

GRAIN PRESSURE TESTS, No. 5A.

Wheat.—Square Bin, Flat Sheet Steel.—Bottom Pressure Tests.

Size of Bin 12" x 12" x 6' 6" high.

Diaphragm on bottom, size 12" x 12"=144 sq. inches.

Wheat 50 lbs. per cu. ft., equal to 62.2 lbs. per bushel.

Grain weigh'd into bin.	Height of grain col'mn	Equivalent fluid pressure.	Pressure of grain on dia-phragm.	Grain carried on bottom.		Grain carried on bin sides.	
				Weight.	% of total weight of grain.	Weight.	% of total weight of grain.
lbs.	in.	in. water.	in. water	lbs.		lbs	
25	6	4.81	3 $\frac{3}{8}$	20.132	80.52	4.868	19.48
50	12	9.62	6 $\frac{3}{8}$	32.147	64.29	17.853	35.71
75	18	14.43	7 $\frac{9}{8}$	39.291	52.38	35.709	47.62
100	24	19.24	8 $\frac{1}{8}$	45.785	45.78	54.215	54.22
125	30	24.05	9 $\frac{1}{4}$	48.058	38.44	76.942	61.56
150	36	28.86	9 $\frac{5}{8}$	51.630	34.42	98.370	65.58
175	42	33.67	10 $\frac{1}{8}$	53.578	30.61	121.422	69.39
200	48	38.48	10 $\frac{3}{4}$	55.851	27.92	144.149	72.08
225	54	43.29	11 $\frac{1}{8}$	57.800	25.68	167.200	74.32
250	60	48.10	11 $\frac{3}{8}$	59.100	23.64	190.900	76.36
275	66	52.81	11 $\frac{5}{8}$	59.740	21.73	215.252	78.27
300	72	57.62	11 $\frac{7}{8}$	60.397	20.13	239.603	79.87
325	78	62.53	11 $\frac{7}{8}$	60.397	18.58	264.603	81.82
Carried on bottom				60,397		on sides	264,603

Tests made at same time as No. 5—B. Both readings taken together. Pressure on bottom of bin = 11 $\frac{3}{8}$ " water = 0.419430 lbs. per sq. inch \times area of diaphragm 144 sq. inches = 60,397 lbs.

By sharply tapping bin with hammer grain settled 3", and gave maximum reading of 13 $\frac{1}{4}$ " water = 0,47806 lbs. per sq. in. \times 144" area of diaphragm = 68.84 lbs. total pressure on bottom = 11.18 % of total weight of grain in bin.