

Answer on Question #50085, Physics, Mechanics | Kinematics | Dynamics

Friction coefficient

The force applied in pulling an object on a smooth surface is gradually increased until the object is just about to slip. Which friction coefficient would apply in this situation?

Solution:

Static frictional forces from the interlocking of the irregularities of two surfaces will increase to prevent *any relative motion up until some limit where motion occurs*. It is that threshold of motion which is characterized by the coefficient of static friction. The coefficient of **static friction** is typically larger than the coefficient of **kinetic friction**.

Object is just about to slip, thus we must apply static friction coefficient in this situation

Answer: coefficient of static friction

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