

FRICTION (F_f) - FORCE THAT OPPOSES MOTION, WHICH EXISTS WHEN TWO SURFACES ARE IN CONTACT

- ACTS IN OPPOSITE DIRECTION OF MOTION

$$F_f = \mu F_N$$

μ → COEFFICIENT OF FRICTION
"mu" "SURFACES" NO UNITS

TABLE 4-2
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F_N → NORMAL FORCE

STATIC (STATIONARY)

μ_s

KINETIC FRICTION (MOVING)

μ_k

TERMINAL VELOCITY AND AIR RESISTANCE

TERMINAL VELOCITY - MAXIMUM FALLING SPEED AN OBJECT WILL REACH B/C OF AIR RESISTANCE

SKY DIVING

HUMAN \approx 125 mph

PENNY \approx 50 mph

RAIN 10-15 mph

AIR RESISTANCE (F_{AR}) - FORCE OF FRICTION BETWEEN MOVING OBJECT & AIR
OR DRAW

$$F_{AR} \propto (\text{VELOCITY})^2$$

FASTER YOU GO THE BIGGER F_{DRAG}

WHEN YOU REACH TERMINAL VELOCITY YOU STOP ACCELERATING (YOU ARE FALLING AT SAME SPEED) WHICH MEANS ΣF ON YOU IS ZERO ($\Sigma F = 0$)

STEP OFF HELICOPTER

