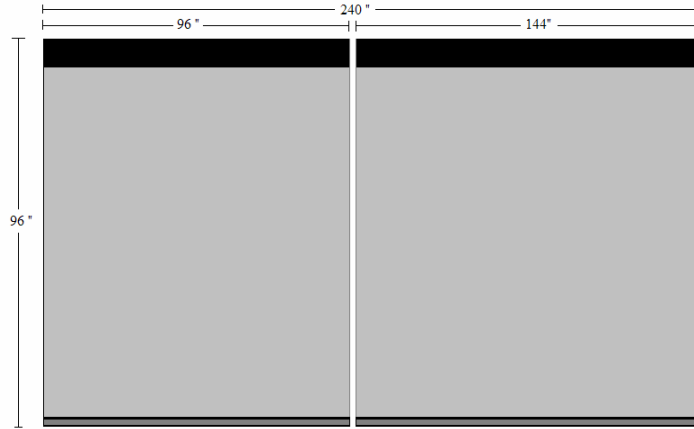
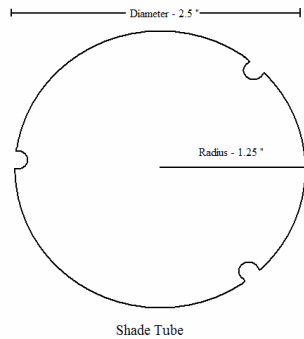


SHADE LOAD CALCULATIONS



Shade Dimension:

Width - 240" = 20 ft
 Sq ft - 160 sq ft
 Tube diameter - 2.5"

Height - 96" = 8 ft
 sq yd - 17.8 sq yd
 Tube radius - 1.25"

Shade Specifications:

Fabric - 19 oz/yd
 Total Fabric - 21 lbs

Bottom Bar - 4 oz/ft
 Total Bottom bar - 5 lbs

Detailed Fabric Weight Calculations:

width x height - $240 \times 96 = 23040$ sq inch
 Sq inch / 144 (sq ft/ sq inch) - $23040 / 144 = 160$ sq ft
 Sq ft / 9 (sq yd / sq ft) - $160 / 9 = 17.8$ sq yd

Sq yd x (oz/ sq yd) - $17.8 \times 19 = 338.2$ oz
 Oz / 16 (oz/lb) - $338.2 / 16 = 21.1$ lbs

Bottom Bar Weight:

(oz/ ft) x ft - $4 \times 20 = 80$ oz
 Oz / 16 oz/ft - $80 / 16 = 5$ lbs

Total Weight:

Shade weight + bottom bar weight- $21.1 + 5 = 26.1$ lbs

Torque Calculations for Motor Selection

Torque
 Total weight x tube radius=torque $26.1 \times 1.25 = 32.6$ in lbs

Safety Factor 20 %
 Torque x safety factor = $32.6 \times 1.2 = 39.1$ in lbs

Friction for Split 10% per Split
 Torque x split safety = $39.1 \times 1.1 = 43$ in lbs

Conversion for US (in lbs) to EU (Newton Meters)
 43 in lbs / 8.8 (in lbs / NM) = **4.89 NM**

Select the next largest motor of **506G**

Motor code 1st number **5** series motor or 2" motor
 2nd series **06**—6 nm torque