

## **TEST REPORT**

### **FM45-F900 Panel EN124 F900 Test**

Date: 07/11/13

**Client: Fibrelite Composites Ltd.**

#### **Panel**

The panel supplied is a rectangular FM45, 875mm x 403mm x 115mm panel 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 twin Enerpac 60 tonne hydraulic cylinders. (Photo 2)



Photo. 2

**The panel was supported on steel channels with two 65mm wide x 50mm deep steel bars at each end leaving a span of 750mm.**

## Test

The test was carried out in accordance with BS EN124; Class F900 apart from the test block used as requested was rectangular and measured 48cm x 27cm giving a total area of 1296cm<sup>2</sup>. This was instead of the 250mm diameter test block stated in the EN124 standard.

A 10mm rubber pad was placed between the test block and panel.

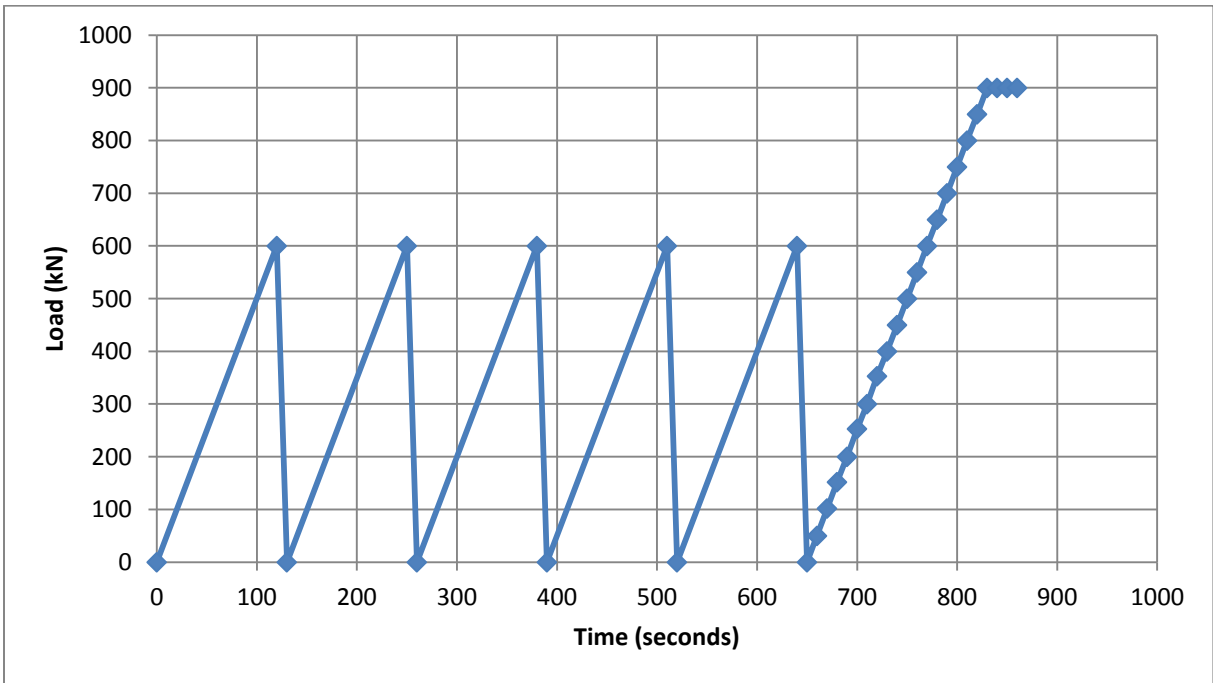
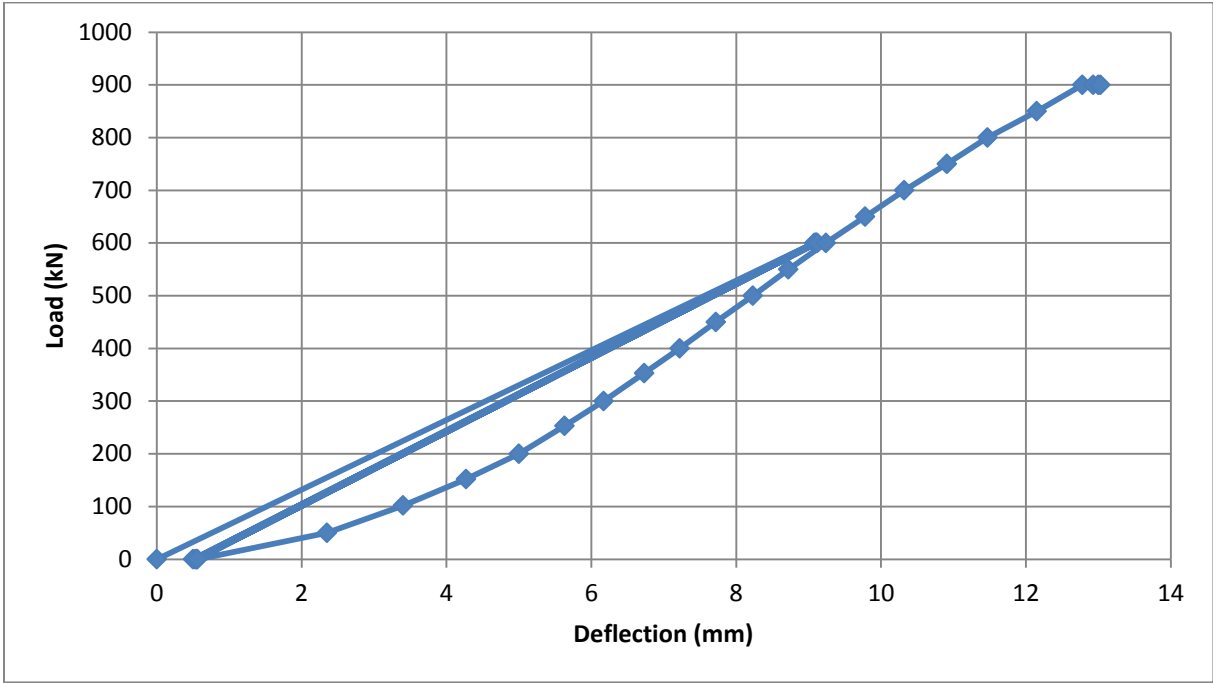
The load was measured using a 1000kN load cell (serial no. 3243N) and digital load indicator (serial no. D.I.B.1).

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 900kN.

## Results

LOAD	DEFLECTION (mm)	REMARKS
0	0.00	
600	9.08	A few light cracking noises for the 1 <sup>st</sup> cycle only.
0	0.50	
600	9.10	
0	0.53	
600	9.10	
0	0.55	
600	9.11	
0	0.55	
600	9.12	
0	0.56	
50	2.35	
102	3.40	
152	4.27	
200	5.00	
253	5.63	
300	6.17	
353	6.73	
400	7.22	
450	7.72	
500	8.23	
550	8.72	
600	9.24	
650	9.78	
700	10.32	
750	10.91	
800	11.47	
850	12.15	
900	12.78	
900 (10 seconds)	12.93	
900 (20 seconds)	13.00	
900 (30 seconds)	13.03	
0	0.76	



After the test the load was removed the panel was inspected for damage.

No visible signs of any damage were found.

**In accordance with EN124 Clause 8.3.1 the permanent set of the panel was 0.56mm which is within the permissible stated in Table 8 of the standard. ( $1/300 \times 403 = 1.34\text{mm}$ ).**

**The panel held the test load of 900kN for the required 30 seconds.**

**The panel therefore passed the modified EN124 F900 test for both permanent set and load.**

**Special Note:**

**As stated earlier the test was carried out in accordance with EN124 F900 in every way apart from a larger loading pad (48cm x 27cm) was used.**

After the panel had passed the EN124 test the load was released from the 900kN and a permanent set of 0.76mm was recorded.

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