

Test Report No. 210792

Customer:- Structural Science Composites Co

Evaluation carried out by:-Mr P Oldman – Independent Engineering Surveyor
Mr S P Fox – Lloyds British Testing Ltd

Date:- 20th February 2012

Product:- Type CR106 Composite Manhole Top and Frame
Non Dip Cap and Dip Cap Version

We hereby certify that the following products meet all the testing requirements as laid down in BS EN 124:1994 and are deemed to comply with the Classification C250 standards of BS EN 124:1994

1. The tests were carried out at Lancaster University on the 19th 21st & 23rd September, also 12th and 31st October and 1st November 2011 on the covers size of round shape (1060mm) 6-off for permanent set (complementary) testing and three off for destructive testing. The review of the test results on the manholes met the requirements of BS EN 124:1994 + Amendment 15/05/1995, section 8.0 in withstanding a load of 25 tonnes and maintaining a permanent set below the maximum permitted in the code, following five cyclic tests up to 2/3rds of the test load. The tests carried out by Lancaster University to the code requirements were found satisfactory.

2. The test reports covers the following covers and frames for permanent set tests

Description	Ref	date	Actual Permanent set	Code max
Cover no	3131	12/10/11	2.10mm #	3.53mm
Frame no	3167			
Cover no	3130	12/10/11	1.64mm	3.53mm
Frame no	3160			
Cover no	3072	23/09/11	1.78mm	3.53mm
Frame no	3068			
Cover no	3357	31/10/11	2.34mm #	3.53mm
With Dip Cap				
Frame no	3170			
Cover no	3360	31/10/11	2.37mm #	3.53mm
With Dip Cap				
Frame no	3168			
Cover no	3362	1/11/11	2.72mm #	3.53mm
With Dip Cap				
Frame no	3169			

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Note:- These covers are based on section 7.8a and 7.8c of the code using the 1/300 factor for type of fixing.

Note:- load held on cover maximum 30 seconds
All of the above covers and frames met the BS EN124:1994 code requirements.

The following 1060mm diameter covers were tested to destruction to ascertain the ultimate failure load which must exceed the 25 tonnes
The following reports detail the actual failure loads.

Report date	Cover/Frame ref	Failure load Tonnes	Max deflection at failure load
9/09/2011	3069/3067	28.2	34.25mm
21/09/2011	3070/3067	28.5	34.92mm
21/09/2011	3071/3067	28.7	35.90mm

3. Please note: These covers do not have any vents and as such only represent a solid cover with no vents. Should vents be required then another proof test would be required. Vent position must be sited so as not to weaken the cover too much and preferably sited away from the centre.

4. These comments are made on the basis of the reports as detailed above and are made without bias to any test laboratory or persons.

5. These covers were tested in a locked position in this instance, therefore the design factor of 1/300 was used.



S P Fox
Test & Inspection Manager

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