James Fisher
Testing Services

TEST REPORT
No. 14002/1

POINT LOAD TESTING

at

CINEWORLD, SPEKE BOULEVARD

Job No: 14002/1

PREPARED BY JAMES FISHER TESTING SERVICES LTD FOR
CONSTRUCTING INNOVATIONS LTD

DATE REPORTED: 23RD JANUARY 2018

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APPENDIX

1. INTRODUCTION

James Fisher Testing Services Ltd. (JFTS) was instructed by **Constructing Innovations Ltd** (client), to carry out point load testing of a concrete floor slab at:

Cineworld, New Mersey Shopping Park, Speke Rd, Liverpool L24 8QB.

A point load test was requested on the second floor of the cinema building at the above location to ascertain the load bearing characteristics of a Retanol Extreme Concrete floor slab.

This report contains the results and findings of the site investigation works undertaken on 22nd January 2018.

2. METHODOLOGY

Once the test location had been agreed upon, following consultation with the client's representative, the reaction frame was assembled.

The frame comprised two short lengths of SGB soldiers sitting on top of the concrete slab, with two further SGB soldiers spanning across the top.

The top of the frame was then loaded with a series of steel weights, to give a total reaction mass of approximately 1700kg.

A 150x150mm steel plate (5mm thick) was placed on to the test position, to apply the load onto the floor slab.

A hydraulic jack was placed directly onto the top of the block, with an accompanying load cell attached.

A steel spreader plate was positioned above the load cell, to spread the force across the bottom of the SGB soldiers.

Displacement transducers were attached to the frame and used to measure the deflection of the floor.

2.1 Test Procedure

The load was applied to the concrete in 9 No. steady increments up to the full test load of 1350kg. The full load was then held for a period of 1 hour.

The testing was undertaken using the PLATEMAN equipment and reported using the associated software.

The testing was undertaken in general accordance with BS 1377-9, Pt 9, 4.1.

The 150x150mm plate used to transfer the load to the concrete has an effective area of 22,500mm^2. This equates to a circular plate diameter of ~169mm. This figure was used within the PLATEMAN equipment to set the effective area and therefore calculate the pressure.

The pressure required to achieve the 1350kg (approx. 13.5kN) force over the designated area was calculated using the formula *pressure = force / area*. The target pressure required was calculated to be 600kN/m^2.

Visual inspection of the concrete material was undertaken prior to, during and after the test to determine if the load test had caused any sign of distress to the material.

On the satisfactory conclusion of the test, the load was released in a controlled and safe manner.

3. RESULTS & CONCLUSIONS

Certification of the test is presented in Appendix A.

Photographic records showing the testing being undertaken are included in Appendix B.

The maximum applied pressure achieved during the test was 590kN/m^2 or 13.28kN of direct force. The maximum deformation recorded at this pressure was 2.76mm.

The maximum load was held for a period of one hour with no visible signs of distress shown to the Retanox Extreme Fine Concrete, during or after the load test.

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DEAN KENDALL
Team Leader

ROY RUNDY
Senior Technician

For and on behalf of JFTS LIMITED

APPENDIX A

TEST CERTIFICATION

James Fisher Testing Services
Ruby House, 40A Hardwick Grange, Woolston
Warrington, Cheshire
Tel. 01925 286880 Fax. 01925 286881

TEST REPORT
DETERMINATION OF PLATE BEARING CAPACITY

Project	Cineworld Development, Speke	**Test No:**	1
Client	Constructing Innovations Ltd	**Lab Ref No:**	
		Date Tested	22.01.18
		Date Reported	23.01.18
Technician	HL	**Weather Conditions**	Dry
Location	2nd Floor	**Plate Dia (mm)**	169
GPS Coord's	W 2° 52' 53.7", N 53° 21' 1.3"	**m to excavation wall**	
Material Type	Retanol Xtreme Fine Concrete	**Depth (m)**	
No Cycles	1	**Reaction Type**	1.5 T of Kentledge

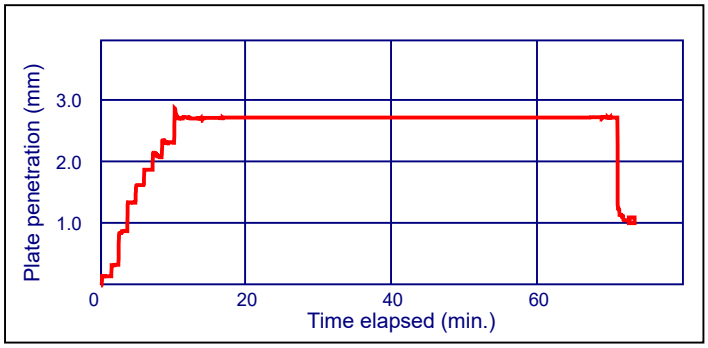

Plate Settlement (mm)	Bearing Pressure (kN/m2)
0.00	0.0
0.15	62.6
0.34	123.7
0.89	185.7
1.36	251.3
1.65	346.3
1.90	412.3
2.10	428.1
2.34	511.0
2.76	590.0
1.07	0.0

	Cycle 1
Maximum Applied Pressure (kPa):	**590**
Maximum deformation (mm):	**2.76**
Modulus of subgrade reaction K (MN/m3):	**188.7**
K762 (MN/m3):	**53.5**
Estimated CBR (%):	**9.5**

Comments:

Approved Signature
James Fisher Testing Services
Dean Kendall
Team Leader

Tested in Accordance with BS1377, Pt9, 4.1
Values K762, K and CBR(%) calculated in accordance with Interim Advice Note 73/06 (Draft HD25)
Opinions and interpolations expressed herein are outside the scope of UKAS accreditation

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APPENDIX B

PHOTOGRAPHIC RECORDS

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Site: Cineworld, Speke

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Photographic Record 1 - showing load frame and kentledge

Photographic Record 2 - showing load frame, kentledge and load application apparatus

PHOTOGRAPHIC RECORDS

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Photographic Record 3 - showing load apparatus assembly

Photographic Record 4 - Showing Retanol Extreme Fine Concrete Material after testing. No visible sign of distress is evident