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PUMP TORQUE CALCULATIONS

These torque formulas have proven to be relatively accurate when using Graphlock containing sets in slow shaft speed applications. Their accuracy has not been determined for higher shaft speed surfaces.

$$F = \frac{S + (M \times P) A}{N}$$

$$T = F (.2) (d)$$

- Where: d = diameter of gland bolt (in.)
S = minimum seating stress (psi)
N = number of gland bolts
P = maximum line pressure (psi)
A = area of packing ring (sq. in.)
M = safety factor (see Note)

Note: The safety factor was added to ensure that the applied stress was adequate to force the Graphlock rings into the radial expansion necessary to form an initial seal. A value of two is suggested when the pump system pressures are as low as 250 psi. If higher pressures are involved (e.g. 3000 psi), no safety factor multiplier is necessary.