

COMPARATIVE STRENGTH OF ABOVE BY WEIGHT AND VOLUME—3 TO 1 TESTS.

No.	By Weight at		Per-centage of increase from 3 to 7 days.	By Volume at		Per-centage of increase from 3 to 7 days.	Extent to which strength is decreased when proportions are by volume instead of by weight, at	
	3 days.	7 days.		3 days.	7 days.		3 days.	7 days.
1	104	191	83.65	102	167	63.72	1.92	12.56
13	43	77	79.06	12	28	133.3	72.09	63.63
14	132	183	38.64	82	123	50.0	37.87	32.78
15	123	182	47.96	96	129	34.37	21.13	29.12
16	111	173	55.85	87	127	45.97	21.62	26.59

The above results give some startling evidences of inferiority in the Sydney yellow sand (which in some instances hardly bore the strain of the lever at all) to the ordinary white sand, and shows that none of the sands were equal in strength to the crushed stone, at all events up to the 7-day period. Since the reading of the paper, the result of the 28 days' test of the Tasmanian cement had been obtained, which was 919 lbs. for the neat, and 213 lbs. for the 3 to 1 briquettes. With such results as these it appeared to be now merely a question as to whether the cost of manufacture could compete with the prices at which the imported article was sold. The President, Mr. Burman, and other speakers had pointed out the advisability of prosecuting further experiments, with reference chiefly to concretes of different gaugings. These the author hoped to carry out as opportunity offered, and in conclusion he would express his gratification at the evident appreciation of the subject which had been manifested by so many members, and at the brisk discussion which his paper evoked.

ADDENDUM.

Subsequently to the closing of the discussion on the above paper, the author had his attention directed to the peculiar behaviour of one of the pats of the Tasmanian cement alluded to therein, which gave evidence of deterioration and showed the presence of innumerable and intersecting cracks. Further examination disclosed the fact not only that this pat was the one which had been placed in Faija's moist air bath, but that both the pat kept in air and the one placed in water

were entirely free from any such cracks or indications of diminished strength or quality. The pat referred to, however, appeared to be steadily perishing, and is now somewhat of the nature of "short-bread," breaking off easily and crumbling at the touch. This unexpected result appears evidently to be a matter which calls for more investigation, particularly as on referring to the different cements (pats of which have been similarly treated) the author has only been able to detect one instance in which a corresponding action has taken place in the moist air bath, that is with the cement classified in the appendix as 1³, and is not nearly so grave in character.

As this development was only detected after the tests had been completed some days, it was impossible to refer to them during the discussion on the paper, but the author thinks the fact of sufficient importance to be noted.
