

Friction

Types of Friction

❖ TYPES OF FRICTION

(A) Static friction:

The frictional force that exists between the body and the surface so long as they are relatively at rest even when the external force acts, is called the static friction.

(B) Limiting friction:

- (i) When there is no external force acting on the body, the frictional force is zero.
- (ii) If we increase the magnitude of the external force, the static friction also increases.
- (iii) At one pt, when there is a slight increase in the magnitude of the external force, the body just starts sliding over the surface.
- (iv) The force of friction at the limiting stage is called the 'limiting friction.'
- (v) The limiting friction depends upon the nature of the two surfaces in contact.

(C) Kinetic or Sliding friction:

- (i) When the external force exceeds the limiting friction, the body just starts sliding.
- (ii) The minimum force required to maintain the motion of the body over the other surface is called the "kinetic friction".
- (iii) The frictional force that exists between the two surfaces when there is a uniform relative motion between them is called the "dynamic friction" or "sliding friction".

(D) Rolling friction:

- (i) The frictional force that exists between the two surfaces when a body rolls over the other is called the "rolling friction".
- (ii) It deforms the surface over which it rolls.
- (iii) Rolling body it-self gets deformed at the pt. of contact over the surface.