



ASTM A325M TYPE-1 HEAVY HEX BOLT

PRE LOAD FASTENERS ASTM A325M

STANDARDS	ASTM (8S) (American Society for Testing & Materials)													
Dimension Heavy Hex Structural Bolt B18.2.3.7M														
Nominal Dia	M16		M20		M22		M24		M27		M30		M36	
Coarse Pitch	2.00		2.50		2.50		3.00		3.00		3.50		4.00	
Thread Length	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
≤100 & ≥100 (Normal) t	31	38	36	43	38	45	41	48	44	51	49	56	56	63
Body Diameter b	15.30	16.70	19.16	20.84	21.16	22.84	23.16	24.84	26.16	24.84	29.16	30.84	35.00	37.00
Across Flat s	26.16	27.00	33.00	34.00	35.00	36.00	40.00	41.00	45.00	46.00	49.00	50.00	58.80	60.00
Across Corner e	29.56	31.18	37.29	39.26	39.55	41.57	45.20	47.34	50.85	53.12	55.37	57.74	66.44	69.28
Head Thickness k ¹	9.25	10.75	11.60	13.40	13.10	14.90	14.10	15.90	16.10	17.90	17.65	19.75	21.45	23.55
Face Washer df	24.9 min		31.4 min		33.3 min		38.0 min		42.80 min		46.50 min		55.9 min	
Face Washer Depth c	0.4	0.8	0.4	0.8	0.4	0.8	0.4	0.8	0.4	0.8	0.4	0.8	0.4	0.8
Fillet Radios r	0.6 min		0.8 min		0.8 min		1.0 min		1.2 min		1.2 min		1.5 min	
Fillet Length f	3.0 max		4.0 max		4.0 max		4.0 max		5.0 max		6.0 max		6.0 max	
Transition Diameter de	18.2 max		22.4 max		24.4 max		26.4 max		30.4 max		33.4 max		39.4 max	
Wrenching Height k ²	6.5 max		8.1 max		9.2 max		9.9 max		11.3 max		12.4 max		15.0 max	
Bearing Surface bf	0.48 max		0.59 max		0.63 max		0.70 max		0.77 max		0.85 max		1.01 max	

PRODUCT CHARACTERISTIC, STANDARD & MECHANICAL PROPERTIES

Characteristic	Standard	Size	Stress Area min	Proof Load kN	Proof Load kN ^a	Tensile Load min	Hardness HRC		
Material & Manufacture	ASTM A325M as Standard (M. Carbon Steel)	Tensile Load and Proof Load Requirements for full size bolts.							
Mechanical Properties	ASTM A325M as Standard	M16	157	94.2	104	130	25	34	
Dimension & Tolerance	ASME B18.2.3.7M	M20	245	147	162	203	25	34	
Threads	ASME B18.3M	M22	303	182	200	251	25	34	
Workmanship	ASTM F788m or ASRM F788	M24	353	212	233	293	25	34	
Finish / Coating	Hot Dip Galvanized	ASTM A153 / A153M Class C	M27	459	275	303	381	19	30
	Self Color Black	Black ASTM A325M	M30	561	337	370	466	19	30
Tolerance	6g Prior to Hot Dip Galvanized	M36	817	490	539	678	19	30	

Tensile Strength Requirement For Specimens Machine From Bolt