

Bolt Torque Calculator

Estimate the tightening torque for a zinc or plain steel SAE bolt, by diameter, grade, and finish. Uses the standard torque-tension equation $T = K \cdot D \cdot F$.

How it works

The calculator applies $T = K \cdot D \cdot F$: K is the nut factor for the surface finish, D the nominal diameter, and F the clamp load. Clamp load is taken as 75% of the grade proof strength times the tensile stress area - the standard assumption for a non-permanent joint. Results are starting values; actual torque varies +/-25% with thread condition and lubrication, so confirm critical values against your specification.

For live values, use the interactive calculator: bookoffasteners.com/calculators/bolt-torque-calculator/

Reference values only — verify against the governing standard or manufacturer before use.