

TEST REPORT

FM45-B125SH-120 Trench Panel EN124 B125 Test

Date: 29/04/13

Client: Fibrelite Composites Ltd.

Cover

The panel supplied is a rectangular FM45, 1200mm x 450mm x 52mm and of composite construction. (See photo. 1)



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 panel was supported on steel channels at each end leaving a span of 1070mm.

Test

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

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

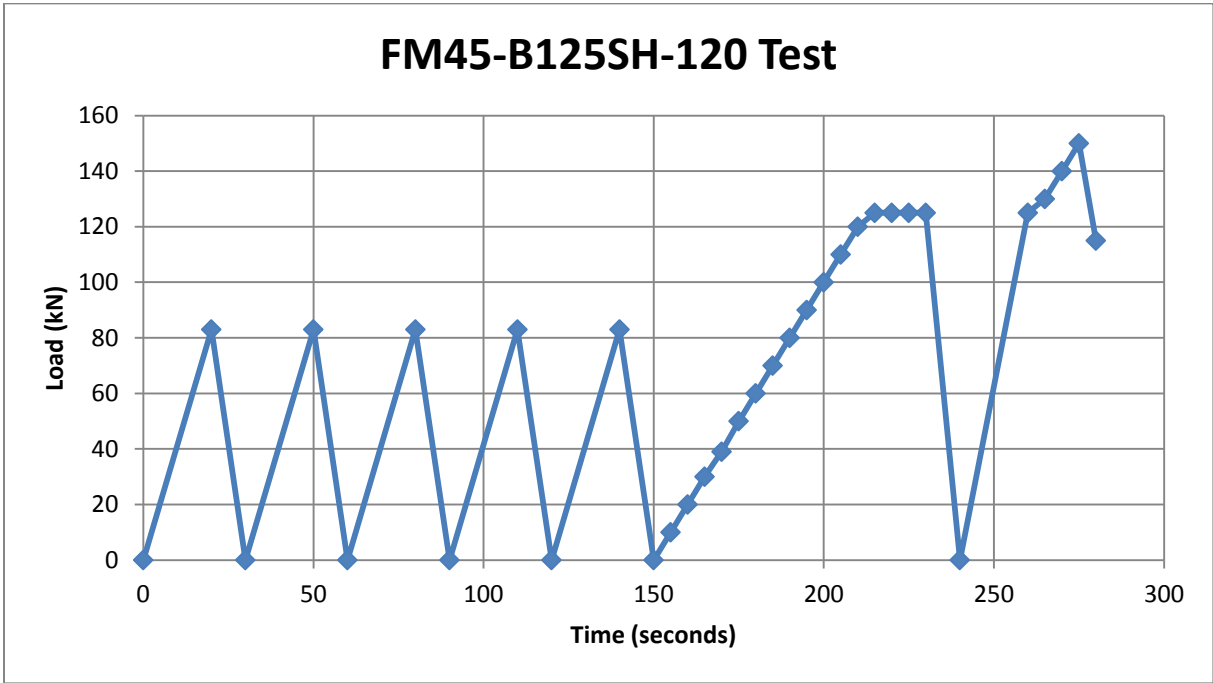
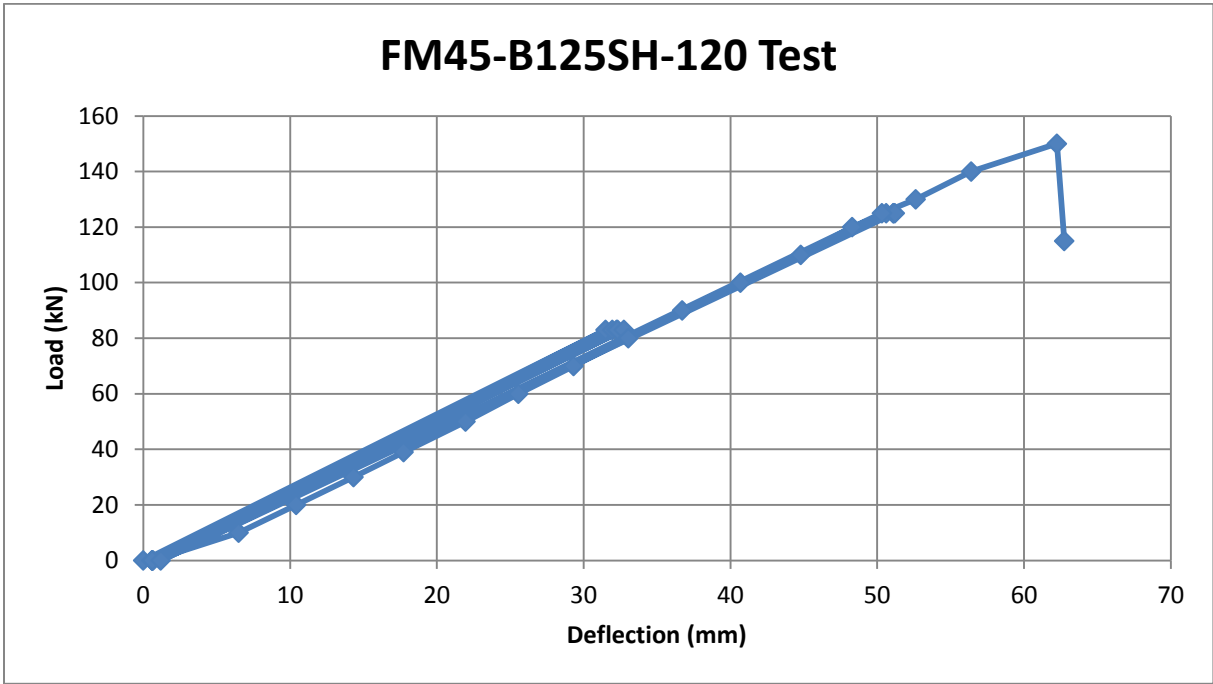
The load was measured using a 1000kN load cell (serial no. 3243N) and digital load indicator (serial no. D.I.B.1).

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

The panel 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 test load of 125kN.

Results

LOAD	DEFLECTION (mm)	REMARKS
0	0.00	
83	31.50	A few light cracking noises from 50kN onwards for 1 st cycle.
0	0.67	
83	31.96	
0	0.59	
83	32.25	
0	0.60	
83	32.32	
0	0.62	
83	32.75	
0	0.62	
10	6.50	
20	10.42	
30	14.33	
39	17.74	
50	21.96	
60	25.56	
70	29.32	
80	33.05	
90	36.72	
100	40.69	
110	44.80	
120	48.30	
125	50.62	
125 (10 seconds)	51.10	
125 (20 seconds)	51.12	
125 (30 seconds)	51.21	
0	1.19	
125	50.33	
130	52.63	
140	56.41	Louder cracking
150	62.25	Loud bang – failure.
115	62.75	



In accordance with EN124 Clause 8.3.1 the permanent set of the panel was 0.62mm which is within the permissible stated in Table 8 of the standard. ($1/100 \times 450 = 4.50\text{mm}$).

The panel held the test load of 125kN for the required 30 seconds.

The panel therefore passed the EN124 B125 test for permanent set and load.

After the panel had passed the EN124 test the load was released and after a period of two minutes to allow the panel to recover, a permanent set of 1.19mm was recorded.

The panel was then loaded again to achieve failure which occurred at 150kN.

Photographs 3 and 4 show a large crack on the top face of the panel at failure.



Photo.4



Photo.5

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