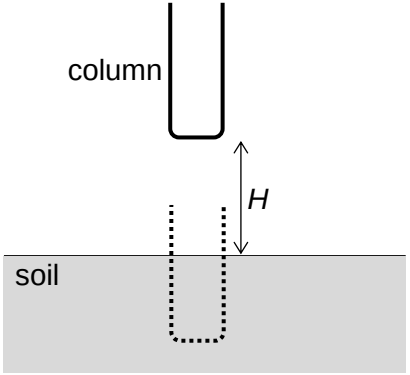
6 A column of mass M is dropped from height H above the surface of the soil and comes to a stop after travelling for a duration t in the soil.



What is the average resistive force that acts on the column due to the soil?

A $Mg\left(1+\sqrt{\frac{2H}{gt^2}}\right)$

B $Mg\sqrt{\frac{2H}{gt^2}}$

C Mg

D $Mg\left(1-\sqrt{\frac{2H}{gt^2}}\right)$