Answer on Question #48801-Physics-Acoustics

Why does the graph of static and kinetic friction slant upwards at one part and the levels out. Also what will happen if a 135N is used?

Answer

75.0 -			1				
50.0 -		/	L			_	
25.0 -	/	/					
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The frictional force always adjusts itself equal to the applied force, upto the value of limiting static friction, i.e. as much force comes into play as it is necessary to prevent the body from moving.

Body remains at rest till the applied force does not exceed the value of limiting static friction. Once the body starts moving, the force of friction drops to a value of kinetic friction, slightly less than limiting static friction.

On this graph when the applied force is 135N the friction force is kinetic friction. The body is moving with constant acceleration. The net force on the body is 135N - 50N = 85N.

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