

TEST REPORT

FM45A15-160 EN124 A15 Test

Date: 14/06/13

Client: Fibrelite Composites Ltd.

Panel

The panel supplied is a rectangular FM45, 1600mm x 450mm x 50mm 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 1446mm.

Test

The test was carried out in accordance with BS EN 124, Class A15.

The load was applied to the panel through a 250mm diameter by 45mm thick steel block with a 250mm diameter by 10mm rubber pad between the block and panel.

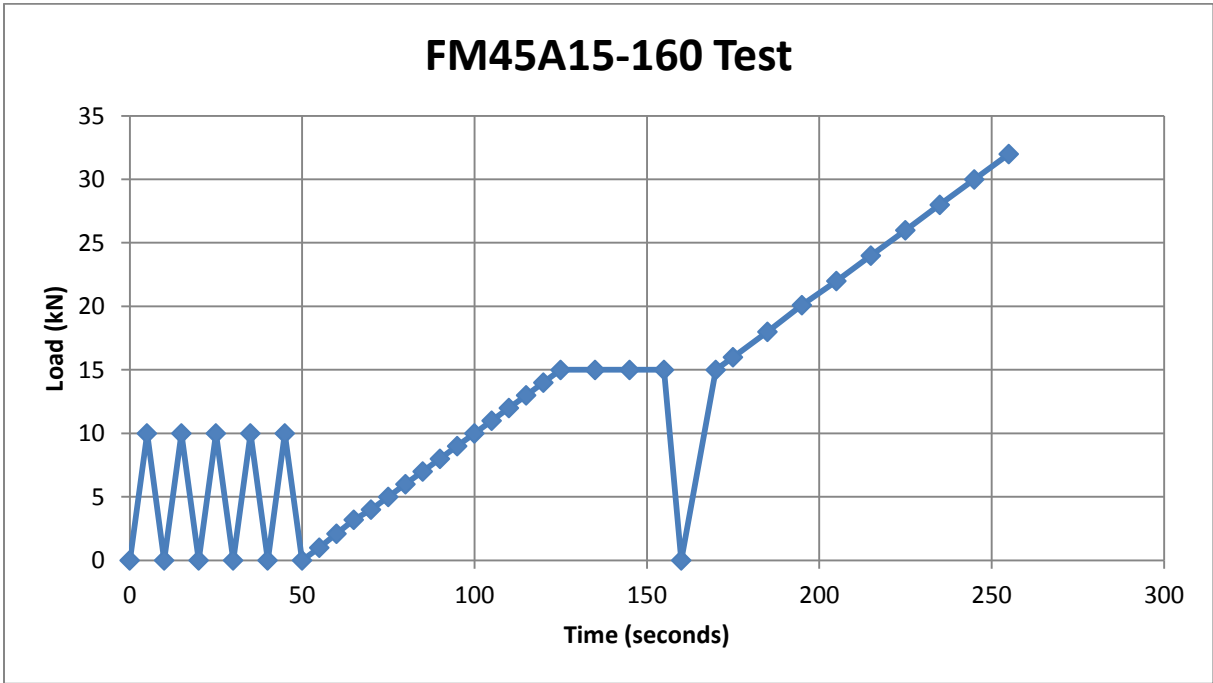
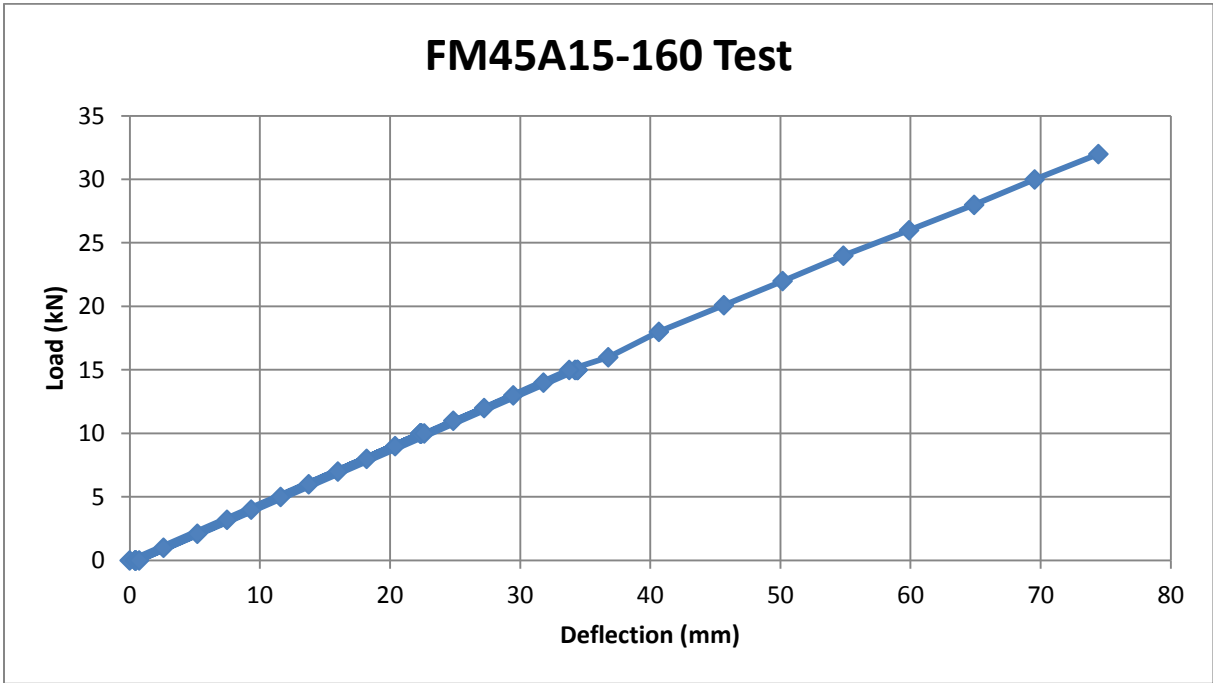
The load was measured using a 100kN load cell (serial no. 2932N) and digital load indicator (serial no. D.I.B.1).

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 15kN.

Results

LOAD	DEFLECTION (mm)	REMARKS
0	0.00	
10	22.40	
0	0.44	
10	22.33	
0	0.41	
10	22.35	
0	0.47	
10	22.43	
0	0.44	
10	22.35	
0	0.46	
1	2.60	
2.1	5.20	
3.2	7.48	
4	9.34	
5	11.60	
6	13.76	
7	16.00	
8	18.21	
9	20.40	
10	22.64	
11	24.87	
12	27.24	
13	29.48	
14	31.80	
15	34.22	
15 (10 secs.)	34.30	
15 (20 secs.)	34.42	
15 (30 secs)	34.44	
0	0.73	
15	33.78	
16	36.78	
18	40.67	
20.1	45.67	
22	50.18	
24	54.85	
26	59.90	
28	64.90	
30	69.55	
32	74.45	Test stopped



In accordance with EN124 Clause 8.3.1 the permanent set of the panel was 0.46mm which is within the permissible stated in Table 8 of the standard. ($1/100 \times 450 = 4.50\text{mm}$).

The panel reached the test load of 15kN and held for the required 30 seconds.

The panel therefore passed the EN124 A15 test for both permanent set and load.

After the panel had passed the EN124 A15 test the load was released and a permanent set of 0.73mm recorded.

The panel was then loaded up to try and achieve failure.

At 32kN the test was halted for safety reasons.

The panel had deflected so much it was in danger of flipping the end supports out and the travel on the dial gauge had also run out.

There were no audible sounds of cracking at any stage throughout the test or any visible signs of failure.

Photograph 3 shows the panel still under load at 32kN when the test was stopped.

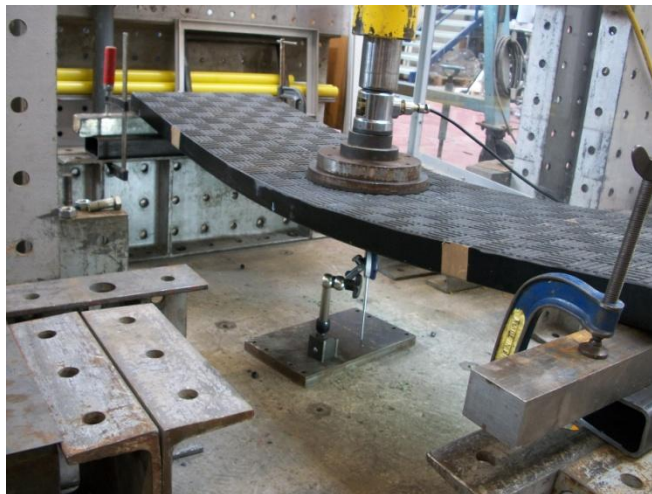


Photo.3

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