

4.2. Spline Shaft Receiving a Torsion Load

When a torsion load is applied on the spline shaft of a Ball Spline, obtain the spline shaft diameter using the equation (2) below.

$$T = \tau_a \cdot Z_p \text{ and } Z_p = \frac{T}{\tau_a} \dots\dots\dots (2)$$

T : Maximum torsion moment (N·mm)

τ_a : Permissible torsion stress of the spline shaft
(49N/mm²)

Z_p : Polar modulus of section of the spline nut (mm³)
(See table 3 on page B-13 and table 4 on page B-14)

