



Coastal Construction Manual

FORMULA CALCULATOR

11.5 Breaking Wave Load on Vertical Piles

γ :		$F_{brkp} =$	lb
C_{db} :			
D :			
H_b :	$0.78d_s$		
d_s :			

$$F_{brkp} = (1/2)C_{db} \gamma D H_b^2$$

F_{brkp} = drag force in lb acting at the stillwater level

C_{db} = breaking wave drag coefficient (recommended values are 2.25 for square or rectangular piles and 1.75 for round piles)

γ = specific weight of water (62.4 lb/ft³ for fresh water and 64.0 lb/ft³ for salt water)

D = pile diameter in feet

H_b = breaking wave height in feet ($0.78d_s$)

d_s = design stillwater flood depth in feet