



# Coastal Construction Manual

## FORMULA CALCULATOR

11.9 Debris Impact Load

<b>w :</b>		<b>F<sub>i</sub> =</b>	<b>lb</b>
<b>V :</b>			
<b>t :</b>			
<b>g :</b>	32.2 ft/sec <sup>2</sup>		

$$F_i = wV/gt$$

**F<sub>i</sub>** = impact force in lb acting at the stillwater level

**w** = weight of the object in lb

**V** = velocity of water in ft/sec or approximated by  $1/2(gd_s)^{1/2}$

**g** = gravitational constant (32.2 ft/sec<sup>2</sup>)

**t** = duration of impact in seconds