



TEST REPORT

FL90 B125 Cover Test

Date: 14/04/11

Client: Fibrelite Composites Ltd.

Cover

The cover supplied is a round FL90 and of composite construction. (See photo. 1)
No. on cover – no number

The cover was also supplied with a new composite frame for it to sit in.
No. on frame - 28650



Photo. 1

Test Rig

The test rig consists of a 'giant mecano' frame bolted to the floor and supporting the Enerpac 50 tonne hydraulic cylinder. (Photo 2)

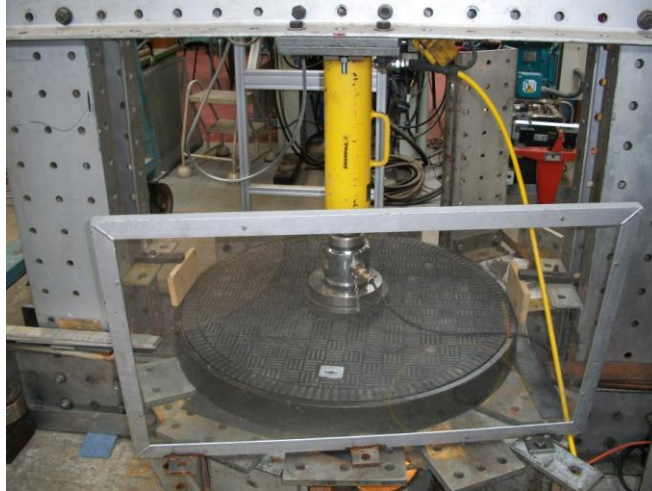


Photo. 2

The cover and frame were sat on steel channels and plates with steel shims to pack and level.

Test

The load was applied to the cover through a 250mm diameter by 45mm thick steel block with a 250mm diameter by 25mm rubber pad between the block and cover.

The load was measured using a 1000kN load cell (serial no. 3243N) and digital load indicator (serial no. D.I.B.1).

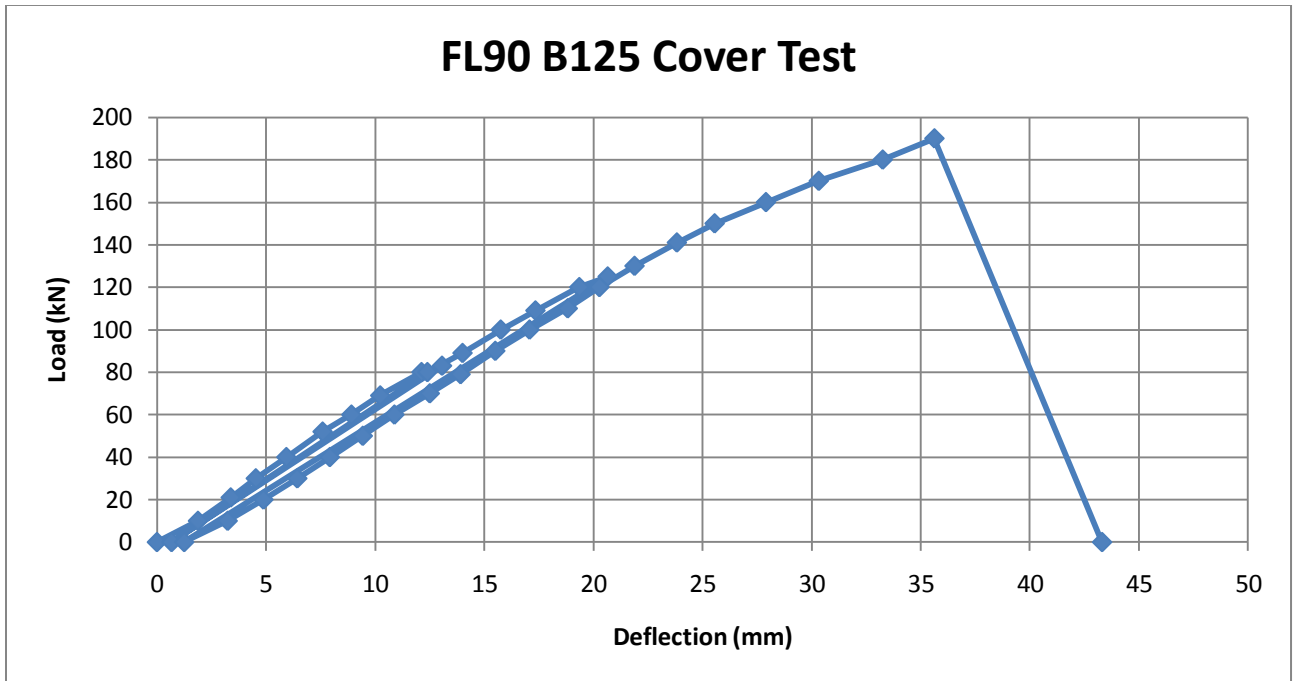
The deflection was measured at the centre on the underside of the cover using a dial indicator.

The cover was loaded to 2/3 of the test load and then released and the permanent set noted. It was then loaded to the test load of 125kN, the load released and the permanent set noted again. Finally the cover was then loaded to failure.

Results

Load (kN)	Deflection (mm)	Remarks
0	0.00	
10	1.88	
21	3.38	Light creaking/cracking sounds from here on.
30	4.53	
40	5.93	
52	7.59	
60	8.91	
69	10.23	
80	12.12	
83	13.06	
0	0.67	
80	12.39	
89	14.00	
100	15.75	
109	17.34	
120	19.35	
125	20.65	
0	1.25	
10	3.24	
20	4.88	
30	6.43	
40	7.92	
50	9.43	
60	10.88	
70	12.50	
79	13.91	
90	15.50	
100	17.07	
110	18.82	
120	20.27	
130	21.88	
141	23.82	
150	25.55	
160	27.90	

170	30.32	
180	33.25	Loud creaking/cracking
190	35.62	Loud cracking/tearing - failure
130	43.30	



The permanent set at 83kN (2/3 test load) was 0.67mm.

The permanent set at 125kN (test load) was 1.25mm.

The cover failed at 190kN.

Photograph 3 shows the cover still in the test rig under load at failure and a large crack running across the cover.



Photo.3

Photograph 4 shows the cover out of the test rig and the full extent of the crack running across the cover and coloured in white to show up.

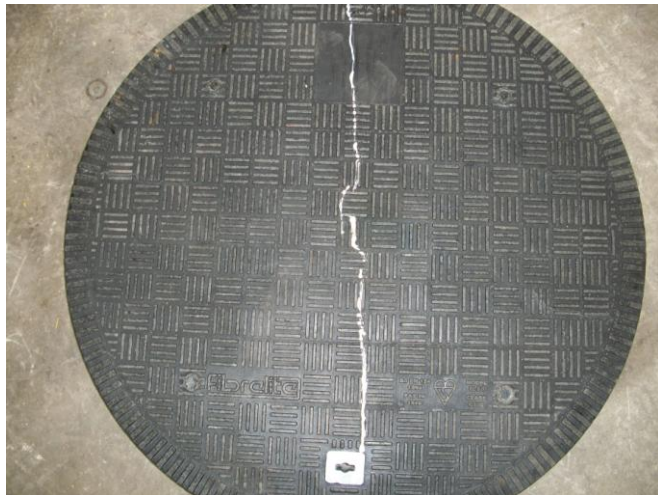


Photo.4

There were no signs of any damage to the frame.

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