

U. S. DEPARTMENT OF COMMERCE
NATIONAL BUREAU OF STANDARDS
WASHINGTON

Letter
Circular
LC 623

(December 21, 1940)

WEIGHTS OF COAL

This Letter Circular has been prepared to supply information frequently requested of the Bureau. The reader is cautioned that the data presented herein are only average values, and that in the case of any particular delivery of coal the actual weight per cubic foot, the actual number of cubic feet per ton, and so forth, may differ materially from the average values given.

These average values may satisfactorily be used for calculating the approximate size of bin required to contain a given number of tons of coal, the approximate number of tons of coal which a given bin will contain, and the approximate weight of a measured amount of coal. Relatively large shortages can be detected by computing the weights of deliveries, and computed weights may properly be used by a purchaser as a basis of complaint to the weights and measures official; however, such evidence alone would in all probability not be accepted by a court, and exact information can be procured only by actually weighing the coal comprising a delivery.

The average weight per cubic foot of anthracite (hard coal) varies with the size into which the coal is broken, and with the kind of coal or the vein from which the coal comes. The latter variation is nearly 10 percent, but the figures given below are averages of several different varieties, and probably represent average coal purchased within 2 or 3 percent. Red-ash coal is somewhat lighter than that giving white ashes, and accordingly two sets of values are given.

Average Weights of Anthracite in Pounds per Cubic Foot

Size	Weight per Cubic Foot	
	White-ash coal	Red-ash coal
	pounds	pounds
Egg	57.0	53.0
Stove	56.5	52.5
Chestnut	55.5	52.0
Pea	53.5	51.0
Buckwheat	53.0	50.5

Based upon the foregoing values, the average numbers of cubic feet of anthracite per 2,000-pound ton (net or short ton) and per 2,240-pound ton (gross or long ton), for white-ash and for red-ash coal in each of the listed sizes, are as follows:

Average Volumes of Anthracite in Cubic Feet per Ton

Size	Cubic Feet per 2,000-lb Ton		Cubic Feet per 2,240-lb Ton	
	White-ash coal	Red-ash coal	White-ash coal	Red-ash coal
	cu ft	cu ft	cu ft	cu ft
Egg.....	35.1	37.7	39.3	42.3
Stove.....	35.4	38.1	39.6	42.7
Chestnut.....	36.0	38.5	40.4	43.1
Pea.....	37.4	39.2	41.9	43.9
Buckwheat.....	37.7	39.6	42.3	44.4

Based upon the average weights per cubic foot and upon the relation between the cubic foot (1,728 cubic inches) and the stricken bushel (2,150.42 cubic inches), the average weights of anthracite per stricken bushel (level full) are as follows:

Average Weights of Anthracite in Pounds per Stricken Bushel

Size	Weight per Stricken Bushel	
	White-ash coal	Red-ash coal
	pounds	pounds
Egg.....	70.9	66.0
Stove.....	70.3	65.3
Chestnut.....	69.1	64.7
Pea.....	66.6	63.5
Buckwheat.....	66.0	62.8

The weights of bituminous (common soft) coals vary even more than those of anthracite, according to the locality from which the coal comes. Such weights range from 47 to 55 pounds per cubic foot. These values correspond to 42.6 to 36.4 cubic feet per 2,000-pound ton, and to 47.7 to 40.7 cubic feet per 2,240-pound ton; and to 58.5 to 68.4 pounds per stricken bushel.