

Formulas

1 ft³ of steel = 490 lb.

1 m³ of steel = 7 849 kg

Area of circle = $\pi \times \text{radius}^2$

Force = pressure \times area

Gear pass frequency = rpm \times # teeth

Pythagorean theorem : $a^2 + b^2 = c^2$

$$\text{rpm} = \frac{\text{cutting speed} \times 4}{\text{diameter}}$$

Shims to be added at point X = $G \times \frac{A}{B}$

Sling stress = $\left(\frac{\text{length}}{\text{height}} \times \text{weight} \right) \div \# \text{ of legs (to a maximum of 3 legs)}$

Spacing of wire rope clips = 6 \times wire rope diameter

Surface speed = rpm \times $\pi \times$ diameter

Thermal expansion = $\Delta T \times \text{length} \times \text{coefficient of expansion}$

Volume of cube = a^3

Volume of cylinder = height \times $\pi \times$ radius²

Wire rope clips = 3 \times diameter + 1 (up to and including 7/8 in. diameter)

Wire rope clips = 3 \times diameter + 2 (1 in. diameter and larger)

Working load limit of a 6 \times 19 wire rope = diameter² \times 8