

## **TEST REPORT**

### **FM45 EN124 A15 Test**

Date: 27/04/12

**Client: Fibrelite Composites Ltd.**

#### **Cover**

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

**No. on cover: - A15**



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)

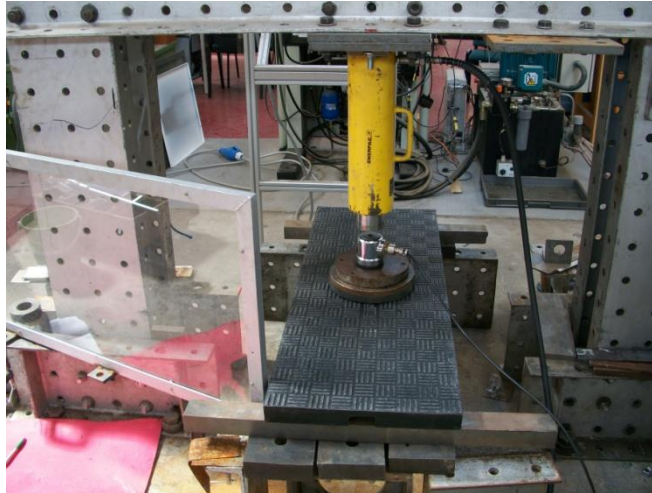


Photo. 2

The cover was supported on steel channels at each end leaving a span of 1048mm.

## **Test**

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

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 100kN load cell (serial no. 2936N) and digital load indicator (serial no. D.I.B.1).

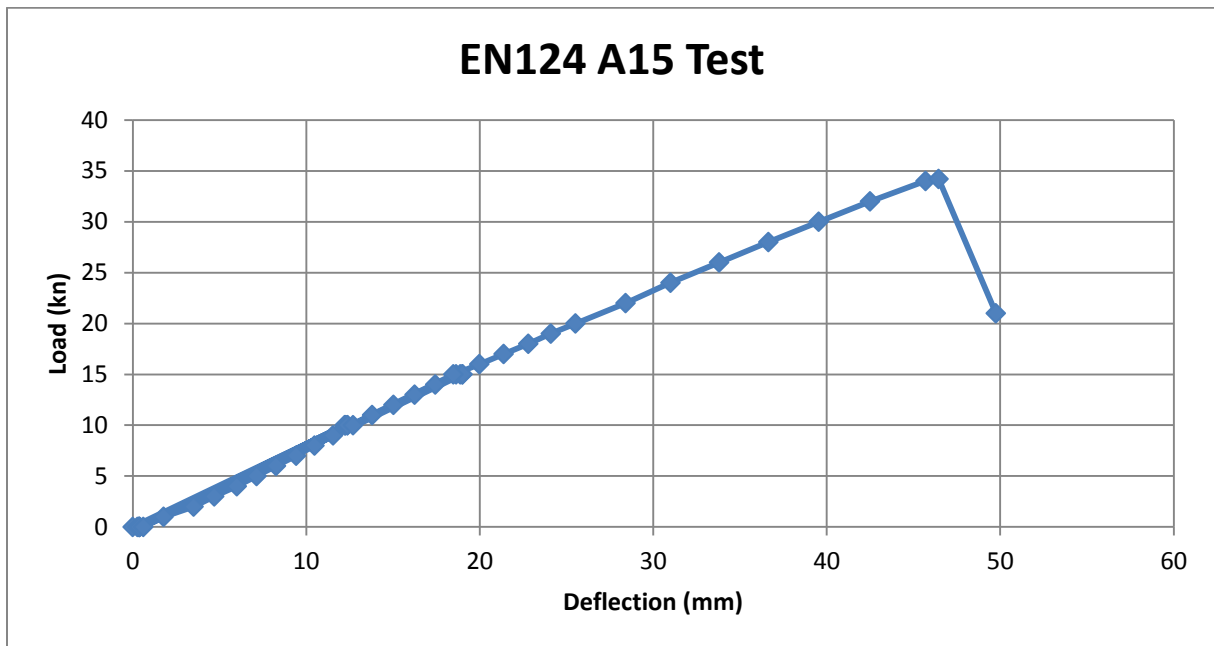
The deflection was measured at the centre on the underside of the cover using a dial indicator.

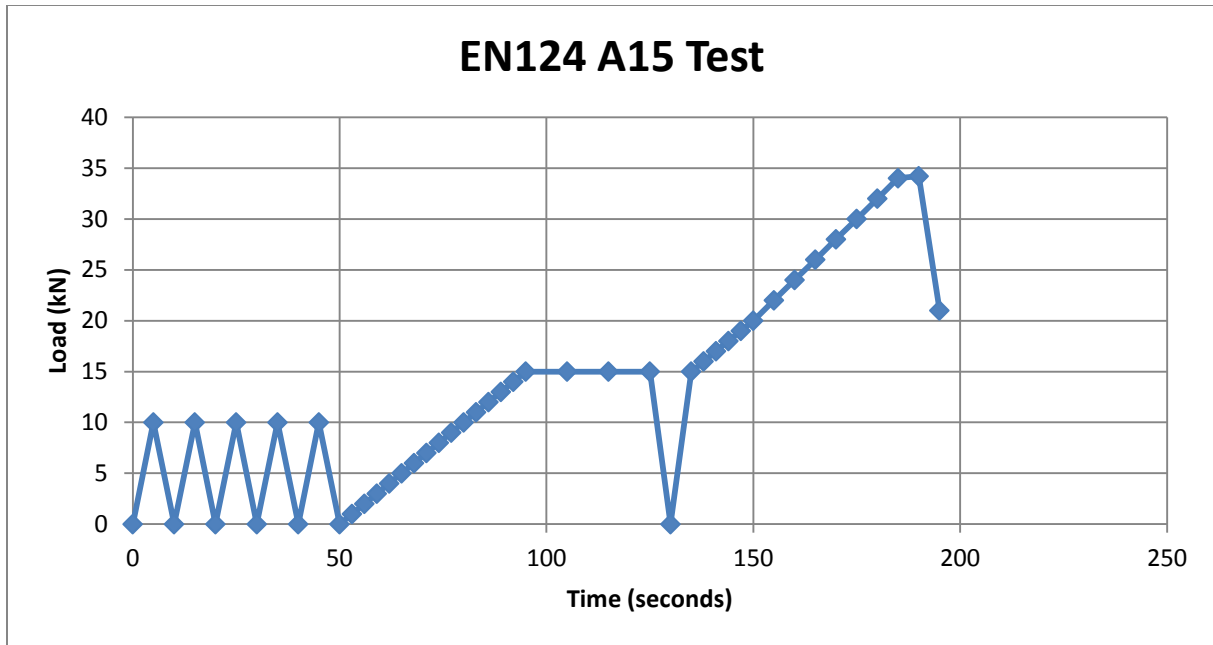
The cover was loaded to 2/3 of the test load and then released. This was repeated five times. It was then loaded to try and achieve the test load of 15kN.

## Results

<b>LOAD</b>	<b>DEFLECTION (mm)</b>	<b>REMARKS</b>
0	0.00	
10	12.25	
0	0.27	
10	12.22	
0	0.35	
10	12.26	
0	0.37	
10	12.37	
0	0.40	
10	12.38	
0	0.39	
1	1.78	
2	3.51	
3	4.70	
4	6.00	
5	7.14	
6	8.26	
7	9.42	
8	10.48	
9	11.55	
10	12.70	
11	13.80	
12	15.03	
13	16.25	
14	17.44	
15	18.64	
15 (10 secs.)	18.88	
15 (20 secs.)	19.00	
15 (30 secs.)	19.01	
0	0.61	
15	18.48	
16	19.98	
17	21.38	

18	22.80	
19	24.10	
20	25.52	
22	28.41	
24	31.00	
26	33.80	
28	36.64	
30	39.54	
32	42.50	
34	45.70	
34.2	46.45	Loud crack/bang - Failure
21	49.75	





**In accordance with EN124 Clause 8.3.1 the permanent set of the cover was 0.39mm which is within the permissible stated in Table 8 of the standard. ( $1/100 \times 450 = 4.50\text{mm}$ ).**

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

**The cover 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 0.61mm recorded.

The panel was then loaded up to achieve failure which occurred at 34.2kN

Photograph 3 shows the panel after failure with a large crack running right across the center of the cover.



Photo.3

Photograph 4 shows the large crack running right across the centre of the cover.

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