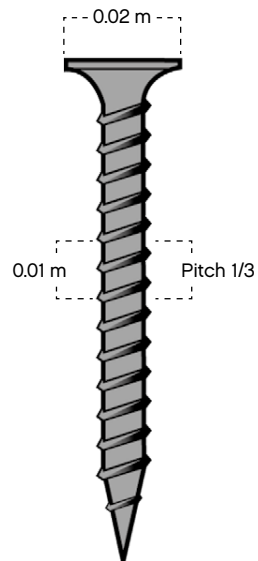


## The mechanical advantage of a screw

The mechanical advantage of using a screw involves the spreading of the effort over a longer distance thereby allowing heavy loads to be overcome with a smaller amount of effort.

The mechanical advantage can be calculated using the following formula:

$$\text{Mechanical advantage} = \frac{\text{Distance effort moves}}{\text{Distance load moves}} = \frac{2\pi r}{\text{Pitch}}$$



$$\text{Mechanical advantage} = \frac{2 \times \pi \times 0.02}{0.03}$$

$$\text{Mechanical advantage} = \text{approx. } 4$$

This means if you can twist your screw driver with a force of 1N you can generate a force of 4N.