

# Pre - Load Heavy Hex Bolt ASTM

## ASTM Heavy Hex Bolt (A325M & ASTM A490M)

## Drwaing

### A325M Bolt

Standard Specification	<b>A325M B18.2.3.7M</b>
Material	<b>Medium Carbon Steel</b>
Strength	<b>8.8</b>
Screw Thread	<b>ASME B1.13. 6G</b>
Surface Finish	<b>Plain as Processed</b>
	<b>Hot Dip Galvanized</b>

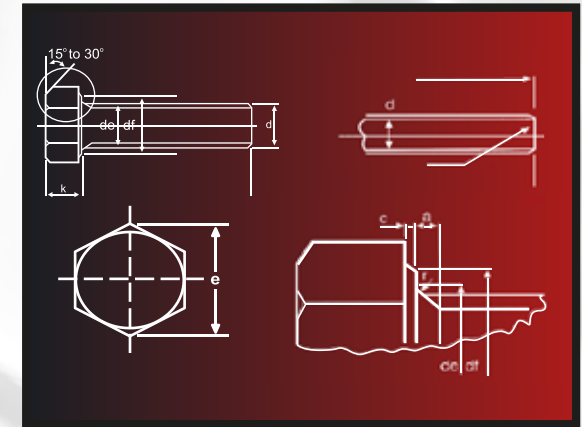
### A490M Bolt

Standard Specification	<b>A490M B18.2.3.7M</b>
Material	<b>Alloy Steel</b>
Strength	<b>10.9</b>
Screw Thread	<b>ASME B1.13. 6G</b>
Surface Finish	<b>Plain as Processed</b>

A325M Bolt Characteristics								
Nominal Bolt Dia & Thread Pitch	Stress Area, mm <sup>2</sup>	Proof Load, kn		Tensile Strength min, kN	Hardness			
		Length Measurement Method	Yield Strength Method		Rockwell		Vickers	
M16x2	157	94.2	104	130	C23	C34	255	336
M20x2.5	245	147	162	203				
M22x2.5	303	182	200	251				
M24x3	353	212	233	293				
M27x3	459	275	303	381				
M30x3.5	561	337	370	466				
M36x4	817	490	539	678				

A490M Bolt Characteristics										
Nominal Bolt Dia & Thread Pitch	Stress Area, mm <sup>2</sup>	Proof Load, kN		Tensile Strength min, kN	Product Hardness				Surface Hardness HR 30N (Rockwell 30N) Max	
		Length Measurement Method	Yield Strength Method		HRC Rockwell C		HV (Vickers)			
M16x2	157	130	148	163	188	33	39	327	336	59
M20x2.5	245	203	230	255	294					
M22x2.5	303	251	285	315	364					
M24x3	353	293	332	367	424					
M27x3	459	381	431	477	551					
M30x3.5	561	466	527	583	673					
M36x4	817	678	768	850	980					



ANSI B18.2.3.7M	Heavy hex structural bolt dimensions								
	Nominal Size and Thread Pitch	S		E		K		B(Ref)	
		Width across flats		Width across corners		Head height		Thread length	
		Max.	Min.	Max.	Min.	Max.	Min.	Bolt Length ≤ 100	Bolt Length > 100
							Basic		
<b>M16x2</b>	27.00	26.16	31.18	29.56	10.75	9.25	31	38	
<b>M20x2.5</b>	34.00	33.00	39.26	37.29	13.40	11.60	36	43	
<b>M22x2.5</b>	36.00	35.00	41.57	39.55	14.90	13.10	38	45	
<b>M24x3</b>	41.00	40.00	47.34	45.20	15.90	14.10	41	48	
<b>M27x3</b>	46.00	45.00	53.12	50.85	17.90	16.10	44	51	
<b>M30x3.5</b>	50.00	49.00	57.74	55.37	19.75	17.65	49	56	
<b>M36x4</b>	60.00	58.80	69.28	66.44	23.55	21.45	56	63	

