

Static Equilibrium

In order for a "small" object to be in static equilibrium, all the forces must balance and the object is stationary.

$$\text{i.e. } \vec{F}_{\text{net}} = 0 \quad \left(\sum \vec{F} = 0 \right)$$

$$\left(\begin{array}{l} \vec{F}_{\text{net } x} = 0 \\ \vec{F}_{\text{net } y} = 0 \end{array} \right)$$

Static friction - the force that we use in calculations is the maximum frictional force

$$0 < F_f(\text{static}) \leq F_{\text{max}}$$