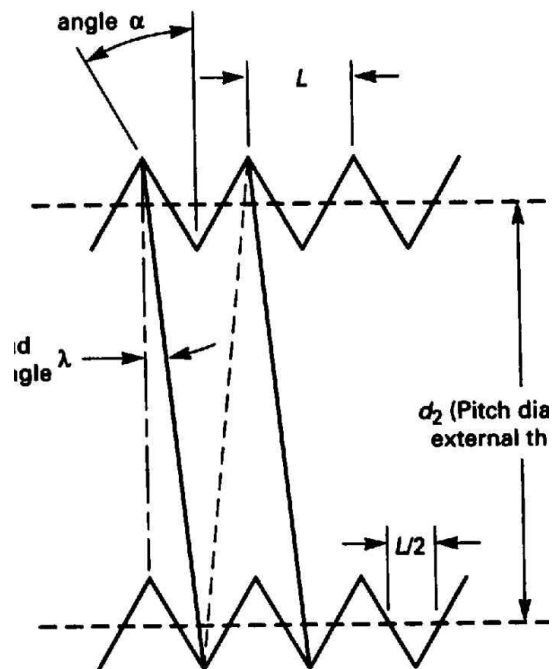


CALCULATION OF TARGET TORQUE FOR BOLTS (ASME PCC-1)

The Target Torque required to tighten bolting is computed as follows:

$$T = F/2 \{ d_n \times \mu_{bolt} + [(\mu_{thread} + \cos \alpha \times \tan \lambda) / (\cos \alpha - (\mu_{thread} \times \tan \lambda))] \}$$

$$T_a = F/2 \{ d_n \times \mu_{bolt} + [((\mu_{thread} + \cos \alpha (L/(\pi \times d_2))) / (\cos \alpha - (\mu_{thread} \times L)/(\pi \times d_2)))] \} \text{ (Equação Modificada)}$$



Where :

T = Target Torque, Nmm (in.-lb)

F = Target bolt tensile load, N (ib)

d_n = Mean diameter of the nut (or bolt head) bearing face, mm (in.) (this diameter is equal to the simple average

of the diameter of the nut washer face and the nominal bolt size)

μ_{bolt} = Coefficient of friction between the bolt nut (or bolt head) and the flange (or washer), (dimensionless)

d_2 = Pitch diameter (or mean thread contact diameter), mm (in.) (see Fig.)

μ_{thread} = Coefficient of friction-between bolt/nut threads, (dimensionless)

α = Thread flank angle, deg (see Fig.)

λ = Lead angle, deg (see Fig.)

For UN and UNR screw threads, the Flank angle (α) is equal to 30 deg, the Lead angle (λ) is equal to $\tan^{-1} (L/(\pi d_2))$

and the lead (L) is equal to the pitch of the threads (e.g., for 8-thread series, this will be 1/8 in.).