



ASTM A490  
**STRUCTURAL BOLT  
ASSEMBLY**

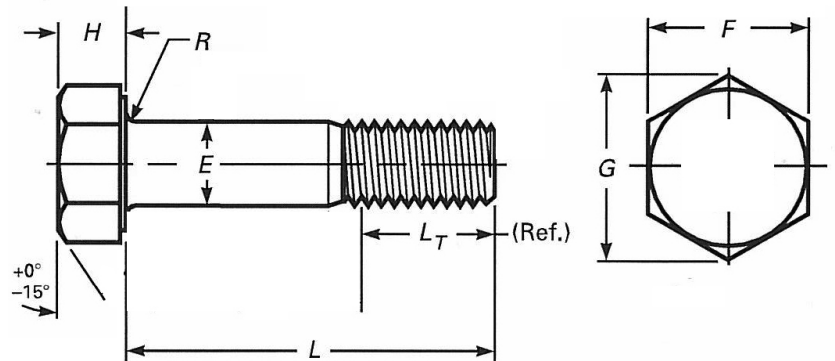
**BAPP**

Group of Companies

# Bolt

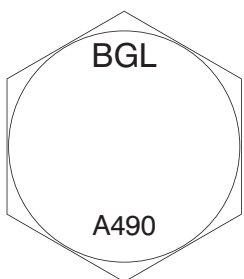
ASTM A490 Bolt Dimensions											
Diameter & Pitch	E		F		G		H		R		L <sub>T</sub>
	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	ref.
1/2	0.515	0.482	0.875	0.850	1.010	0.969	0.323	0.302	0.031	0.009	1.00
5/8	0.642	0.605	1.062	1.031	1.227	1.175	0.403	0.378	0.062	0.021	1.25
3/4	0.768	0.729	1.250	1.212	1.443	1.383	0.483	0.455	0.062	0.021	1.38
7/8	0.895	0.852	1.438	1.394	1.660	1.589	0.563	0.531	0.062	0.031	1.50
1	1.022	0.976	1.625	1.575	1.876	1.796	0.627	0.591	0.093	0.062	1.75
1 1/8	1.149	1.098	1.812	1.756	2.093	2.002	0.718	0.658	0.093	0.062	2.00
1 1/4	1.277	1.223	2.000	1.938	2.309	2.209	0.813	0.749	0.093	0.062	2.00
1 3/8	1.404	1.345	2.188	2.119	2.526	2.416	0.878	0.810	0.093	0.062	2.25
1 1/2	1.531	1.470	2.375	2.300	2.742	2.622	0.974	0.902	0.093	0.062	2.25

Standard Specification	ASTM A490
Material	Alloy Steel
Strength Grade	150 ksi
Screw Thread	ASME B1.1 UNC 2A
Surface Finish	Plain as Processed
	Hot Dipped Galvanised

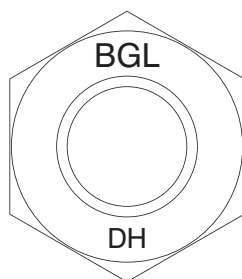


ASTM A490 Bolt Characteristics									
Diameter & Pitch	Stress Area (in <sup>2</sup> )	Tensile (lbf)		Proof Load (lbf)		Hardness			
				Length Measurement method	Yield Strength Method	Brinell HB		Rockwell HRC	
		min.	max.	min.	min.	min.	max.	min.	max.
1/2	0.142	21300	24600	17050	18500	311	352	33	38
5/8	0.226	33900	39100	27100	29400				
3/4	0.334	50100	57800	40100	43400				
7/8	0.462	69300	79950	55450	60100				
1	0.606	90900	104850	72700	78800				
1 1/8	0.763	114450	132000	91550	99200				
1 1/4	0.969	145350	167650	116300	126000				
1 3/8	1.155	173250	199850	138600	150200				
1 1/2	1.405	210750	243100	168600	182600				

## Bolt Head Marking



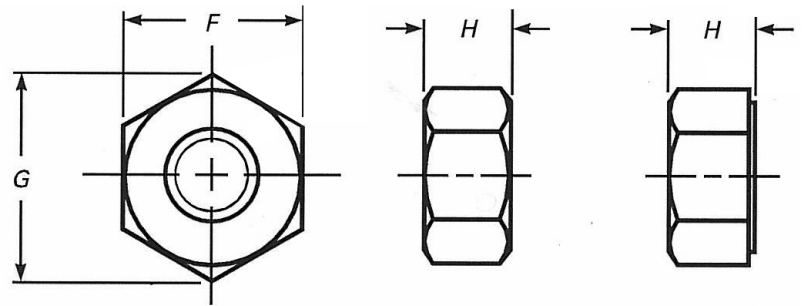
## Nut Head Marking



# Nut

ASTM A563 Nut Dimensions						
Diameter and Pitch	F		G		H	
	max.	min.	max.	min.	max.	min.
1/2	0.875	0.850	1.010	0.969	0.504	0.464
5/8	1.062	1.031	1.227	1.175	0.631	0.587
3/4	1.250	1.212	1.443	1.382	0.758	0.710
7/8	1.438	1.394	1.660	1.589	0.885	0.833
1	1.625	1.575	1.876	1.796	1.012	0.956
1 1/8	1.812	1.756	2.093	2.002	1.139	1.079
1 1/4	2.000	1.938	2.309	2.209	1.251	1.187
1 3/8	2.188	2.119	2.526	2.416	1.378	1.310
1 1/2	2.375	2.300	2.742	2.622	1.505	1.433

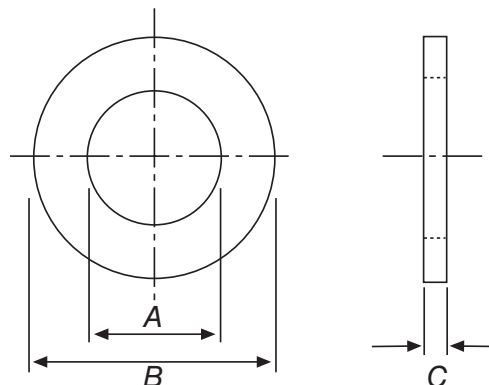
<b>Standard Specification</b>	<b>ASTM A563</b>
<b>Material</b>	Carbon & Alloy Steel
<b>Strength Grade</b>	DH
<b>Screw Thread</b>	ASME B1.1 UNC 2A
<b>Surface Finish</b>	Plain as Processed Hot Dipped Galvanised



# Washer

ASTM F436 Washer Dimensions						
Diameter	A		B		C	
	max.	min.	max.	min.	max.	min.
1/2	0.563	0.531	1.095	1.031	0.177	0.097
5/8	0.720	0.688	1.345	1.281	0.177	0.122
3/4	0.845	0.813	1.500	1.436	0.177	0.122
7/8	0.970	0.938	1.782	1.718	0.177	0.136
1	1.126	1.063	2.063	1.937	0.177	0.136
1 1/8	1.251	1.188	2.313	2.187	0.177	0.136
1 1/4	1.438	1.375	2.563	2.437	0.177	0.136
1 3/8	1.563	1.500	2.813	2.687	0.177	0.136
1 1/2	1.688	1.625	3.063	2.937	0.177	0.136

<b>Standard Specification</b>	<b>ASTM A436</b>
<b>Material</b>	Hardened Steel
<b>Material Hardness</b>	38 to 45 HRC
<b>Surface Finish</b>	Plain as Processed Hot Dipped Galvanised



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