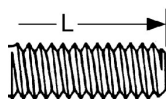


# 80°/82° - Flat Head - Type III-Type I Combo (Square-Phillips Combo)



## GRADE MARK

THREAD DATA		
<b>Size:</b> #10	<b>Threads per in.:</b> 24	<b>Series Designation:</b> UNC
<b>Thread Class or Type:</b> 2A	<b>Major Diameter:</b> 0.1890 - 0.1818	<b>Pitch and Functional Dia.:</b> 0.1619 - 0.1586
<b>Tensile Stress Area:</b> 0.0175	<b>Standard:</b> ASME B1.1 - 2003 (R2008)	
DIMENSIONAL DATA		
<b>Type:</b> 80°/82° - Flat Head - Type III-Type I Combo (Square-Phillips Combo)	<b>Standard:</b> ASME B18.6.3 - 2013 (reference)	<b>Nominal Diameter:</b> 0.19
<b>A - Head Diameter:</b> 0.362 - 0.333	<b>H - Head Height:</b> 0.116 ref	<b>Driver Size:</b> 2R
<b>Penetration Depth:</b> Sq: 0.075 - 0.060 (Ph: 0.102 ref.)	<b>Wobble:</b> Sq: 3° max.	<b>F - Protrusion Height:</b> 0.042 - 0.025
<b>G - Gage Diameter:</b> 0.313	<b>M - Ref. Recess Dim.:</b> 0.198	<b>L - Length:</b> 1
<b>Length Tolerance:</b> -0.03		
PHYSICAL REQUIREMENTS		
<b>Nominal:</b> 0.19	<b>Standard:</b> ASME B18.6.3-2013, Machine Screw (carbon steel)	<b>Typical Materials:</b> low carbon steel, 1010 through 1022
<b>Hardness:</b> HRB 100 - 70	<b>Tensile Load, Min. (lbf):</b> 1,050	<b>Yield PSI, 2% Offset, Machined Specimen:</b> 36,000
<b>Tensile Strength, Min. (psi):</b> 60,000	<b>Calculated Shear Load-BODY (ref.)(lbf):</b> 630	<b>Calculated Shear Load-THREADS (ref.)(lbf):</b> 525
<b>Straightness Factor:</b> N/A	<b>Calculated Pretension<sup>2</sup> (lbf) :</b> 473	<b>Tightening Torque<sup>1</sup> :</b> 2 ft.lbf, 20 in.lbf, 2.2 Nm
FINISH DATA		
<b>Finish:</b> Zinc & Clear, non-hexavalent/Cr(VI) free - .0001"/ 3µm	<b>K factor (ref. DIN 946):</b> 0.22	<b>Standard:</b> ASTM F1941/F1941M-2016, Fe/Zn 3AN

<sup>1</sup> These torque values are based on K factors determined using DIN 946, tightening tension of 75% of the yield strength, and the calculation formula  $T=KDP$ . These values are advisory only. The torque for assembling critical joints should be determined and/or verified through actual experimentation by the user. The IFI is not responsible for any losses or claims resulting from the use of these values.<sup>2</sup> Calculated Pretension is equal to 75% of the bolt's yield strength achieved when using the indicated Tightening Torque.