicator



Three accurately sized shear pins are provided in the red indicator cap. As the required installation torque (T_{inst}) is reached the red indicator cap shears off. A green seal on the bolt head appears which indicates that the anchor has been set properly.



Example: HSL-3-G M12/25

This is an HSL-3 stud anchor. The thread size is 12 mm and this anchor can attach up to a 25 mm thick plate

4.3.2.1 Product Description

The Hilti HSL-3 Heavy Duty Sleeve Anchor is a torque-controlled expansion bolt designed for high performance in static and dynamic application including the tension zone of concrete structures where cracking can be expected. HSL-3 anchors are available in metric sizes from M8 (5/16") to M24 (1"). With a variety of head configurations, including bolt, stud and torque cap. All versions are available in zinc-plated carbon steel.

Product Features

- Approved for use in the concrete tension zone (cracked concrete)
- Data for use with the Strength design provisions of ACI 318-02 Appendix D and ACI 349-01 Appendix B
- Allowable stress design data for use with ASD
- High load capacity
- Force-controlled expansion (allows for follow-up expansion)
- Reliable clamping of part fastened to overcome gaps
- Suitable for dynamic loading, including seismic, fatigue and shock
- No spinning of the anchor in hole when tightening bolt or nut
- Seismic qualification per ICC-ES AC193 and the requirements of ACI 318-02 Appendix D

Guide Specification

Expansion Anchors: Carbon steel anchor consists of hex head bolt (threaded stud), sleeve, expansion sleeve, expansion cone, collapsible plastic sleeve, (nut) and washer. Anchors shall be torque controlled expansion bolt as manufactured by Hilti, Inc.

4.3.2.2 Material Specifications

Carbon Steel Bolt or Threaded Rod for HSL-3 (Bolt), HSL-3 (Stud) and HSL-3-B conform to DIN EN ISO 898-1.

Grade 8.8, $f_y > 93$ ksi

Carbon Steel Nut conforms to DIN 934, Grade 8, $f_u > 116$ ksi

Carbon Steel Washer conforms to DIN 1544, Grade St37, $f_u > 100$ ksi

Carbon Steel Expansion Cone conforms to DIN 1654-4, $f_u > 80$ ksi

Carbon Steel Expansion Sleeve (M8-M16) conforms to DIN 10139 and (M20-M24) conforms to DIN 2393-2

Carbon Steel Spacing Sleeve conforms to DIN 2393 T1, $f_u > 100$ ksi

Collapsible Sleeve is made from acetal polyoxymethylene (POM) resin

4.3.2 HSL-3

- [4.3.2.1 Product Description](#)
- [4.3.2.2 Material Specification](#)
- [4.3.2.3 Technical Data](#)
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- [4.3.2.5 Installation Instructions](#)
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Listings/Approvals

- International Code Council Evaluation Services (ICC ES), ESR-Pending
- European Technical Approval, ETA-02/0042

HSL-3 Heavy Duty Sleeve Anchor

4.3.2.3 Technical Data

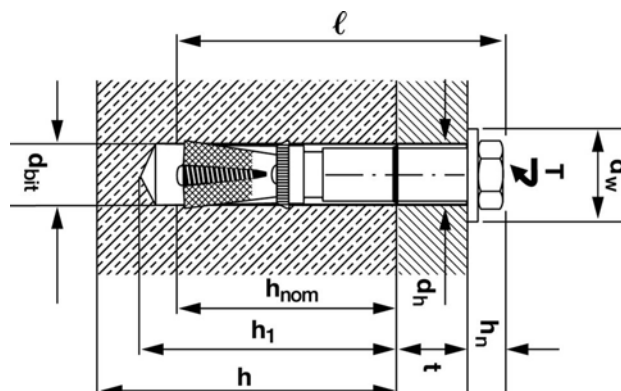
HSL-3 Specification Table

Details			HSL-3 Anchor Thread Diameter (mm)											
			M8		M10		M12		M16		M20		M24	
nominal drill bit diameter ¹	d_{bit}	mm	12		15		18		24		28		32	
Hilti matched-tolerance carbide-tipped drill bit	-	-	TE-CX 12/22 TE-YX 12/35		TE-CX 15/27 TE-YX 15/35		TE-C 18/22 TE-YX 18/32		TE-C-T 24/27 TE-YX 24/32		TE-C-T 28/27 TE-YX 28/32		TE-YX 32/37	
minimum base material thickness (to obtain smallest critical edge distance)	h	mm (in.)	110 (120) 4 3/8 (4 3/4)		120 (140) 4 3/4 (5 1/2)		135 (160) 5 3/8 (6 1/4)		160 (200) 6 1/4 (7 7/8)		190 (250) 7 1/2 (9 7/8)		225 (300) 8 7/8 (11 7/8)	
minimum hole depth	h_1	mm (in.)	80 (3 1/8)		90 (3 1/2)		105 (4 1/8)		125 (4 7/8)		155 (6 1/8)		180 (7 1/8)	
effective embedment depth ²	h_{ef}	mm (in.)	60 (2 3/8)		70 (2 3/4)		80 (3 1/8)		100 (3 7/8)		125 (4 7/8)		150 (5 7/8)	
minimum clearance hole diameter in part being fastened	d_h	mm (in.)	14 (1/2)		17 (5/8)		20 (3/4)		26 (1)		31 (1 1/4)		35 (1 3/8)	
max. cumulative gap between part(s) being fastened and concrete surface	-	mm (in.)	4 (1/8)		5 (3/16)		8 (5/16)		9 (3/8)		12 (1/2)		16 (5/8)	
maximum thickness of part fastened HSL-3, HSL-3-B	t	mm (in.)	20 (3/4)	40 (1 1/2)	20 (3/4)	40 (1 1/2)	25 (1)	50 (2)	25 (1)	50 (2)	30 (1 1/8)	60 (2 1/4)	30 (1 1/8)	60 (2 1/4)
overall length of anchor HSL-3, HSL-3-B	ℓ	mm (in.)	98 (3 7/8)	118 (4 5/8)	110 (4 3/8)	130 (5 1/8)	131 (5 1/8)	156 (6 1/8)	153 (6)	178 (7)	183 (7 1/4)	213 (8 3/8)	205 (8)	235 (9 1/4)
maximum thickness of part fastened HSL-3-G	t	mm (in.)	20 (3/4)		20 (3/4)		25 (1)	50 (2)	25 (1)	50 (2)	30 (1 1/8)	60 (2 1/4)		
overall length of anchor HSL-3-G	ℓ	mm (in.)	102 (4)		115 (4 1/2)		139 (5 1/2)	164 (6 3/8)	163 (6 3/8)	188 (7 3/8)	190 (7 1/2)	220 (8 3/4)		
washer diameter	d_w	mm (in.)	20 (3/4)		25 (1)		30 (1 1/8)		40 (1 9/16)		45 (1 3/4)		50 (2)	
installation torque HSL-3	T_{inst}	Nm (ft-lb)	25 (18)		50 (37)		80 (59)		120 (89)		200 (148)		250 (185)	
installation torque HSL-3-G	T_{inst}	Nm (ft-lb)	20 (15)		35 (26)		60 (44)		80 (59)		160 (118)			
wrench size HSL-3, HSL-3-G	-	mm	13		17		19		24		30		36	
wrench size HSL-3-B	-	mm					24		30		36		41	

For pound-inch units: 1 mm = 0.03937 inches, 1 Nm = 0.7376 ft-lbf

¹ Use metric bits only.

² h_{ef} is referred to as h_{nom} in diagram.



HSL-3 Heavy Duty Sleeve Anchor

Mechanical Anchoring Systems

Allowable Stress Design Static Tension Loads for Uncracked Normal Weight Concrete^{1,3}

Anchor Diameter	Embedment Depth h_{ef} mm (in.)	Concrete Compressive Strength ²							
		13.8 MPa (2,000 psi)		20.7 MPa (3,000 psi)		27.6 MPa (4,000 psi)		41.4 MPa (6,000 psi)	
		Condition A kN (lb)	Condition B kN (lb)	Condition A kN (lb)	Condition B kN (lb)	Condition A kN (lb)	Condition B kN (lb)	Condition A kN (lb)	Condition B kN (lb)
M8	60 (2 3/8)	7.8 (1,746)	7.8 (1,746)	9.5 (2,139)	9.5 (2,139)	11.0 (2,470)	11.0 (2,470)	13.5 (3,025)	13.5 (3,025)
M10	70 (2 3/4)	11.7 (2,631)	10.1 (2,280)	14.3 (3,222)	12.4 (2,792)	12.1 (3,720)	14.3 (3,224)	20.3 (4,556)	17.6 (3,949)
M12	80 (3 1/8)	14.3 (3,214)	12.4 (2,785)	17.5 (3,936)	15.2 (3,411)	20.2 (4,545)	17.5 (3,939)	24.8 (5,567)	21.6 (4,825)
M16	100 (3 15/16)	20.0 (4,492)	17.3 (3,893)	24.5 (5,501)	21.2 (4,768)	28.3 (6,352)	24.5 (5,505)	34.6 (7,780)	30.0 (6,743)
M20	125 (4 15/16)	27.9 (6,277)	24.2 (5,440)	34.2 (7,688)	29.6 (6,663)	39.5 (8,877)	34.2 (7,694)	48.4 (10,873)	41.9 (9,423)
M24	150 (5 15/16)	36.7 (8,252)	31.8 (7,152)	50.0 (10,106)	39.0 (8,759)	51.9 (11,670)	45.0 (10,114)	63.6 (14,292)	55.1 (12,387)

For SI: 1 lbf = 4.45 N, 1 psi = 0.00689 MPa For pound-inch units: 1 mm = 0.03937 inches

¹Values are for single anchors with no edge distance or spacing reduction.

²Values are for normal weight concrete. For sand-lightweight concrete, multiply values by 0.85. For all-lightweight concrete, multiply values by 0.75. See ACI 318-02 Section D.3.4.

³ Condition A applies where the potential concrete failure surfaces are crossed by supplementary reinforcement proportioned to tie the potential concrete failure prism into the structural member. Condition B applies where such supplementary reinforcement is not provided, or where pullout or pryout strength governs. See ACI 318-02 Appendix D section D.4.4

Allowable Stress Design Static Shear loads for Uncracked Concrete¹

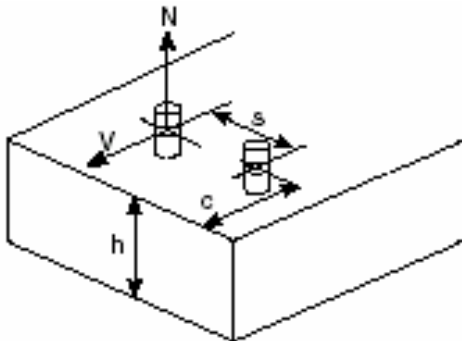
Anchor Diameter	Allowable Steel Capacity, Shear	
	HSL-3, HSL-3-B kN (lb)	HSL-3-G kN (lb)
M8	15.0 (3,361)	12.5 (2,818)
M10	21.1 (4,749)	17.3 (3,893)
M12	29.1 (6,837)	25.1 (5,647)
M16	55.2 (12,400)	46.8 (10,531)
M20	81.6 (18,349)	68.5 (15,395)
M24	94.9 (21,334)	

For SI: 1 lbf = 4.45 N

¹Values are for single anchors with no edge distance or spacing reduction due to concrete failure.

HSL-3 Heavy Duty Sleeve Anchor

4.3.2.4 Edge and Spacing Distance Guidelines for ASD Data



c = actual edge distance
s = actual spacing
h = slab thickness

Anchor Size	h_{ef} mm (in.)
M8	60 (2 3/8)
M10	70 (2 3/4)
M12	80 (3 1/8)
M16	100 (3 15/16)
M20	125 (4 15/16)
M24	150 (5 15/16)

Distance c mm (in.)	Anchor Diameter					
	M8	M10	M12	M16	M20	M24
60 (2 3/8)	0.63					
70 (2 3/4)	0.69	0.71				
83 (3 1/4)	0.78	0.79				
89 (3 1/2)	0.83	0.83	0.80			
102 (4)	0.92	0.92	0.88			
108 (4 1/4)	0.97	0.97	0.92			
111 (4 3/8)	1.00	1.00	0.94			
121 (4 3/4)			1.00	0.85		
127 (5)				0.88	0.63	
140 (5 1/2)				0.95	0.67	
149 (5 7/8)				1.00	0.70	0.75
165 (6 1/2)					0.75	0.80
178 (7)					0.80	0.84
191 (7 1/2)					0.84	0.88
203 (8)					0.90	0.92
225 (8 7/8)					1.00	1.00

Spacing s mm (in.)	Anchor Diameter					
	M8	M10	M12	M16	M20	M24
60 (2 3/8)	0.69					
70 (2 3/4)	0.72	0.67				
79 (3 1/8)	0.75	0.69	0.67			
89 (3 1/2)	0.77	0.71	0.68			
102 (4)	0.81	0.74	0.71	0.67		
127 (5)	0.88	0.80	0.75	0.71	0.67	
152 (6)	0.95	0.86	0.81	0.75	0.70	0.67
171 (6 3/4)	1.00	0.91	0.86	0.79	0.73	0.69
178 (7)		0.92	0.87	0.80	0.74	0.69
203 (8)		0.98	0.91	0.84	0.77	0.72
213 (8 3/8)		1.00	0.93	0.86	0.78	0.74
229 (9)			0.96	0.88	0.80	0.75
254 (10)			1.00	0.92	0.84	0.78
279 (11)				0.96	0.87	0.81
305 (12)				1.00	0.91	0.84
330 (13)					0.94	0.87
381 (15)					1.00	0.92
457 (18)						1.00

Notes:

 Tension reduction factors are based on a minimum base material thickness of $2 \times h_{ef}$

Shear reduction factors are based on a thick base material at the edge (i.e. no influence from a thin base material)



HSL-3 Heavy Duty Sleeve Anchor

Edge Distance Guidelines for Shear Loading by Concrete Compressive Strength- Part 1

Load Adjustment Factors, f_R , for Shear Loading Toward the Edge (single anchor)																						
Edge Distance c mm (in.)		13.8 MPa (2,000 psi)										20.7 MPa (3,000 psi)										
		HSL-3, HSL-3-B					HSL-3-G					HSL-3, HSL-3-B					HSL-3-G					
		Anchor Diameter					Anchor Diameter					Anchor Diameter					Anchor Diameter					
		M8	M10	M12	M16	M20	M24	M8	M10	M12	M16	M20	M8	M10	M12	M16	M20	M24	M8	M10	M12	M16
60 (2 3/8)	0.13						0.16					0.16						0.20				
70 (2 3/4)	0.17	0.13					0.20	0.16				0.20	0.16					0.24	0.20			
89 (3 1/2)	0.24	0.19	0.15				0.29	0.23	0.18			0.29	0.23	0.18				0.35	0.28	0.22		
102 (4)	0.29	0.23	0.18				0.35	0.28	0.21			0.36	0.28	0.22				0.43	0.35	0.26		
111 (4 3/8)	0.34	0.27	0.20				0.40	0.32	0.25			0.41	0.33	0.25				0.49	0.40	0.30		
121 (4 3/4)	0.38	0.30	0.23	0.15			0.45	0.37	0.28	0.17		0.47	0.37	0.28	0.18			0.55	0.45	0.34	0.21	
127 (5)	0.41	0.33	0.25	0.16	0.11		0.49	0.40	0.30	0.19	0.14	0.50	0.40	0.30	0.19	0.14		0.60	0.49	0.37	0.23	0.17
149 (5 7/8)	0.52	0.41	0.32	0.20	0.15	0.13	0.62	0.51	0.38	0.24	0.17	0.64	0.51	0.39	0.25	0.18	0.16	0.76	0.62	0.47	0.29	0.21
165 (6 1/2)	0.61	0.48	0.37	0.23	0.17	0.16	0.72	0.59	0.44	0.27	0.20	0.74	0.59	0.45	0.29	0.21	0.19	0.89	0.72	0.54	0.34	0.25
178 (7)	0.68	0.54	0.41	0.26	0.19	0.18	0.81	0.66	0.50	0.31	0.23	0.83	0.66	0.50	0.32	0.23	0.21	1.00	0.80	0.61	0.38	0.28
191 (7 1/2)	0.75	0.60	0.46	0.29	0.21	0.19	0.90	0.73	0.55	0.34	0.25	0.92	0.73	0.56	0.35	0.26	0.24		0.89	0.67	0.42	0.31
203 (8)	0.83	0.66	0.50	0.32	0.23	0.21	1.00	0.80	0.61	0.37	0.28	1.00	0.81	0.61	0.39	0.28	0.26		1.00	0.74	0.46	0.34
225 (8 7/8)	0.97	0.77	0.59	0.37	0.27	0.25		0.94	0.71	0.44	0.32		0.94	0.72	0.46	0.33	0.31			0.87	0.54	0.40
229 (9)	1.00	0.79	0.60	0.38	0.28	0.26		0.96	0.72	0.45	0.33		0.96	0.73	0.46	0.34	0.31			0.89	0.55	0.41
235 (9 1/4)		0.82	0.62	0.40	0.29	0.27		1.00	0.75	0.47	0.34		1.00	0.76	0.48	0.35	0.33			0.92	0.57	0.42
248 (9 3/4)		0.89	0.67	0.43	0.31	0.29			0.82	0.50	0.37			0.83	0.52	0.38	0.35			1.00	0.62	0.46
254 (10)		0.92	0.70	0.44	0.32	0.30			0.85	0.52	0.39			0.86	0.54	0.40	0.37				0.64	0.47
267 (10 1/2)		1.00	0.76	0.49	0.35	0.33			0.93	0.57	0.42			0.94	0.59	0.43	0.40				0.70	0.55
279 (11)			0.81	0.51	0.37	0.35			0.98	0.60	0.45			1.00	0.63	0.46	0.42				0.74	0.56
286 (11 1/4)			0.84	0.53	0.39	0.36			1.00	0.62	0.46				0.65	0.47	0.44				0.76	0.57
305 (12)			0.92	0.58	0.43	0.39				0.69	0.51				0.72	0.52	0.48				0.84	0.62
324 (12 3/4)			1.00	0.64	0.47	0.43				0.75	0.56				0.78	0.57	0.53				0.92	0.68
330 (13)				0.66	0.48	0.44				0.78	0.57				0.81	0.59	0.54				0.95	0.70
343 (13 1/2)				0.70	0.51	0.47				0.78	0.57				0.85	0.62	0.57				1.00	0.74
356 (14)				0.74	0.54	0.50				0.87	0.64				0.90	0.66	0.61					0.79
381 (15)				0.82	0.60	0.55				0.96	0.71				1.00	0.73	0.67					0.87
391 (15 3/8)				0.85	0.62	0.57				1.00	0.74					0.76	0.70					0.91
406 (16)				0.90	0.66	0.61					0.78					0.81	0.74					0.96
419 (16 1/2)				0.94	0.69	0.63					0.82					0.84	0.78					1.00
438 (17 1/4)				1.00	0.74	0.68					0.88					0.90	0.83					
457 (18)					0.78	0.72					0.94					0.96	0.88					
470 (18 1/2)					0.82	0.75					0.97					1.00	0.92					
483 (19)					0.85	0.78					1.00						0.96					
495 (19 1/2)					0.88	0.81											1.00					
508 (20)					0.92	0.85																
533 (21)					1.00	0.91																
559 (22)						0.98																
565 (22 1/4)						1.00																

Does not include effects of thin base materials at the edge.

HSL-3 Heavy Duty Sleeve Anchor

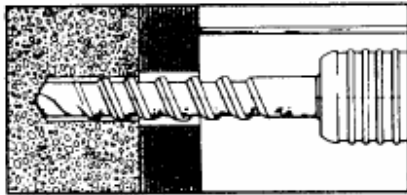
Edge Distance Guidelines for Shear Loading by Concrete Compressive Strength – Part 2

Load Adjustment Factors, f_R , for Shear Loading Toward the Edge (single anchor)																								
Edge Distance c mm (in.)	27.6 MPa (4,000 psi)												41.4 MPa (6,000 psi)											
	HSL-3, HSL-3-B						HSL-3G						HSL-3, HSL-3-B						HSL-3G					
	Anchor Diameter						Anchor Diameter						Anchor Diameter						Anchor Diameter					
	M8	M10	M12	M16	M20	M24	M8	M10	M12	M16	M20	M8	M10	M12	M16	M20	M24	M8	M10	M12	M16	M20		
60 (2 3/8)	0.19						0.23					0.23						0.28						
70 (2 3/4)	0.24	0.19					0.28	0.23				0.29	0.23					0.35	0.28					
89 (3 1/2)	0.34	0.27	0.21				0.41	0.33	0.25			0.42	0.33	0.25				0.50	0.40	0.30				
102 (4)	0.41	0.33	0.25				0.49	0.40	0.30			0.51	0.40	0.31				0.61	0.49	0.37				
111 (4 3/8)	0.47	0.38	0.29				0.57	0.46	0.35			0.58	0.46	0.35				0.69	0.56	0.43				
121 (4 3/4)	0.54	0.43	0.32	0.21			0.64	0.52	0.39	0.24		0.66	0.52	0.40	0.25			0.78	0.64	0.48	0.30			
127 (5)	0.58	0.46	0.35	0.22	0.16		0.69	0.56	0.42	0.26	0.19	0.71	0.56	0.43	0.27	0.20		0.85	0.69	0.52	0.32	0.24		
140 (5 1/2)	0.69	0.54	0.42	0.26	0.19		0.82	0.66	0.50	0.31	0.23	0.84	0.67	0.51	0.32	0.24		1.00	0.81	0.62	0.38	0.28		
149 (5 7/8)	0.74	0.59	0.45	0.28	0.21	0.19	0.88	0.71	0.54	0.33	0.25	0.90	0.72	0.55	0.35	0.25	0.23		0.87	0.66	0.41	0.30		
159 (6 1/4)	0.82	0.65	0.50	0.31	0.23	0.21	0.98	0.79	0.60	0.37	0.27	1.00	0.80	0.61	0.39	0.28	0.26		0.97	0.73	0.45	0.34		
162 (6 3/8)	0.84	0.67	0.51	0.32	0.24	0.22	1.00	0.81	0.61	0.38	0.28		0.82	0.62	0.39	0.29	0.27		1.00	0.75	0.46	0.34		
165 (6 1/2)	0.86	0.68	0.52	0.33	0.24	0.22		0.83	0.63	0.39	0.29		0.83	0.64	0.40	0.29	0.27			0.77	0.48	0.35		
178 (7)	0.96	0.76	0.58	0.37	0.27	0.25		0.93	0.70	0.43	0.32		0.93	0.71	0.45	0.33	0.30			0.86	0.53	0.39		
181 (7 1/8)	1.00	0.79	0.61	0.38	0.28	0.26		0.97	0.73	0.45	0.33		0.97	0.74	0.47	0.34	0.32			0.90	0.55	0.41		
187 (7 3/8)		0.82	0.62	0.40	0.29	0.27		1.00	0.76	0.47	0.35		1.00	0.76	0.49	0.35	0.33			0.93	0.57	0.42		
191 (7 1/2)		0.84	0.64	0.41	0.30	0.27			0.78	0.48	0.36			0.79	0.50	0.37	0.34			0.95	0.59	0.44		
197 (7 3/4)		0.89	0.68	0.43	0.31	0.29			0.82	0.51	0.37			0.83	0.53	0.38	0.35			1.00	0.62	0.46		
203 (8)		0.93	0.71	0.45	0.33	0.30			0.86	0.53	0.39			0.87	0.55	0.40	0.37				0.65	0.48		
216 (8 1/2)		1.00	0.78	0.49	0.36	0.33			0.94	0.58	0.43			0.95	0.60	0.44	0.41				0.71	0.53		
225 (8 7/8)			0.83	0.53	0.38	0.35			1.00	0.62	0.46			1.00	0.64	0.47	0.43				0.76	0.56		
254 (10)			1.00	0.63	0.46	0.42				0.74	0.55				0.77	0.56	0.52				0.91	0.67		
270 (10 5/8)				0.70	0.51	0.47				0.82	0.61				0.85	0.62	0.57				1.00	0.74		
279 (11)				0.73	0.53	0.49				0.85	0.63				0.89	0.65	0.60						0.77	
305 (12)				0.83	0.60	0.56				0.97	0.72				1.00	0.74	0.68						0.88	
311 (12 1/4)				0.85	0.62	0.57				1.00	0.74					0.76	0.70						0.91	
318 (12 1/2)				0.88	0.64	0.59					0.77					0.79	0.72						0.94	
330 (13)				0.93	0.68	0.63					0.81					0.83	0.77						1.00	
343 (13 1/2)				1.00	0.73	0.67					0.87					0.89	0.77							
356 (14)					0.76	0.70					0.91					0.93	0.86							
371 (14 5/8)					0.82	0.75					0.98					1.00	0.92							
381 (15)					0.84	0.78					1.00						0.95							
394 (15 1/2)					0.89	0.82											1.00							
406 (16)					0.93	0.86																		
425 (16 3/4)					1.00	0.92																		
448 (17 5/8)						1.00																		

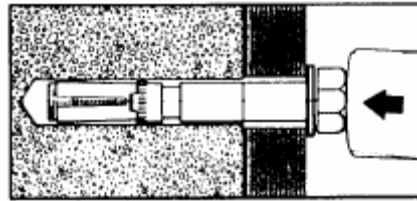
Does not include effects of thin base materials at the edge.

HSL-3 Heavy Duty Sleeve Anchor

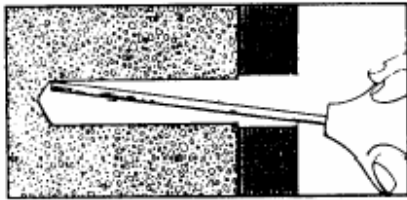
4.3.2.5 Installation Instructions



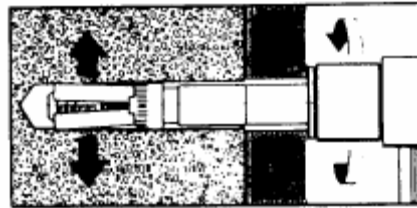
Step 1:
Using the correct diameter metric bit, drill hole to minimum required hole depth or deeper.



Step 3:
Using a hammer, tap the anchor through the part being fastened into the drilled hole until the washer is in contact with the fastened part. Do not expand anchor by hand prior to installation.



Step 2:
Remove drilling debris with a blowout bulb or with compressed air.



Step 4:
Using a torque wrench, apply the specified installation torque. HSL-3-B does not require use of a torque wrench.

Torque Wrench

4.3.2.6 Ordering Information



HSL-3 Bolt Version

Item No.	Description	Box Qty
371775	HSL-3 M 8/20	40
371776	HSL-3 M 8/40	40
371778	HSL-3 M 10/20	20
371779	HSL-3 M 10/40	20
371781	HSL-3 M 12/25	20
371782	HSL-3 M 12/50	20
371784	HSL-3 M 16/25	10
371785	HSL-3 M 16/50	10
371787	HSL-3 M 20/30	6
371788	HSL-3 M 20/60	6
371790	HSL-3 M 24/30	4
371791	HSL-3 M 24/60	4



HSL-3-B Torque Cap

Item No.	Description	Box Qty
371807	HSL-3-B M 12/5	20
371808	HSL-3-B M 12/25	20
371809	HSL-3-B M 12/50	10
371810	HSL-3-B M 16/10	10
371811	HSL-3-B M 16/25	10
371814	HSL-3-B M 20/30	6
371817	HSL-3-B M 24/30	4



HSL-3-G Stud Version

Item No.	Description	Box Qty
371793	HSL-3-G M 8/20	40
371796	HSL-3-G M 10/20	20
371799	HSL-3-G M 12/25	20
371800	HSL-3-G M 12/50	10
371802	HSL-3-G M 16/25	10
371803	HSL-3-G M 16/50	10
371805	HSL-3-G M 20/30	6
371806	HSL-3-G M 20/60	6