

**Form to Calculate Flotation for Outboard Motor boats Over 2 HP & Less Than 20 Ft (6 M);  
Using ABYC, USCG and Metric Values**

See instructions: Input data fields in blue in pounds, in red in metric.

**This block is for boats with a single engine**

Newboatbuilders.Com

Boat: Make, Mod, Year

Length

Breadth

		Boat Weight	

Engine Hp

Maximum Weight Capacity = MC

Maximum persons Capacity = PC

Buoyancy of Flotation Material = B

140	Hp	60	Kw
1400	lb	0	kg
1100	lb	0	kg
60.4	lb/cu <sup>3</sup>	1000	kg/m <sup>3</sup>

ABYC

**Table Weights Engine & Battery**

ABYC Table 1a (lb)

Dry

Col 2

ABYC

USCG

Metric

527

405

193.9

USCG Table 4 (lb)

Swamped

Col 4

476

352

172.6

ABYC Table 1b (kg)

Battery

Col 8

25

25

11.4

Weights of hull and materials in the boat.

Factors K from the Table

**Boat Weights Submerged**

Wh Fiberglass

Wh Aluminum

Wh1 Wood

Wh2 metal Fittings

wh3 Fasteners

wh4 Windshield

Wh5 Other from Worksheet

lb

kg

Factor K

ABYC

USCG

Metric

lb

Lb

Kg

Wt X K

Wt X K

Totals

650

0.00

0.33

214.5

214.5

0.0

80

0.00

0.33

26.4

26.4

0.0

150

0.00

-0.81

-121.5

-121.5

0.0

30

0.00

0.88

26.4

26.4

0.0

0

0.00

0.88

0.0

0.0

0.0

0

0.00

0.63

0.0

0.0

0.0

0

0.00

1.00

0.0

0.0

0.0

**Boat Weights Dry:**

Wd Deck Weight (If Dry K = 1)

Other from Work sheet

528

0.00

1.00

528.0

528.0

0.0

0

0.00

1.00

0.0

0.0

0.0

**Boat Weights Swamped**

Boat Weights Swamped K=0.75

0

0.00

0.75

0.0

0.8

0.0

**Wb Total Boat weights**

total

673.8

674.6

0.0

**Form to Calculate Flotation for Outboard Motor boats Over 2 HP & Less Than 20 Ft (6 M);  
Using ABYC, USCG and Metric Values**

Boat: Make, Mod, Year

0
---

**Machinery Weights**

Outboard Motor Weight Dry Table 1a or Table 1b		427	405	193.9
Outboard Motor Weight Dry + Fluids	Col 3	560	352	203
Motor + Controls + Battery ABYC	Col 5	10	25	4.6
Col 3 + 5 + 6 + 7 + 9	Col 6	25		0
And	Col 7	45		20.5
Motor + Controls + Battery USCG	Col 9	100		45.4
Col 2 + 4	Col 10	740.0	377.0	273.5

Dead Weight =

Maximum weight Capacity - Persons Capacity - Motor Controls Battery = Wdw

Wdw = Dead Weight = MC - PC - Wp If 0 or Negative Wdw = 0

0	0	0
lb	lb	kg

Fb = Amount of Flotation for Boat Weight

Fb = (Wb) / B in Cubic Feet or Cubic Meters

	Cu ft	Cu Ft	Cu M
	11.16	11.17	0.00
Round Up	12.00	12.00	

Fp = Amount of Flotation For Persons Weight (PC)

Fp For boats over 550 lb (249.5 Kg)

PC = (0.5 X 550) + .125 (PC-550 + .25(Wdw) / B

	Cu ft	Cu Ft	Cu M
	5.69	5.69	0.22
Round Up	6.00	6.00	

Fp For boats less than 550 lb (249.5 Kg)

PC = (0.5 x PC) + .25(Wdw) / B

	Cu ft	Cu Ft	Cu M
	0.00	0.00	0.00
Round Up	0.00	0.00	

Fm = Flotation for swamped motor = (Wp) / B

Wp = Swamped Engine Wt + Swamped Battery Weight

	Cu ft	Cu Ft	Cu M
	8.29	6.24	0.21
	9.00	7.00	

Ft = Amount of Flotation in Cubic

**Ft = Ft = Fb + Fp + Fm** Rounded Total

25.14	23.10	0.42
27.00	25.00	0.47