ENR PILE TABLES

VOLUME AND WEIGHT OF WOOD PILES
The determination of the weight of the pile is a simple matter of computation when steel or concrete piles are used. However, when wood piles are used the determination of the weight to be used in the formula becomes more difficult. Obviously it would prove quite laborious to weight each pile and use a different value for "M" in the formula when computing the bearing value of each individual pile. Such procedure is neither feasible nor required.

The pile weight to use for wood piles should be determined for each length of pile used on the job and for each different kind of wood, in case all piles of a given length are not of the same kind. Measurements should be taken and weights determined for not less than two piles from each group for which the weight is to be determined. The piles selected should be of average size or slightly above the average for the group. The average of the two pile weights obtained should be the weight used in computing the pile bearing.

CALCULATION OF PILE WEIGHT
In order that our practice may be uniform, all pile weights should be determined by using tables in this appendix.

To obtain the weight of the pile, use the volume in cubic feet, multiplied by the weight per cubic foot of the pile. The weight per cubic foot of various species of wood is given on a separate note.

WEIGHTS OF STEEL SHELL, STEEL H, AND CONCRETE PILES
The following shall be used for computing the weights of various types of piles.

Steel H Piles
Steel H piles are designated as 10 x 42, 10 x 57, 12 x 53, etc., steel H piles. The second number indicates the weight per foot of the pile. Thus a 10 x 42 steel H pile 40 feet in length weighs 42 x 40 or 1,680 pounds.

Concrete Piles
For purposes of calculating the weight of concrete piles, it shall be assumed that the pile weighs 150 pounds per cubic foot. Thus a 14-inch square concrete pile 40 feet in length would weigh 1.167 x 1.167 x 40 x 150 or 8,171 pounds.

Cylindrical Steel Shell Piles (Type II or VII)
For 12-inch diameter piles, weight in pounds = 18.94L + 20
For 14-inch diameter piles, weight in pounds = 27.66L + 33
For 16-inch diameter piles, weight in pounds = 36.87L + 50
Where L is the length of shell in feet.

UNION METAL MONOTUBES (Type I or VI)
Weights of Type I and Type VI piles are to be computed from the attached table. The weight of a 7-gauge 14-inch 40-foot pile with 15-foot y taper (345 pounds) and 25 foot N section (731 pounds) is 1076 pounds.

WEIGHT PER CUBIC FOOT OF DIFFERENT SPECIES OF WOOD		
Species	**Green Lbs.**	**Air Dry Lbs.**
Ash	48	41
Cedar-Western Red	27	23
Cedar-Southern White	26	23
Cottonwood-Northern	46	24
Cypress-Southern	51	32
Fir-Douglas	38	24
Fir-White	46	27
Elm	54	35
Gum-Red	50	34
Hackberry	50	37
Hickory	63	51
Maple-Hard	56	44
Maple-Soft	47	34
Oak-Red	64	44
Oak-White	63	47
Pine-Northern White	36	25
Pine-Western White	35	27
Pine-Norway	42	34
Pine-Southern Yellow	55	41
Sycamore	52	34
Tamarak	47	37
Black Walnut	58	38
Note: (1) Air dry wood has moisture content of 12%.		
(2) For weight of treated piling, add 12 lbs. to the air dry weight.		
Reference: Wood Handbook, U.S. Department of Agriculture		