

TEST REPORT



REPORT NUMBER
228493.1

DATE OF ISSUE
28.06.2013

Client

PROPMATE

Customer order N°
Verbal

Testing of
3 Number Propmate
Concentrated blade load survey as per client request



LLOYDS BRITISH TESTING LTD, UNIT 1 KINGS HILL BUSINESS PARK, DARLASTON ROAD, WEDNESBURY WS10 7SH

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1.0 Test Objective

To carry out concentrated compressive testing of 3 number Propmate.
As per client request

2.0 Name of Test House.

Lloyds British Testing Ltd
Unit 1 Kings Hill Business Park
Darlaston Road
Wednesbury
WS10 7SH

3.0 Accreditation Reference

ISO 9001: 2008

4.0 Date of Test

28th June 2013

5.0 Witness Details

I Holloway Lloyds British Testing Ltd

6.0 Description of items tested.

3 number Propmate to be used in conjunction with steel props.
Concentrated load application at two positions upon blade.

7.0 Test Type

Compressive test to determine failure load and mode of failure upon blade of prop support.

Load applied at 50kgs intervals with deflections recorded

Ultimate load application

8.0 Equipment and Calibration

Compressive tensile testing machine number LL200C

Certificate N° C6409, Calibration date 19/3/2013

Validity of certification 12 months

Calibrated in accordance with ISO 7500-1:2004 (E) part 1



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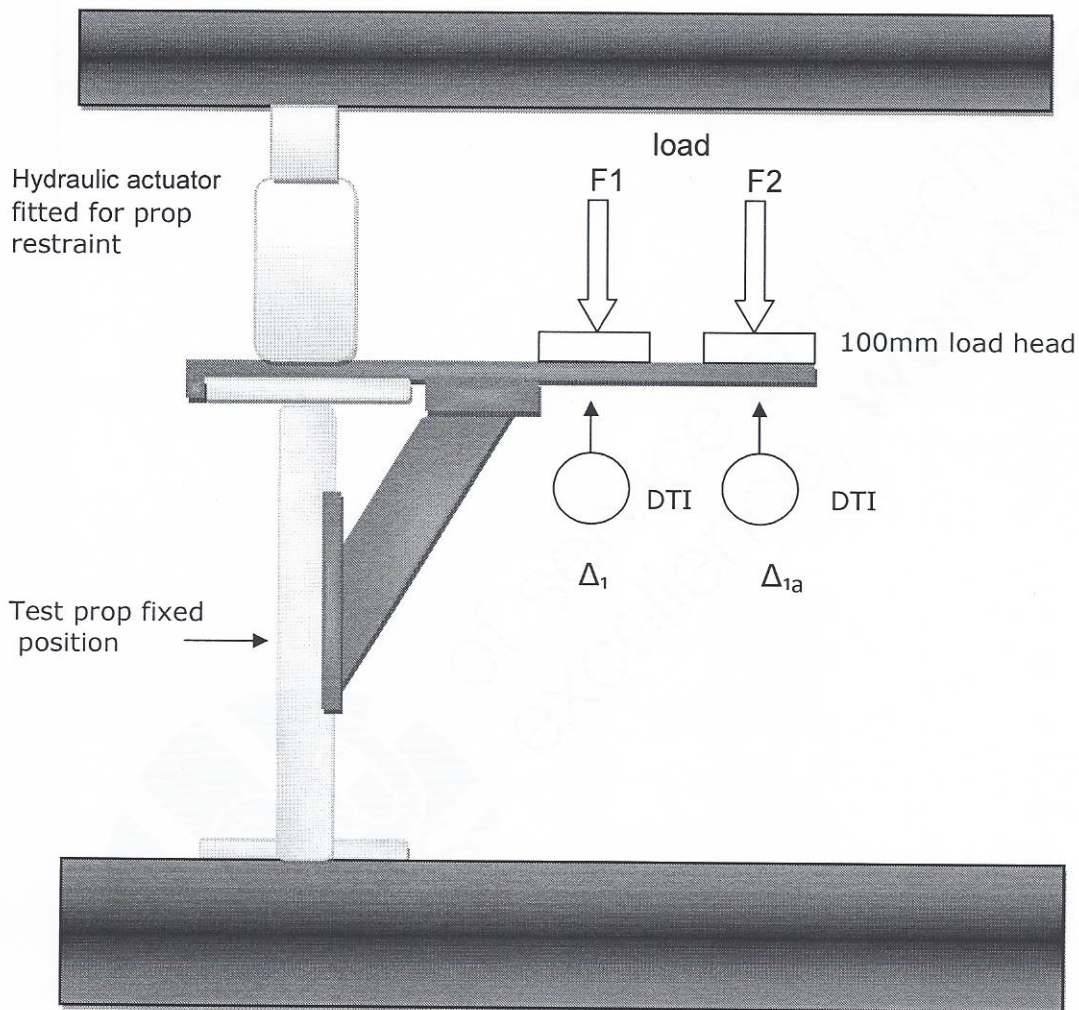
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9.0 Test Data

The sample was subject to compressive load application as per diagram.
 (diagram typical arrangement only)



F1 = load application at blade support end 100mm load head

F2 = load application at blade extremity 100mm load head

Δ_1 = displacement at F1

Δ_{1a} = displacement at F2

Δ_2 = permanent displacement after load



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Test results: F1 load application, 3 times cyclic loads

Load increments at 50kgs through to 350 kgs, permanent displacement values recorded after each 350kgs application.

Sample 1

Load increments	Cycle 1 Δ_1 /mm	Cycle 2 Δ_1 /mm	Cycle 3 Δ_1 /mm
10kgs	01.04mm	1.12mm	1.16mm
50kgs	1.6mm	1.77mm	1.9mm
100kgs	1.86mm	2.07mm	2.16mm
150kgs	2.12mm	2.41mm	2.42mm
200kgs	2.5mm	2.7mm	2.78mm
250kgs	3.02mm	3.03mm	3.11mm
300kgs	3.48mm	3.5mm	3.51mm
350kgs	3.91mm	3.92mm	3.9mm
0 kgs	Permanent set 0mm	Permanent set 0mm	Permanent set 0mm

Sample 2

Load increments	Cycle 1 Δ_1 /mm	Cycle 2 Δ_1 /mm	Cycle 3 Δ_1 /mm
10kgs	0.7mm	1.56mm	1.66mm
50kgs	1.65mm	2.11mm	2.15mm
100kgs	2.08mm	2.4mm	2.48mm
150kgs	2.51mm	2.8mm	2.85mm
200kgs	3.07mm	3.25mm	3.27mm
250kgs	3.58mm	3.76mm	3.81mm
300kgs	4.1mm	4.17mm	4.18mm
350kgs	4.54mm	4.58mm	4.62mm
0 kgs	Permanent set 0mm	Permanent set 0mm	Permanent set 0mm

Sample 3

Load increments	Cycle 1 Δ_1 /mm	Cycle 2 Δ_1 /mm	Cycle 3 Δ_1 /mm
10kgs	0.92mm	1.43mm	1.45mm
50kgs	1.7mm	2.08mm	2.1mm
100kgs	2.05mm	2.36mm	2.39mm
150kgs	2.6mm	2.93mm	2.97mm
200kgs	3.02mm	3.3mm	3.31mm
250kgs	3.51mm	3.64mm	3.67mm
300kgs	4.15mm	4.21mm	4.21mm
350kgs	4.6mm	4.58mm	4.62mm
0 kgs	Permanent set 0mm	Permanent set 0mm	Permanent set 0mm



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Test results: F2 load application, 3 times cyclic loads

Load increments at 50kgs through to 200 kgs, permanent displacement values recorded after each 200kgs application.

F2 Sample1

Load increments	Cycle 1 Δ_1a/mm	Cycle 2 Δ_1a/mm	Cycle 3 Δ_1a/mm
10kgs	1.38mm	1.6mm	1.65mm
50kgs	2.65mm	2.73mm	2.85mm
100kgs	3.7mm	4.01mm	4.07mm
150kgs	5.34mm	5.45mm	5.55mm
200kgs	7.14mm	7.11mm	7.11mm
0 kgs	Permanent set 0mm	Permanent set 0mm	Permanent set 0mm

F2 load was then increased until no more load could be achieved, maximum value recorded at position F2 360kgs, no ultimate failure occurred.

F2 Sample2

Load increments	Cycle 1 Δ_1a/mm	Cycle 2 Δ_1a/mm	Cycle 3 Δ_1a/mm
10kgs	0.84mm	2.11mm	2.16mm
50kgs	2.4mm	3.02mm	3.38mm
100kgs	3.65mm	4.31mm	4.37mm
150kgs	5.17mm	5.85mm	5.83mm
200kgs	7.07mm	7.3mm	7.38mm
0kgs	Permanent set 0mm	Permanent set 0mm	Permanent set 0mm

F2 load was then increased until no more load could be achieved, maximum value recorded at position F2 370kgs, no ultimate failure occurred.

F2 load Sample3

Load increments	Cycle 1 Δ_1a/mm	Cycle 2 Δ_1a/mm	Cycle 3 Δ_1a/mm
10kgs	1.02mm	1.84mm	1.85mm
50kgs	2.56mm	3.1mm	3.15mm
100kgs	3.65mm	4.21mm	4.29mm
150kgs	5.54mm	5.81mm	5.83mm
200kgs	7.15mm	7.28mm	7.31mm
0kgs	Permanent set 0mm	Permanent set 0mm	Permanent set 0mm

F2 load was then increased until no more load could be achieved, maximum value recorded at position F2 360kgs, no ultimate failure occurred.



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Ultimate load application at F1, displacement recorded through to 1000kgs with permanent displacement recorded.

Sample1

Applied load F1	Displacement Δ_1
100kgs	1.9mm
200kgs	2.74mm
300kgs	3.71mm
400kgs	4.72mm
500kgs	5.97mm
600kgs	7.41mm
700kgs	8.79mm
800kgs	10.58mm
900kgs	12.46mm
1000kgs	14.34mm

Permanent set/displacement after 1000kgs load = 3.83mm
 Ultimate load achieved 1470kgs (test prop distortion evident)

The sample submitted did not show any other signs of failure
 after the concentrated blade testing to 1470kgs at F1.

Sample2

Applied load F1	Displacement Δ_1
100kgs	1.26mm
200kgs	2.42mm
300kgs	3.81mm
400kgs	4.84mm
500kgs	6.01mm
600kgs	7.44mm
700kgs	8.87mm
800kgs	10.83mm
900kgs	13.22mm
1000kgs	15.26mm

Permanent set/displacement after 1000kgs load= 2.93mm
 Ultimate load achieved 1520kgs (test prop distortion evident)

The sample submitted did not show any other signs of failure
 After the concentrated blade testing to 1520kgs at F1



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Sample3

Applied load F1	Displacement Δ_1
100kgs	1.34mm
200kgs	2562mm
300kgs	3.71mm
400kgs	4.68mm
500kgs	5.98mm
600kgs	7.27mm
700kgs	8.61mm
800kgs	10.53mm
900kgs	12.8mm
1000kgs	14.71mm

Permanent set/displacement after 1000kgs load= 2.68mm
 Ultimate load achieved 1250kgs (test prop distortion evident)

The sample submitted did not show any other signs of failure
 After the concentrated blade testing to 1250kgs at F1

Report Reviewed By:

Mr R.G.McFarlane Manager



 p.p.

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