

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



GRADE MARK

THREAD DATA		
Size: #8	Threads per in.: 32	Series Designation: UNC
Thread Class or Type: 2A	Major Diameter: 0.1631 - 0.1571	Pitch and Functional Dia.: 0.1428 - 0.1399
Tensile Stress Area: 0.0140	Standard: ASME B1.1 - 2003 (R2008)	
DIMENSIONAL DATA		
Type: 80°/82° - Flat Head - Type III-Type I Combo (Square-Phillips Combo)	Standard: ASME B18.6.3 - 2013 (reference)	Nominal Diameter: 0.164
A - Head Diameter: 0.312 - 0.285	H - Head Height: 0.100 ref	Driver Size: 2S
Penetration Depth: Sq: 0.063 - 0.048 (Ph: 0.087 ref.)	Wobble: Sq: 3° max.	F - Protrusion Height: 0.039 - 0.023
G - Gage Diameter: 0.267	M - Ref. Recess Dim.: 0.182	L - Length: 1/2
Length Tolerance: -0.02		
PHYSICAL REQUIREMENTS		
Nominal: 0.164	Standard: ASME B18.6.3-2013, Machine Screw (carbon steel)	Typical Materials: low carbon steel, 1010 through 1022
Hardness: HRB 100 - 70	Tensile Load, Min. (lbf): 840	Yield PSI, 2% Offset, Machined Specimen: 36,000
Tensile Strength, Min. (psi): 60,000	Calculated Shear Load-BODY (ref.)(lbf): 504	Calculated Shear Load-THREADS (ref.)(lbf): 420
Straightness Factor: N/A	Calculated Pretension <sup>2</sup> (lbf) : 378	Tightening Torque <sup>1</sup> : 1 ft.lbf, 14 in.lbf, 1.5 Nm
FINISH DATA		
Finish: Zinc & Clear, non-hexavalent/Cr(VI) free - .0001"/ 3µm	K factor (ref. DIN 946): 0.22	Standard: 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.