TECHNICAL INFORMATION

Torque and Force Calculation Formula

$T = F * K$ (N*M)

$K = {}^{1}/_{2} \{ dp * \tan (P^{*}+ß) + dw * uw \} \times 10^{-3}$ (m)

T: Nut locking torque

F: Nut tightening force

dp: Nut effective diameter (mm)

P*: Thread friction angle, $P^{*} = \tan^{-1}\mu s$

ß: Nut lead angle, $ß = \tan^{-1} ({}^{pitch}/_{3.142*dp})$

μs: Coefficient of friction for nut connecting face ; uw = us ≒ 0.15

dw: The average diameter of friction torgue for nut connecting face.

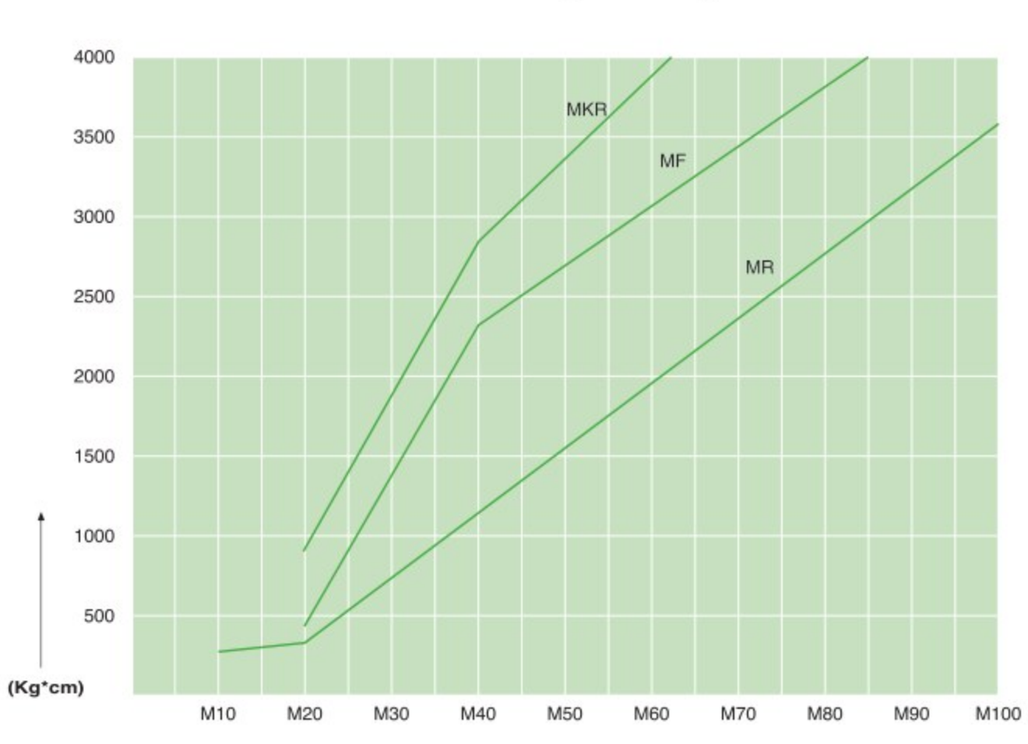
(mm) ; $dw = \frac{D+d}{2}$

Static Axial Load Calculation Formula

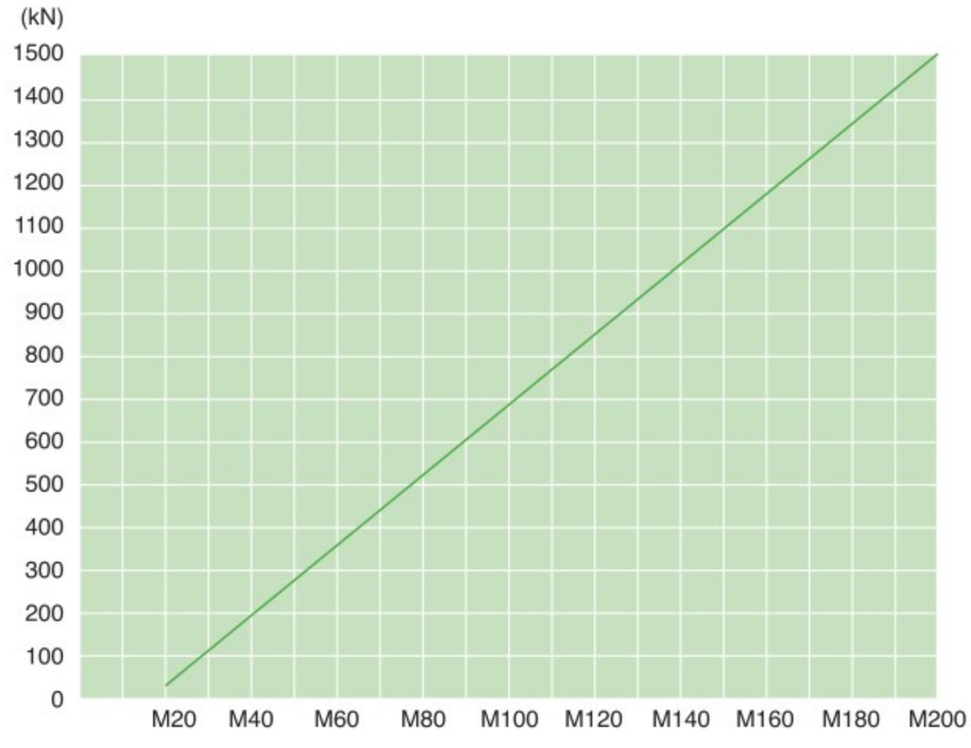
$F = A * Sh * n$

F: Axial Load
A: The area of each thread
Sh: Allowed shearing stress (Safety factor = 4)
n: Number of effective thread

Loosening Torque

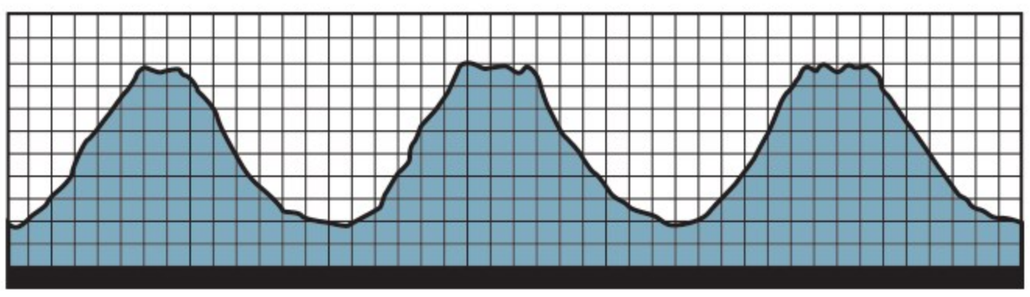


Static Axial Load

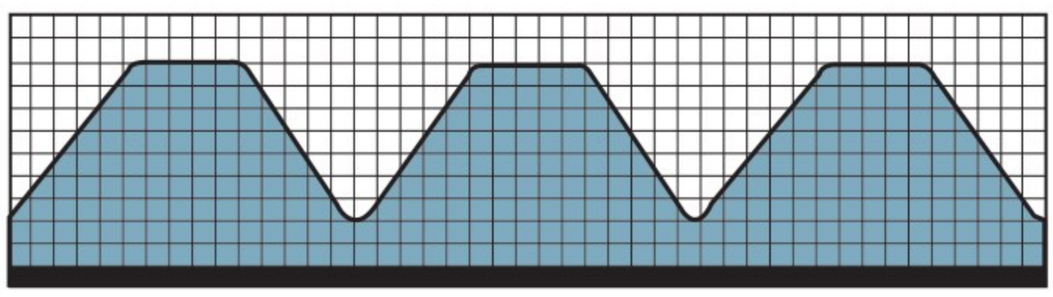


Remarks:
(1) The data are for reference only.
(2) 1 N*M = 10.2 kgf*cm = 0.73 lb*ft

Threading Profile



Traditional threading surface profile



Threading surface profile by NIKKI's precision grinding process