Allatoona Machinery Co.

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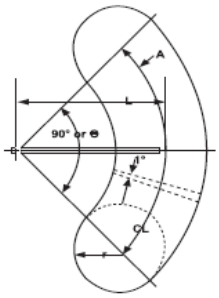
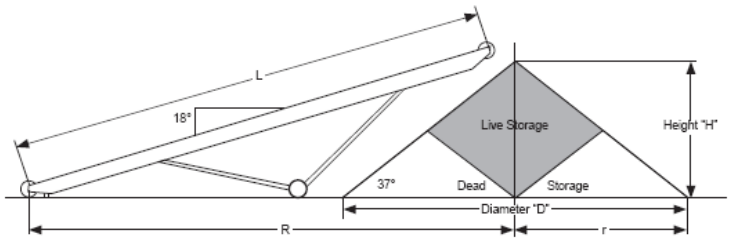
VOLUMES OF CONICAL AND CIRCULAR SHAPED STOCKPILES





Dimensions In Feet				Conical Pile Volume		Volume for One Degree Arc		90° Stockpile Volume	
L	R	H	r	C.Y.	Tons	C.Y.	Tons	C.Y.	Tons
40	39	14	19	196	265	6.5	8.8	781	1,057
50	48.5	17.5	23	359	485	12.8	17.3	1,511	2,042
60	58	20.5	27	580	783	21	28.4	2,470	3,339
70	67.5	24.5	32.5	1,004	1,355	35	47	4,154	5,585
80	77	27.5	36.5	1,421	1,918	50.2	67.8	5,939	8,020
90	87.5	30	40	1,872	2,527	68	91.6	1,992	10,771
100	96.5	32.5	43	2,331	3,145	87.8	118.6	10,233	13,819
110	105.5	35.5	47	2,058	4,128	114.6	154.7	13,372	18,051
120	115.5	38.5	51	3,884	5,243	147.6	199.2	17,168	23,171
130	125	41.5	55	4,896	6,610	185.6	250.5	21,600	29,155
140	134.5	44.5	59	6,041	8,156	229.6	310	26,705	36,056
150	144	47.5	63	7,312	9,871	280	378	32,512	43,891
170	162	54	72	10,670	14,400	400	540	46,820	63,210
190	181	60	80	14,800	20,000	560	760	65,000	87,800

Calculated volumes are in cubic yards.

Tons are base on 100 lbs. per. Cu. Ft. material, conveyor incline 18 stockpile angle of repose 37.
Live storage at center of pile is theoretically 25 % of the total volume

1. Volume of conical pile = V_1

   Where radius of pile (r) and height of pile (h) are known: $V_1 = r^2H\ (.039)$

   Where height of pile (H) and slant length of side of pile (s) are known: $V_1 = H\ (S^2 - H^2)\ (.039)$

   Where slant length of side of pile (s) and angle of repose Ø are known:
   $V_1 = S^3\ (\cos Ø)^2 \sqrt{1 - (\cos Ø)^2}\ (.039)$

   Where height of pile (H) and angle of repose (Ø) are known:
   $V_1 = \frac{H3\ (.039)}{(\tan Ø^2)}$

2. Volume of a 1˚ arc segment of stockpile = V_2

   a. Where height of pile (H), distance between center line of pile and center line of conveyor pivot (R) are known, and angle of repose Ø is equal to 37˚ $V_2 = \frac{H^2R}{1160}$

   b. For other angles of repose $V_2 = \frac{H^2R}{(1547)\ (\tan Ø)}$

3. Degrees of arc of stockpile with known arc lengths = Θ.
   Where diameter of stockpile (D) and arc length (A) are known:
   $Θ = \frac{(114.6)\ A}{D}$

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