

APPROXIMATIONS FOR MEASURING LOOSE PILES

Average weight of one whole passenger tire = 20 lbs. = 1 PTE (Passenger Tire Equivalent)

Average weight of one whole semi-truck tire = 100 lbs.= 5 PTEs

Whole passenger tires	10 PTEs/yd ³
Whole "semi" truck tires	3 semi-truck tires/yd ³
Single pass/rough shreds	27-30 PTEs/yd ³ (550-600 lbs/yd ³)
2-inch shreds	42-47 PTEs/yd ³ (850-950 lbs/yd ³)

APPROXIMATE RANGE OF NUMBERS OF PTEs

	whole passenger tires	single pass rough shreds	2-inch shreds
one 2500 ft² pile (50' X 50' X 14')	12,963	34,992 - 38,880 (36,936 average)	54,432 - 60,912 (57,672 average)
one 2500 ft² pile (50' X 50' X 8')	7,410	20,007 - 22,230 (21,118 average)	31,122 - 34,827 (32,974 average)
10,000 ft² (4 - 2500 ft² piles)	51,852	140,000 - 155,520 (147,760 average)	217,728 - 243,648 (230,668 average)

APPROXIMATE NUMBER OF WHOLE PTEs IN EACH PILE

PILE SIZE (in feet)	10 FT HIGH	11 FT HIGH	12 FT HIGH	13 FT HIGH	14 FT HIGH	20 FT HIGH	CONSTANT for one foot height increase or decrease
50'X50'	9,259	10,185	11,111	12,037	12,963	18,519	926
100'X50'	18,519	20,370	22,222	24,074	25,926	37,037	1,852
100'X100'	37,037	40,741	44,444	48,148	51,852	74,074	3,704
150'X100'	55,556	61,111	66,667	72,222	77,778	111,111	5,555
200'X200'	148,148	162,963	177,778	192,593	207,407	296,296	14,815
1 ACRE	161,333	177,467	193,600	209,733	225,867	322,667	16,133
2 ACRE	322,667	354,933	387,200	419,467	451,733	645,333	32,267
3 ACRE	484,000	532,400	580,800	629,200	677,600	968,000	48,400

(Based on 10 whole PTEs/yd³ & 43,560 square feet per acre)

COMPACTION WILL INFLUENCE THE TOTAL. COMPACTION IS INFLUENCED BY OVERALL HEIGHT OF PILE AND LENGTH OF STORAGE TIME IN PILE.

ADDITIONAL FACTORS THAT MAY PRODUCE A LOW ESTIMATE

1. Estimating a site as all passenger tires will result in a low estimate. A high percentage of truck tires will increase the total PTEs and total tons removed from a site.

For example: a site that contained 50% truck tires had a 100% increase in the total PTEs removed from the site. The original estimate using the standard factors produced an estimate of 240,000 PTEs while the total actually removed equaled 450,000 PTEs.

Passenger car tires = 10 whole tires/cubic yard @ 20 pounds each = 200 pounds/cubic yard

Truck tires = 3 whole truck tires/cubic yard @ 100 pounds each = 300 pounds/ cubic yard

2. Rolling or hilly terrain makes it very difficult to estimate the height of piles. As a general rule, estimate the height while on the down side of the hill. It is better to over estimate than under estimate when it comes time to contract for a cleanup.
3. Watch for any signs of gullies or ravines under tire piles. Also, look for any signs of excavation at a site. All of these can lead to an under estimation of the number of tires at a site due to hidden conditions.
4. Piles over 14 feet high can contain more tires due to compaction by the weight of the tires. Compaction at the Kirby site in piles approaching 40 feet high has produced an average of 75% more tires than estimated using an aerial survey and triple the standard estimating factors of 10 PTEs per cubic yard. Truck tires have been about 20% of the total tires removed from the Kirby site and actual experience has been 35 PTEs per cubic yard.