MUNICIPA DEPARTMENT

QUANTITY OF MORTAR REQUIRED FOR PIPE SEWER JOINTS.

By Horace Andrews, Albany, N. V.

The accompanying table showing the amount of cement and sand required for filling the joints of vitrified sewer pipes is based on the width of cement space, depth of hubs and thickness of pipes as given in the trade lists and is computed with the supposition that the cement outside of the annular space is formed with a bevel of 45 degrees. This table will enable the engineer or contractor to arrive at a close idea of the amount of cement that will be

0000 32

D t d c	Proces	Properties based on Pref 20 Bakers								
3	Tahta								1	
Diamerica as Mos or Mos or Souge	18	₹7.14	6.43	416	Bye	0.00	5.00	2.57	0 60)	
Mes Al	38	MORTAR COMPOSED OF								
	Zaens my/lil	Mar G	inguit	1 Comest to 1 Same			1 Cament to 2 Sand			
2 1 1 2	2 3									
3 2 6 6	38	660, of 878 No.	684 W	444	644	Go. You	40%	66.0	G. Fox	
STANDARD		Sys the	San the Economic	Arre	Au.	Sand	Ar	Per	Sum	
3 76 14 76	0,142	1.01	0.01	0.50	0.53	0.06	0.4	0.36	0.11	
4 % 1% .	0.174	1.24	2,1	07	0.7	0.1	0.5	0.5	01	
5 % 18	0,252	1.0	1.6	11	0.5	0.2	0.7	0.7	0.2	
6 % % .	0.290	2.1	1.9	1.2	1.1	20	08	0.7	02	
B /4 1/2 .	0.437	31	2.8	18	1.6	0.3	1.3	1.1	0.4	
0212.	0.514	3.7	3.3	21	1.0	0.5	1.5	1.3	04	
10 % 1/6	0.618	44	4.0	24	2.5	0.4	1.5	1.6	0.5	
12 1 2 1/4	1.056	7.5	6.8	44	4.0	0.6	3.0	27	09	
15 (3) 23	1.467	10.6	2.6	62	5.6	0.5	4.2	35	1.2	
18 13 2% -	7.912	13.7	12.1	80	72	1.1	5.0	40	15	
2014 24 -	2.390	17.1	15.4	100	80	14	6.5	6.2	1.0	
24 196 26 .	3.847	23.9	21.5	13 9	12.5	1.9	0.5	8.6	27	
50 2 3 -	5,495	-	35.8	7.	20.6	3.2	15.7	10 1	40	
		392 50cm		55.0	1500		-	-	the same	
6 16 14 16	0.585	42	38	2.4	2.2	0.3	1.7	13	0.6	
6 7 24 -	0.585	6.6	58	38	3.4	0.5	2.6	2.3	3.7	
10 % 24		81	73	47	42	07	4.6	2.5	0.5	
	1.134			66	60	0.8	4.6	41	12	
15 13 3	7.554	11.4	10.3	1			6 8	80	17	
15 1% 5% -	2.178	15.5	14.0	90	B 1	1.3	81	7.3	23	
	2.343	50.9	183	11.6	10.6					
201% 32 -	3.466	24.8	55.3	144	1340	50	50	5.0	2.5	
24[18]	1.792	343	130.9	70.0	17.9	8.5	13.7	19.5	AA	
DOVELE	SILRE	HISP	-	-	-	-	-	40		
15 12 24 1/4	1.796	12.8	11.6	7.5	6.7	10	5.1		1.4	
18 15 22 -	2.499	17.8	15 1	10.4	9 4	1.5	7.1	6.4	2.0	
2013 3	3.162	350	20.2	33.8	110	1.6	00.	.81.	36.	
54 5 97	4.601	243	30.9	200	18.0	8.8	13.7	15.3	as	
3025 4 %	0.09	22.2	58 5	37.E	35.2	5.4	\$5.9.	3.4	7.3	
BAGGERS	222	SAL.			ARD	-	-	-		
27 24 4 %	7 847	0.0	59.5	32.6	29.4		22 6	246	6.9	
23/24	7.567	55.9	51.2	58.1	29-6	40	22.7	20.5	6.4	
10025 16 16	15.151	72 2	68.5	50 4.	38.1		89 O.	36 E.	, R 2.	
32 34 44 1	15.044	26.7	871	56.5	506		55.0	79.8	10.8	
3400 5 .	19,007	114.3	2.201	65,6	52.5	0.5	45.6	41.1	10.8	
Burasma	50.00	Pha	T -	Dem	N.	SYBS		1	-	
27 25 6 %	6,353	59.5	53.6	347	31 8	4.5	22.6	25.4	6.7	
23 64 4 -	8.912	63.6	57.4	37 2	33.4	5 2	25.5	51.0	7.1	
40175 4 76	11.874	312	73 1	67.5	42 5	66	\$2.4	59.2.	.61	
133 25,44 1	14.945	106.7	26.1	68.8	35.5	87	42 6	39.4	12 0	
Set. 5 1	17,871	175.5	15.0	73.1	65.7	102	50.1	41.2	14.1	



required to form the joints of any kind of sewer pipe. In practice the writer has found that the smaller sizes of pipes, ow. ing to imperfectly filled joints, will not require as much cement as the table would indicate, but that the larger sizes will require very nearly the theoretical amount. With careful jointing the smaller sizes should require the amounts shown in the table. The quantities of cement and sand deduced from the amount of mortar have been computed on the basis of the proportions given by Prof. I. O. Baker. Mortar formed of one part sand and one part cement is in the opinion of the writer preferable to neat cement or to any weaker

MUNICIPAL STATISTICS.

The Provincial Secretary has prepared, and is sending out to the municipal corporations of the cities, towns and villages throughout the province of Ontario, a number of blank forms for the purpose of making returns to the department in respect to reproductive undertakings, such as water works, gas, etc. These returns will include a statement showing the position of the undertakings on December 31. 1902, in regard to capital, together with the average annual imcome for the four years preceding that date, and the rates charged to consumers. This information is being obtained for the assistance of the Select Committee appointed at the last session of the Ontario Legislature to consider the question of municipal ownership.
The committee will probably meet in October.

JOHN GALT, C.E.&M.E.

CONSULTING ENGINEER and EXPERT National Trust Building Toronto

Specialties-Water Supply and Sewerage.

.. Manufactured at. NIEL ON RUPELL

s the Highest Grade Artificial Portland Cement and the Best for High Class Work. Has been used largely for Government and Municipal Works. TO BE HAD FROM ALL CANADIAN DEALERS

C. I. de Sola, "Manager in Canada : 180 St. James Street, MONTREAL

THE ONTARIO ASPHALT BLOCK CO., L'T'D.

ASPHALT BLOCK PAVING

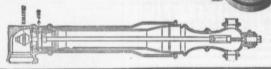
The KERR ENGINE COMPANY, Limited

HYDRANTS and VALVES

Are our Specialty

Don't fail to write us for Catalogue and price

WALKERVILLE, ONTARIO





"Lehigh Portland Cemer

Capacity 11,000 Barrels every Day in the Year.

For Sidewalks and all other work requiring the highest quality Portland Cement Used by the U.S. Government and the largest contractors and users of Portland Cements in the United States.

Absolutely the most popular Cement in Canada on account of its merits.

THORN CEMENT CO. - Buffalo, N. Y.

Portland Cement...

Write or Telegraph to BELLHOUSE, DILLON & CO.

201-203 Coristine Building, St. Nicholas Street, Montreal

for prices...Large stock constantly

argest Makers in the World.

on hand.