Question#20938

what happens to potential energy that an elevator loses coming down from top of building to a stop at the ground floor

Answer:

The potential energy of an object is:

$$U = mgh$$

where *U* is the potential energy of the object relative to its being on the Earth's surface, *m* is the mass of the object, *g* is the acceleration due to gravity, and *h* is the altitude of the object.

Hence, the potential difference is:

$$\Delta U = mg\Delta h$$

According to this the potential energy of the elevator will decrease.