Engineering | Lancaster University

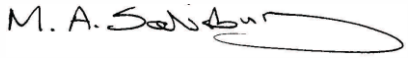
TEST REPORT

TRENWA Eco-lite
LHE-46-30 Load Test No.2
Span – 40”

Document reference number - FIB-TRENWA-46-30-2-24-01-20

Report by:

M.A.Salisbury
Senior Technician



Date test carried out:

24th January 2020

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.)

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 composite trench panel supplied is a rectangular TRENWA Eco-lite 46-30. (Photo.1)

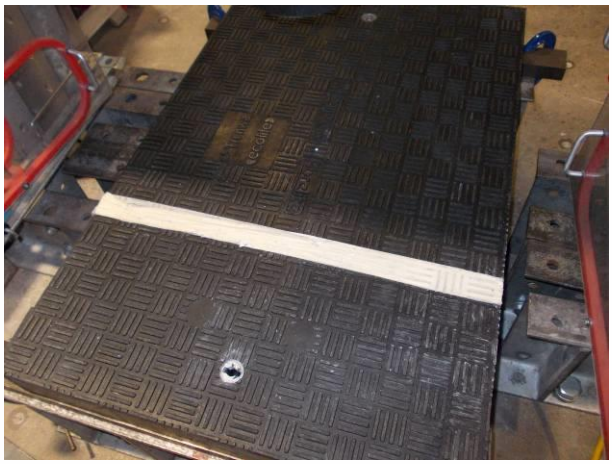


Photo. 1

Test Rig

The test rig consists of a 'giant mecanno' frame bolted to the floor and supporting the Enerpac 90 ton hydraulic cylinder. (Photo 2)

Photo. 2

The panel was seated on 65mm x 50mm rectangular steel bars at a clear span of 40 in. (1016mm).

The load cell and test rig complies with EN ISO 7500-1:2004 minimum Class 3.

Test Rig ID: EG100TF
Load Cell ID:
Instron Calibration Certificate No. E225112819092451
System Class: 1

Photograph 3 below shows the calibration certificate for the load cell and test rig.

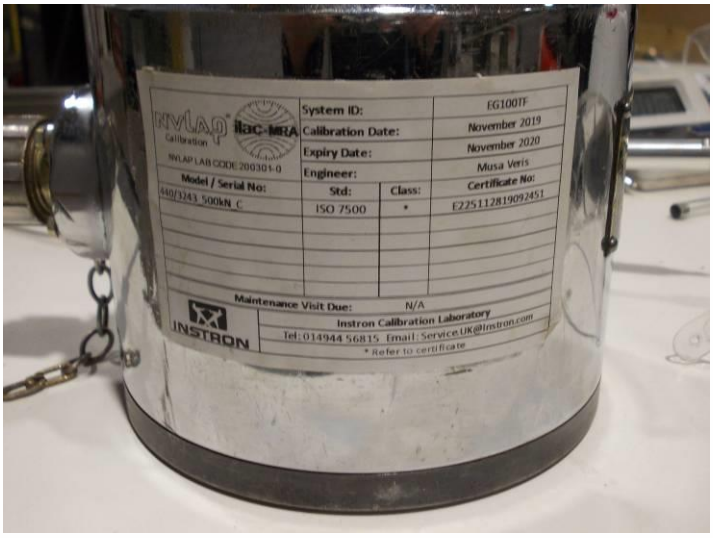


Photo.3

Test

The test is a simple load test using a 229mm x 229mm (9in. x 9in.) loading pad with a 25mm (1in.) rubber intermediate block.

A test load of 92.5kN (20,800lbf) is to be applied and held for 1 minute.

The load is then to be removed and a permanent set recorded.

Results

Permanent set test

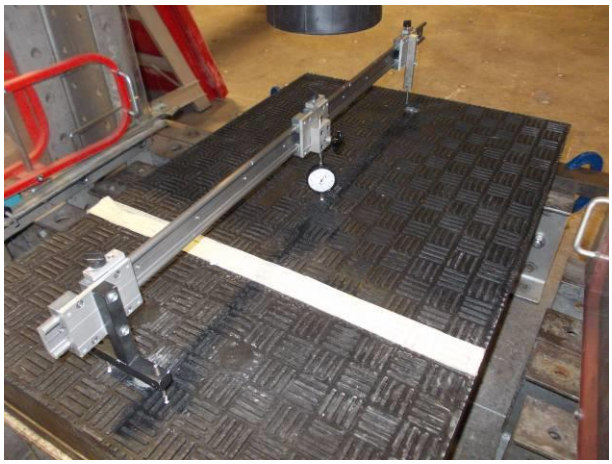


Photo.4

Initial Reading	0.00mm	
Reading after 20,800lbf held for 1 min.	0.74mm	
Permanent Set	**0.74mm**	**.029in.**

Permissible permanent set required for the test is 3.2mm (1/8in.)

Therefore panel passes the permanent set test.

Load Test

LOAD (kN)	LOAD (lbs)	DEFLECTION (mm)	DEFLECTION (in.)	REMARKS
0	0	0.00	0.000	
10	2,248	1.55	0.061	
20	4,496	3.04	0.120	
30	6,744	4.45	0.175	
40	8,992	5.64	0.222	
50	11,240	7.07	0.278	
60	13,488	8.47	0.333	
70	15,737	9.81	0.386	
80	17,985	11.00	0.433	
92.5	20,800	13.15	0.518	
92.5 (60 seconds)	20,800	13.37	0.526	**PASS**
0	0	0.67	0.026	
169	37,992	Gauge removed		**Ultimate load**

The panel held the proof test load of 20,800 lbs (92.5kN) for the required 1 minute and with no visible signs of any cracking.

The permanent set was also less than the 3.2mm (1/8in.) required.

The panel therefore passed the test.

After the panel had passed the load test it was reloaded until ultimate failure occurred at 169kN (37,992lbf).