



# TEST REPORT

## 700 x 448 x 76 Composite Trench Panel BS EN124 C250 Test

Document reference number - FIB-700-448-76-30-07-15

**Report by:**

M.A.Salisbury  
Senior Technician

*M. A. Salisbury*

**Date test carried out:**

30<sup>th</sup> July 2015

**Customer name:**

Fibrelite Composites Ltd.  
Snaygill Industrial Estate,  
Keighley Road,  
Skipton,  
North Yorkshire  
BD23 2QR

### Clarifying Statements:

1. The results reported have been performed in accordance with the test requirements agreed by the customer (Fibrelite Composites Ltd.) and laid down in the BS EN124 1994 standard.
2. This report does not include or imply any expert opinions as to the serviceability of the sample tested or their suitability for a specific purpose.
3. The submitter disclaims any liability of any kind for any damage whatsoever resulting from the use of either data in the files or the attached values of the test results reported.
4. The report may not be reproduced other than in full, except with the prior written consent of the Engineering Dept., Lancaster University.
5. All testing has been carried out in within the Engineering Department, Gillow Ave., Lancaster University, Bailrigg, Lancaster LA1 4YW.
6. This report applies only to those items and/or materials that have been tested and reported on herein. No inference shall be made to similar test items or materials/ samples.

## **Panel**

The panel supplied for testing is a 700mm long x 448mm wide x 76mm deep composite trench panel. (Photo.1)

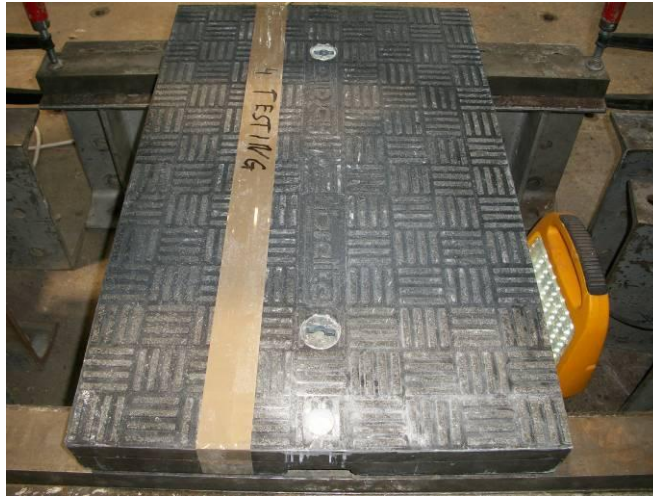


Photo. 1

## **Test Rig**

The test rig consists of a 'giant mecano' frame bolted to the floor and supporting the Enerpac 50 ton hydraulic cylinder. (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 566mm.

## **Test**

The test was carried out in accordance with BS EN 124, Class C250.

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 panel was tested at a span of 566mm.

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

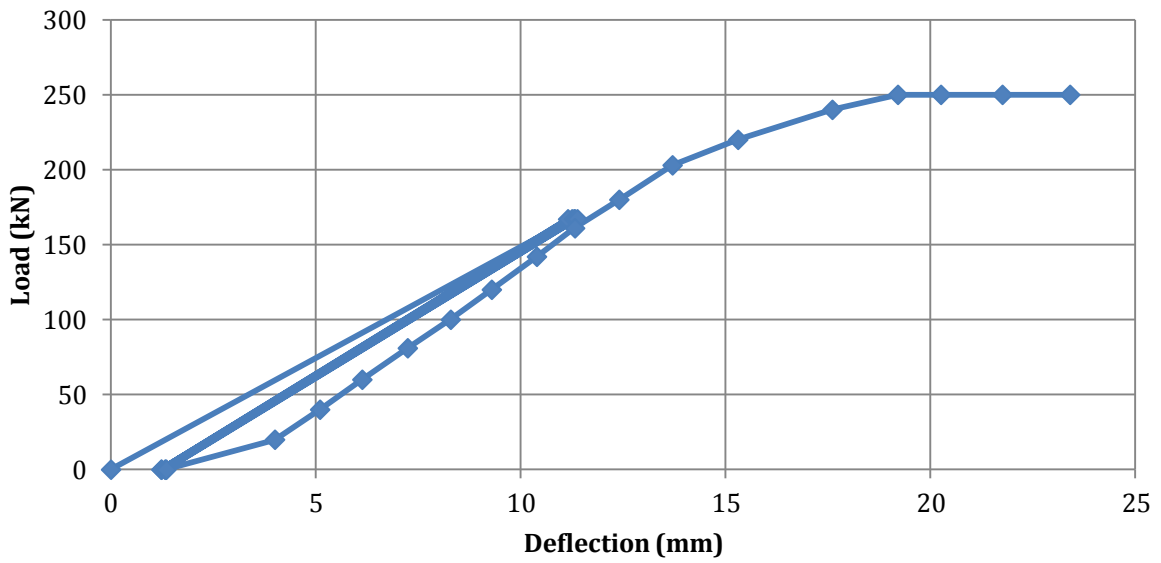
The deflection was measured at the centre on the underside of the panel using a dial indicator.

The panel was loaded to  $\frac{2}{3}$  of the test load and then released. This was repeated five times. It was then loaded to try and achieve the test load of 250kN.

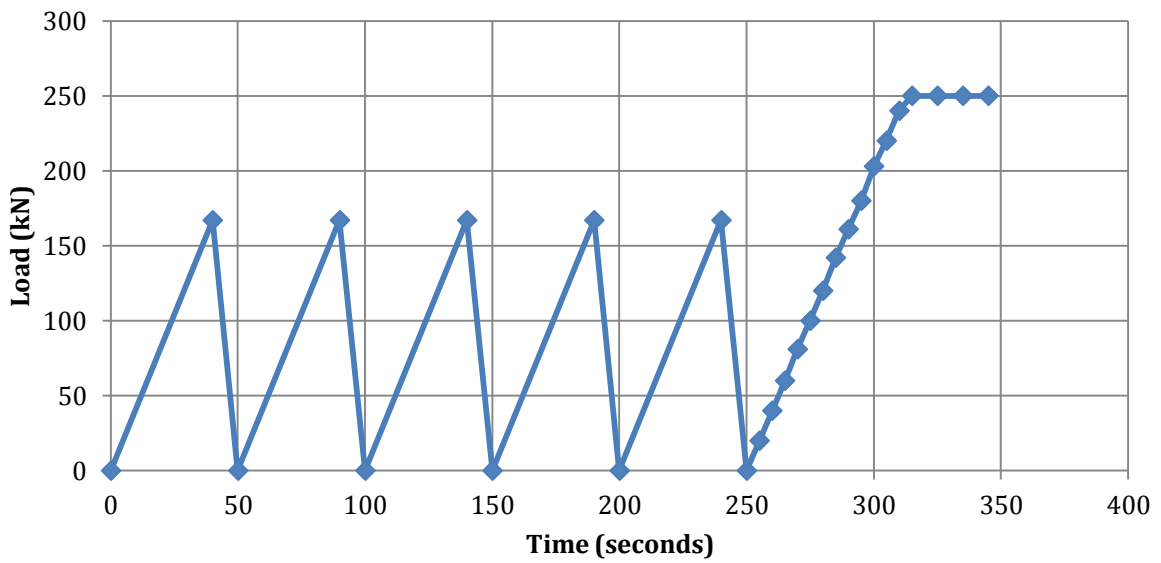
## Results

LOAD (kN)	DEFLECTION (mm)	REMARKS
0	0.00	
167	11.25	
0	1.23	
167	11.15	
0	1.23	
167	11.30	
0	1.32	
167	11.32	
0	1.33	
167	11.38	
0	1.35	
20	4.00	
40	5.10	
60	6.13	
81	7.24	
100	8.29	
120	9.29	
142	10.39	
161	11.32	
180	12.40	Light cracking noises.
203	13.70	
220	15.30	
240	17.60	Light cracking/tearing noises from here on.
250	19.20	
250 (10 seconds)	20.25	
250 (20 seconds)	21.75	
250 (30 seconds)	23.40	<b>PASS</b>
0	3.70	
255	Dial gauge removed.	Ultimate failure - no more load and louder cracking/tearing noises.

### Trench Panel EN124 C250 Test



### Trench Panel EN124 C250 Test



**In accordance with EN124 Clause 8.3.1 the permanent set of the panel was 1.35mm which is within the permissible stated in Table 8 of the standard. ( $1/300 \times 448 = 1.49\text{mm}$ ).**

**The panel held the test load of 250kN for the required 30 seconds.**

**The panel therefore passed the EN124 C250 test for both permanent set and load.**

After the panel had been loaded to the test load of 250kN and held for the required 30 seconds the load was released and a permanent set of 3.70mm recorded.

The dial gauge was then removed from under the panel to avoid damage.

The panel was then loaded further up to failure which occurred at 255kN. (Photo.3)



Photo.3

The only visible damage to the trench panel that could be seen when it was removed from the test rig was some deformation to both the top and bottom faces.