

TEST REPORT

FL600 EN124 B125 Cover Test Test 2

Date: 13/03/12

Client: Fibrelite Composites Ltd.

Cover

The cover supplied is a Fibrelite FL600. (Photo.1)
Cover No. – 3233

The cover was tested in a composite frame with a clear opening of 600mm.



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)

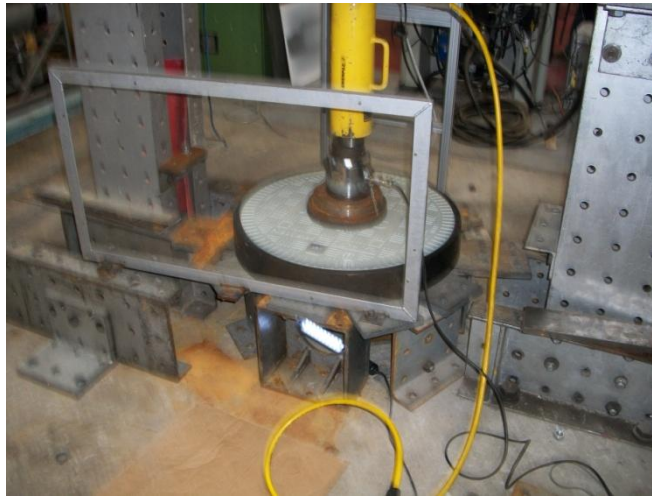


Photo.2

Test

The test was carried out in accordance with BS EN 124, Class B125

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.

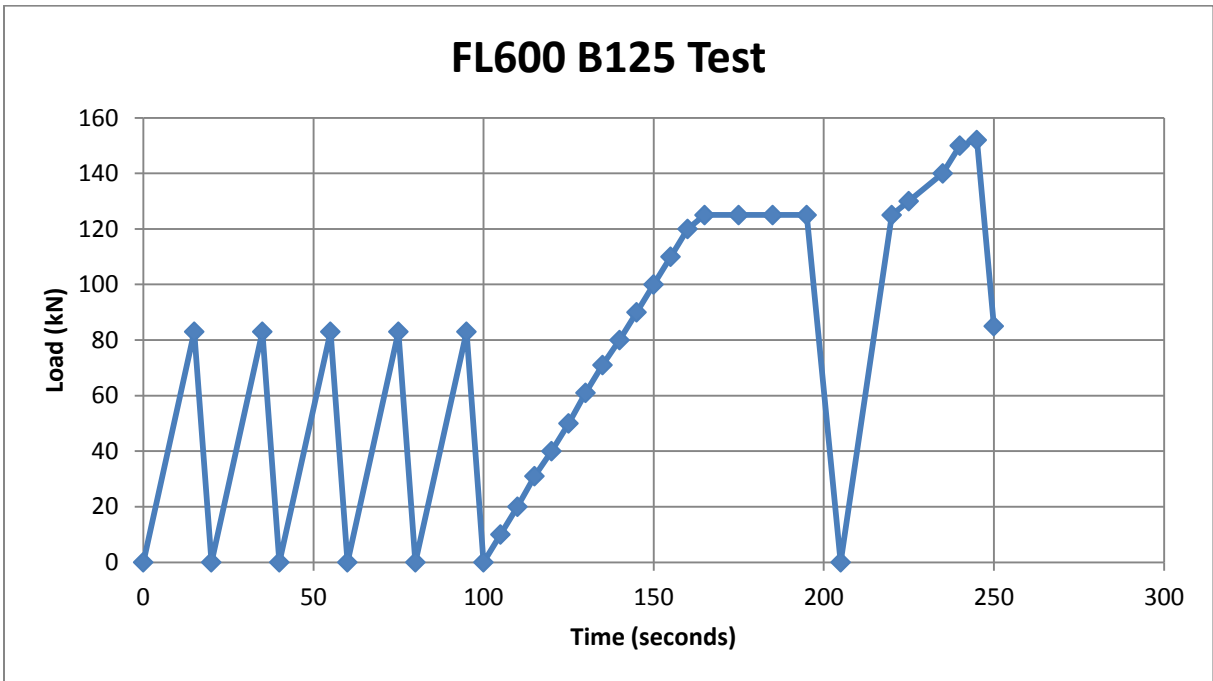
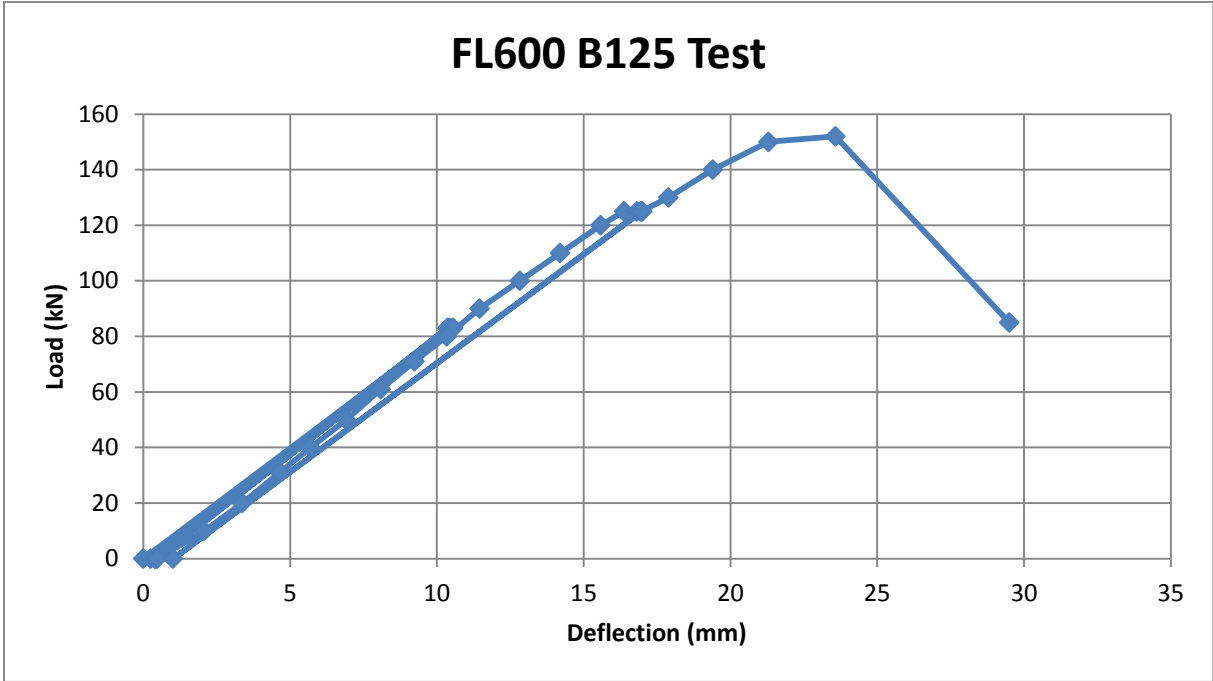
The load was measured using a 1000kN load cell (serial no. 3243N) and digital load indicator (serial no. D.I.B.1).

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. This was repeated five times. It was then loaded to try and achieve the 125kN test load.

Results

LOAD (kN)	DEFLECTION (mm)	REMARKS
0	0.00	
83	10.44	Light cracking noises from about 30kN onwards for 1 st cycle.
0	0.25	
83	10.37	
0	0.40	
83	10.37	
0	0.41	
83	10.54	
0	0.44	
83	10.56	
0	0.47	
10	2.08	
20	3.37	
31	4.66	
40	5.70	
50	6.91	
61	8.09	
71	9.24	
80	10.34	
90	11.46	
100	12.83	
110	14.20	
120	15.58	
125	16.38	
125 (10 seconds)	16.82	
125 (20 seconds)	16.95	
125 (30 seconds)	17.00	
0	1.01	
125	16.97	
130	17.89	
140	19.40	
150	21.30	Cracking/tearing noises.
152	23.58	Loud tearing noises – large crack on underside. Failure.
85	29.50	



In accordance with EN124 Clause 8.3.1 the permanent set of the cover was 0.47mm which is within the permissible stated in Table 8 of the standard. ($1/100 \times 600 = 6.00\text{mm}$).

The cover reached the test load of 125kN and held for the required 30 seconds so therefore passed the EN124 B125 load test.

After the cover had been loaded to the test load of 125kN and held for 30 seconds it was unloaded to zero and a permanent set of 1.01mm measured.

The cover was then loaded back up to failure.
Failure finally occurred at 152kN

The cover was then unloaded and inspected for damage.

On the underside there was a large crack running right across the cover. (Photo.3)



On the top face of the cover there were also a number of smaller cracks.

The frame showed no signs of any damage.

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