

Appendix VIII: Westshield In-Situ Testing Results



In-Situ Dry Density, Relative Compaction And Air Voids

BS 1377-9: 1990 Nuclear Density Method Ground investigation comparative tests (Direct transmission)

REPORT NUMBER:	C5017684 / 407439.1.1.1	CLIENT:	Westshield Limited
CLIENT REF:	5017684	ADDRESS:	Ashcroft House, Bredbury Park Way, SK6 2SN
DATE TESTED:	13/05/2026	SITE:	Former Kirkby College Campus, Kirkby Kirkby Centre, Cherryfield Drive, Liverpool, L32 8SF
TESTED BY:	Connor Blundell	SUPPLIER / SOURCE:	Ex-site Ex-site
GAUGE MODEL No:	W2	MATERIAL:	Red site won soils
GAUGE SERIAL No:	15940	ENVIRONMENTAL CONDITIONS:	Overcast
CORRECTION FACTORS:	Bulk $\gamma=1x + 0$ Moisture $b=1x + 0$	OMC REFERENCED:	39380.5.1.1
MAX DRY DENSITY:	1.82 Mg/m ³	PARTICLE DENSITY:	NA
DEPTH OF LAYER:	225	DEPTH OF TEST	200
SAMPLING PLAN:	Client Specification	SOURCE OF MAX DENSITY:	Provided by customer

TEST RESULTS Activity Location: On-Site

AREA OF TEST: DW build route

Test No.	Gauge Bulk Density (Mg/m ³)	Gauge Moisture Density (Mg/m ³)	Corrected Bulk Density (Mg/m ³)	Corrected Moisture Content (%)	Mean Moisture Content (%)	Mean Dry Density (Mg/m ³)	Mean Relative Compaction (%)
CC18/1	1.880	0.143	1.88	8.2	8.1	1.72	95
	1.847	0.137	1.85	8.0			
CC19/1	1.885	0.167	1.89	9.7	8.8	1.72	95
	1.863	0.137	1.86	7.9			
AA17/1	1.901	0.136	1.90	7.7	7.3	1.77	97
	1.903	0.122	1.90	6.8			
BB17/1	1.923	0.111	1.92	6.1	6.5	1.81	99
	1.922	0.123	1.92	6.8			
CC17/1	1.909	0.116	1.91	6.5	6.8	1.78	98
	1.900	0.125	1.90	7.0			
DD17/1	2.073	0.157	2.07	8.2	7.9	1.90	105
	2.038	0.145	2.04	7.7			
AA16/1	2.020	0.098	2.02	5.1	5.2	1.93	106
	2.038	0.101	2.04	5.2			
BB16/1	1.922	0.133	1.92	7.4	8.3	1.79	99
	1.965	0.165	1.97	9.2			
CC16/1	1.883	0.128	1.88	7.3	7.3	1.76	97
	1.902	0.129	1.90	7.3			
DD16/1	1.911	0.142	1.91	8.0	8.4	1.77	97
	1.923	0.155	1.92	8.8			
AA19/2	1.966	0.112	1.97	6.0	6.7	1.83	100
	1.932	0.132	1.93	7.3			
BB19/2	1.903	0.122	1.90	6.8	7.8	1.78	98
	1.932	0.154	1.93	8.7			

Remarks:

Test results reported relate only to the items tested.
This report shall not be reproduced except in full without approval of the Laboratory.
Opinions and interpretations expressed herein are outside the scope of UKAS Accreditation. The laboratory does not apply a conformity statement to test reports as standard, unless specifically requested by the customer.

In-Situ Dry Density, Relative Compaction And Air Voids

BS 1377-9: 1990 Nuclear Density Method Ground investigation comparative tests (Direct transmission)

REPORT NUMBER: C5017684 / 407439.1.1.1

Test No.	Gauge Bulk Density (Mg/m ³)	Gauge Moisture Density (Mg/m ³)	Corrected Bulk Density (Mg/m ³)	Corrected Moisture Content (%)	Mean Moisture Content (%)	Mean Dry Density (Mg/m ³)	Mean Relative Compaction (%)
AA16/1	1.974	0.125	1.97	6.8	6.6	1.84	101
	1.944	0.117	1.94	6.4			
BB16/1	1.945	0.144	1.95	8.0	8.0	1.79	98
	1.912	0.140	1.91	7.9			
CC16/1	1.889	0.117	1.89	6.6	6.8	1.77	97
	1.896	0.123	1.90	6.9			
DD16/1	1.923	0.132	1.92	7.4	6.9	1.79	98
	1.902	0.114	1.90	6.4			
AA19/2	1.954	0.122	1.95	6.7	7.1	1.81	99
	1.923	0.136	1.92	7.6			
BB19/2	1.876	0.165	1.88	9.6	8.6	1.74	95
	1.896	0.135	1.90	7.7			
CC19/2	1.932	0.117	1.93	6.4	6.2	1.81	100
	1.918	0.106	1.92	5.8			
AA18/1	1.941	0.133	1.94	7.4	8.3	1.79	99
	1.943	0.164	1.94	9.2			
BB18/1	1.955	0.139	1.96	7.6	7.2	1.82	100
	1.936	0.121	1.94	6.7			
CC18/2	1.965	0.122	1.97	6.6	7.0	1.84	101
	1.973	0.136	1.97	7.4			
DD18/2	1.865	0.118	1.87	6.8	7.5	1.74	96
	1.886	0.145	1.89	8.3			
AA17/2	1.889	0.133	1.89	7.6	8.6	1.73	95
	1.866	0.164	1.87	9.6			
BB17/2	1.900	0.119	1.90	6.7	6.9	1.78	98
	1.907	0.126	1.91	7.1			
CC17/2	1.900	0.144	1.90	8.2	8.2	1.77	97
	1.932	0.145	1.93	8.1			
DD17/2	1.885	0.132	1.89	7.5	7.6	1.75	96
	1.880	0.133	1.88	7.6			
AA16/1	1.877	0.168	1.88	9.8	9.0	1.71	94
	1.853	0.139	1.85	8.1			
BB16/2	1.903	0.111	1.90	6.2	6.6	1.79	99
	1.923	0.125	1.92	7.0			
CC16/2	1.877	0.154	1.88	8.9	8.2	1.74	96
	1.896	0.132	1.90	7.5			
DD16/2	1.874	0.132	1.87	7.6	7.1	1.74	95
	1.843	0.114	1.84	6.6			
CC20/1	1.932	0.122	1.93	6.7	6.4	1.81	99
	1.914	0.109	1.91	6.0			

Remarks:

Test results reported relate only to the items tested.

This report shall not be reproduced except in full without approval of the Laboratory.

Opinions and interpretations expressed herein are outside the scope of UKAS

Accreditation. The laboratory does not apply a conformity statement to test reports as standard, unless specifically requested by the customer.

Report Format: NDM042Bulk/TP13/Rep Issue 2 Rev 0

Bootham Lane Industrial Estate
Dunscroft,
Doncaster,
South Yorkshire
DN7 4JU

0343 227 8545
enquiries@constructiontesting.co.uk
www.constructiontesting.co.uk

Construction Testing Solutions Ltd.
Registered in England No. 05998333

Report version 1

Page 2 of 3

In-Situ Dry Density, Relative Compaction And Air Voids

BS 1377-9: 1990 Nuclear Density Method Ground investigation comparative tests (Direct transmission)

REPORT NUMBER: C5017684 / 407439.1.1.1

Test No.	Gauge Bulk Density (Mg/m ³)	Gauge Moisture Density (Mg/m ³)	Corrected Bulk Density (Mg/m ³)	Corrected Moisture Content (%)	Mean Moisture Content (%)	Mean Dry Density (Mg/m ³)	Mean Relative Compaction (%)
CC20/2	1.855	0.133	1.86	7.7	8.3	1.73	95
	1.891	0.154	1.89	8.9			
AA18/2	1.902	0.128	1.90	7.2	6.8	1.79	98
	1.921	0.116	1.92	6.4			
AA19/2	1.965	0.111	1.97	6.0	5.8	1.84	101
	1.933	0.103	1.93	5.6			
CC18/2	1.932	0.132	1.93	7.3	6.9	1.80	99
	1.919	0.116	1.92	6.4			

Remarks:

Test results reported relate only to the items tested.
This report shall not be reproduced except in full without approval of the Laboratory.
Opinions and interpretations expressed herein are outside the scope of UKAS Accreditation. The laboratory does not apply a conformity statement to test reports as standard, unless specifically requested by the customer.



4161

Report Format: NDM042Bulk/TP13/Rep Issue 2 Rev 0

Bootham Lane Industrial Estate
Dunscroft,
Doncaster,
South Yorkshire
DN7 4JU

0343 227 8545
enquiries@constructiontesting.co.uk
www.constructiontesting.co.uk
END OF REPORT

Report date 19-May-26

Construction Testing Solutions Ltd.
Registered in England No. 05998333

Report version 1

Page 3 of 3

In-Situ Dry Density, Relative Compaction And Air Voids

BS 1377-9: 1990 Nuclear Density Method Ground investigation absolute tests (Direct transmission)

REPORT NUMBER: C5017684 / 409411.3.1.1

CLIENT REF: 5017684

DATE TESTED: 27/05/2026

TESTED BY: Russell Doncaster

CLIENT: Westshield Limited

ADDRESS: Ashcroft House, Bredbury Park Way, SK6 2SN

SITE: Former Kirkby College Campus, Kirkby
Kirkby Centre, Cherryfield Drive, Liverpool, L32 8SF

GAUGE MODEL No: T14

GAUGE SERIAL No: 1

CORRECTION FACTORS: Bulk $\gamma = 1x + 0$
Moisture $b = 1x + 0$

MAX DRY DENSITY: 1.82 Mg/m³

DEPTH OF LAYER: 300

SAMPLING PLAN: Client Specification

SUPPLIER / SOURCE: Site Won red soils

MATERIAL:

ENVIRONMENTAL CONDITIONS: NA

OMC REFERENCED: NA

PARTICLE DENSITY: 200

DEPTH OF TEST Laboratory determined

SOURCE OF MAX DENSITY:

TEST RESULTS Activity Location: On-Site

AREA OF TEST: 1

Test No.	Gauge Bulk Density (Mg/m ³)	Gauge Moisture Density (Mg/m ³)	Corrected Bulk Density (Mg/m ³)	Corrected Moisture Content (%)	Mean Moisture Content (%)	Mean Dry Density (Mg/m ³)	Mean Relative Compaction (%)
DD15/2	1.898	0.162	1.90	9.3	9.2	1.75	96
	1.924	0.160	1.92	9.1			
DD14/2	1.879	0.158	1.88	9.2	9.2	1.74	96
	1.928	0.162	1.93	9.2			
DD13/2	1.884	0.161	1.88	9.3	9.2	1.74	96
	1.925	0.159	1.93	9.0			
DD12/2	1.955	0.178	1.96	10	9.3	1.77	97
	1.914	0.152	1.91	8.6			
DD12/2	1.896	0.162	1.90	9.3	9.6	1.75	96
	1.941	0.174	1.94	9.8			
DD13/2	1.964	0.174	1.96	9.7	8.9	1.78	98
	1.915	0.143	1.92	8.1			
DD14/2	1.958	0.178	1.96	10	10	1.76	97
	1.919	0.185	1.92	11			
DD15/2	1.894	0.162	1.89	9.3	9.7	1.75	96
	1.943	0.178	1.94	10			
DD15/2	1.929	0.168	1.93	9.5	11	1.73	95
	1.884	0.195	1.88	12			
DD14/2	1.879	0.158	1.88	9.2	9.2	1.74	96
	1.923	0.163	1.92	9.3			
DD13/2	1.955	0.176	1.96	9.9	9.3	1.77	97
	1.914	0.154	1.91	8.8			
DD12/2	1.896	0.158	1.90	9.1	9.6	1.75	96
	1.942	0.179	1.94	10			

Remarks:

Test results reported relate only to the items tested.

This report shall not be reproduced except in full without approval of the Laboratory.

Opinions and interpretations expressed herein are outside the scope of UKAS

Accreditation. The laboratory does not apply a conformity statement to test reports as standard, unless specifically requested by the customer.

Report Format: NDM042Bulk/TP13/Rep Issue 2 R

Bootham Lane Industrial Estate
Dunscroft,
Doncaster,
South Yorkshire
DN7 4JU

Construction Testing Solutions Ltd.
Registered in England No. 05998333

In-Situ Dry Density, Relative Compaction And Air Voids

BS 1377-9: 1990 Nuclear Density Method Ground investigation absolute tests (Direct transmission)

REPORT NUMBER: C5017684 / 409411.3.1.1

Test No.	Gauge Bulk Density (Mg/m ³)	Gauge Moisture Density (Mg/m ³)	Corrected Bulk Density (Mg/m ³)	Corrected Moisture Content (%)	Mean Moisture Content (%)	Mean Dry Density (Mg/m ³)	Mean Relative Compaction (%)
DD11/2	1.944	0.159	1.94	8.9	9.2	1.76	97
	1.896	0.164	1.90	9.5			
DD10/2	1.886	0.184	1.89	11	10	1.73	95
	1.928	0.167	1.93	9.5			
DD10/2	1.978	0.134	1.98	7.3	8.2	1.81	99
	1.932	0.162	1.93	9.2			
DD11/2	1.984	0.168	1.98	9.2	8.9	1.80	99
	1.942	0.152	1.94	8.5			
DD12/2	1.958	0.165	1.96	9.2	8.9	1.81	99
	1.979	0.158	1.98	8.7			
DD13/2	1.927	0.158	1.93	8.9	9.0	1.79	98
	1.968	0.164	1.97	9.1			
DD14/2	1.955	0.162	1.96	9.0	8.9	1.81	99
	1.979	0.159	1.98	8.7			
DD15/2	1.889	0.164	1.89	9.5	9.2	1.75	96
	1.926	0.158	1.93	8.9			
DD15/2	1.887	0.162	1.89	9.4	8.9	1.75	96
	1.918	0.149	1.92	8.4			

Remarks:

Test results reported relate only to the items tested.
This report shall not be reproduced except in full without approval of the Laboratory.
Opinions and interpretations expressed herein are outside the scope of UKAS Accreditation. The laboratory does not apply a conformity statement to test reports as standard, unless specifically requested by the customer.

Report Format: NDM042Bulk/TP13/Rep Issue 2 Rev 0

Bootham Lane Industrial Estate
Dunscroft,
Doncaster,
South Yorkshire
DN7 4JU

0343 227 8545
enquiries@constructiontesting.co.uk
www.constructiontesting.co.uk
END OF REPORT

Approved Signatory
Report date 29-May-26

Construction Testing Solutions Ltd.
Registered in England No. 05998333

Report version 1



4161

In-Situ Dry Density, Relative Compaction And Air Voids

BS 1377-9: 1990 Nuclear Density Method Compliance tests for compacted material (Direct transmission)

REPORT NUMBER:	C5017684 / 415468.1.1.1	CLIENT:	Westshield Limited
CLIENT REF:	5017684	ADDRESS:	Ashcroft House, Bredbury Park Way, SK6 2SN
DATE TESTED:	03/07/2026	SITE:	Former Kirkby College Campus, Kirkby Kirkby Centre, Cherryfield Drive, Liverpool, L32 8SF
TESTED BY:	Peter Stewart	SUPPLIER / SOURCE:	Ex Ex
GAUGE MODEL No:	3440	MATERIAL:	Sample 2 Brown Sand
GAUGE SERIAL No:	37200	ENVIRONMENTAL CONDITIONS:	Sunny
CORRECTION FACTORS:	Bulk $\gamma=1$ Moisture $b=1$	OMC REFERENCED:	404334.2.1.2
MAX DRY DENSITY:	2.11 Mg/m ³	PARTICLE DENSITY:	2.45 Mg/m ³
DEPTH OF LAYER:	300	DEPTH OF TEST	300
SAMPLING PLAN:	Client Specification	SOURCE OF MAX DENSITY:	Laboratory determined

TEST RESULTS Activity Location: On-Site

AREA OF TEST: David willing 1st phase route

Test No.	Gauge Bulk Density (Mg/m ³)	Gauge Moisture Density (Mg/m ³)	Corrected Bulk Density (Mg/m ³)	Corrected Moisture Content (%)	Mean Moisture Content (%)	Mean Dry Density (Mg/m ³)	Mean Air Voids (%)	Mean Relative Compaction (%)
CC15/1	2.242	0.131	2.24	6.2	6.2	2.09	1.7	99
	2.196	0.129	2.20	6.2				
CC14/1	2.176	0.162	2.18	8.0	8.9	2.01	0.0	95
	2.204	0.196	2.20	9.8				
CC13/1	2.251	0.151	2.25	7.2	7.1	2.10	-0.8	100
	2.253	0.148	2.25	7.0				
CC12/1	2.247	0.143	2.25	6.8	6.9	2.11	-0.5	100
	2.257	0.148	2.26	7.0				
CC11/1	2.255	0.143	2.26	6.8	6.4	2.12	-0.3	101
	2.264	0.130	2.26	6.1				
CC10/1	2.220	0.148	2.22	7.1	6.9	2.09	0.4	99
	2.245	0.139	2.25	6.6				
DD10/1	2.263	0.180	2.26	8.6	8.7	2.07	-2.6	98
	2.243	0.181	2.24	8.8				
DD11/1	2.300	0.168	2.30	7.9	8.1	2.13	-4.2	101
	2.308	0.176	2.31	8.3				
DD12/1	2.234	0.174	2.23	8.4	8.9	2.05	-2.0	97
	2.235	0.190	2.24	9.3				
DD13/1	2.232	0.174	2.23	8.4	8.2	2.07	-1.7	98
	2.256	0.167	2.26	8.0				
DD14/1	2.171	0.124	2.17	6.1	6.2	2.04	3.9	97
	2.169	0.131	2.17	6.4				
DD15/1	2.212	0.156	2.21	7.6	7.3	2.06	0.9	98
	2.207	0.144	2.21	7.0				

Remarks:

Test results reported relate only to the items tested.
This report shall not be reproduced except in full without approval of the Laboratory.
Opinions and interpretations expressed herein are outside the scope of UKAS Accreditation. The laboratory does not apply a conformity statement to test reports as standard, unless specifically requested by the customer.

Report Format: NDM042Bulk/TP13/Rep Issue 2 Rev 0

Ruby House
40A Hardwick Grange
Warrington WA1 4RF

0343 227 8545
enquiries@constructiontesting.co.uk
www.constructiontesting.co.uk

Construction Testing Solutions Ltd.
Registered in England No. 05998333

In-Situ Dry Density, Relative Compaction And Air Voids

BS 1377-9: 1990 Nuclear Density Method Compliance tests for compacted material (Direct transmission)

REPORT NUMBER: C5017684 / 415468.1.1.1

Test No.	Gauge Bulk Density (Mg/m ³)	Gauge Moisture Density (Mg/m ³)	Corrected Bulk Density (Mg/m ³)	Corrected Moisture Content (%)	Mean Moisture Content (%)	Mean Dry Density (Mg/m ³)	Mean Air Voids (%)	Mean Relative Compaction (%)
CC15/1	2.228	0.147	2.23	7.1	6.9	2.09	0.6	99
	2.228	0.139	2.23	6.6				
CC14/1	2.269	0.145	2.27	6.8	6.6	2.12	-0.8	101
	2.261	0.136	2.26	6.4				
CC13/1	2.153	0.117	2.15	5.8	6.0	2.02	5.2	96
	2.139	0.125	2.14	6.2				
CC12/1	2.209	0.171	2.21	8.4	8.2	2.02	1.0	96
	2.162	0.160	2.16	8.0				
CC11/1	2.185	0.140	2.19	6.8	7.0	2.04	2.7	96
	2.170	0.145	2.17	7.2				
CC10/1	2.234	0.175	2.23	8.5	8.4	2.05	-1.0	97
	2.219	0.168	2.22	8.2				
DD10/1	2.205	0.179	2.21	8.8	8.4	2.03	0.1	96
	2.197	0.161	2.20	7.9				
DD11/1	2.189	0.166	2.19	8.2	8.0	2.02	1.4	96
	2.176	0.157	2.18	7.8				
DD12/1	2.190	0.172	2.19	8.5	8.4	2.03	0.1	96
	2.212	0.168	2.21	8.2				
DD13/1	2.188	0.155	2.19	7.6	7.9	2.02	1.7	96
	2.165	0.165	2.17	8.2				
DD14/1	2.122	0.105	2.12	5.2	5.7	2.01	6.4	95
	2.130	0.125	2.13	6.2				
DD15/1	2.175	0.143	2.18	7.0	6.9	2.05	2.3	97
	2.200	0.140	2.20	6.8				
DD15/1	2.205	0.139	2.21	6.7	6.6	2.06	2.5	97
	2.178	0.133	2.18	6.5				

Remarks:

Test results reported relate only to the items tested.
This report shall not be reproduced except in full without approval of the Laboratory.
Opinions and interpretations expressed herein are outside the scope of UKAS Accreditation. The laboratory does not apply a conformity statement to test reports as standard, unless specifically requested by the customer.

Report Format: NDM042Bulk/TP13/Rep Issue 2 Rev 0

Ruby House
40A Hardwick Grange
Warrington WA1 4RF

0343 227 8545
enquiries@constructiontesting.co.uk
www.constructiontesting.co.uk
END OF REPORT

Approved Signatory
Report date 06-Jul-26

Construction Testing Solutions Ltd.
Registered in England No. 05998333

Report version 1



4161

In-Situ Dry Density, Relative Compaction And Air Voids

BS 1377-9: 1990 Nuclear Density Method Compliance tests for compacted material (Direct transmission)

REPORT NUMBER:	C5017684 / 415718.3.1.1	CLIENT:	Westshield Limited
CLIENT REF:	5017684	ADDRESS:	Ashcroft House, Bredbury Park Way, SK6 2SN
DATE TESTED:	06/07/2026	SITE:	Former Kirkby College Campus, Kirkby Kirkby Centre, Cherryfield Drive, Liverpool, L32 8SF
TESTED BY:	Peter Stewart	SUPPLIER / SOURCE:	Ex Ex
GAUGE MODEL No:	3440	MATERIAL:	Sample 2 Brown Sand
GAUGE SERIAL No:	37200	ENVIRONMENTAL CONDITIONS:	
CORRECTION FACTORS:	Bulk $\gamma=1x + 0$ Moisture $b=1x + 0$	OMC REFERENCED:	404334.2.1.2
MAX DRY DENSITY:	2.11 Mg/m ³	PARTICLE DENSITY:	2.45 Mg/m ³
DEPTH OF LAYER:	300	DEPTH OF TEST	300
SAMPLING PLAN:	Client Specification	SOURCE OF MAX DENSITY:	

TEST RESULTS Activity Location: On-Site

AREA OF TEST: David willing 1st phase build route

Test No.	Gauge Bulk Density (Mg/m ³)	Gauge Moisture Density (Mg/m ³)	Corrected Bulk Density (Mg/m ³)	Corrected Moisture Content (%)	Mean Moisture Content (%)	Mean Dry Density (Mg/m ³)	Mean Air Voids (%)	Mean Relative Compaction (%)
CC10/2	2.173	0.128	2.17	6.3	6.3	2.06	2.9	98
	2.206	0.133	2.21	6.4				
CC11/2	2.175	0.162	2.18	8.0	8.0	2.00	2.3	95
	2.152	0.157	2.15	7.9				
CC12/2	2.181	0.152	2.18	7.5	7.8	2.02	1.8	96
	2.175	0.162	2.18	8.0				
CC13/2	2.189	0.142	2.19	6.9	7.0	2.04	2.3	97
	2.181	0.145	2.18	7.1				
CC14/2	2.167	0.148	2.17	7.3	7.4	2.03	2.1	96
	2.198	0.151	2.20	7.4				
CC15/2	2.155	0.143	2.16	7.1	7.4	2.01	3.0	95
	2.165	0.155	2.17	7.7				
CC15/2	2.232	0.118	2.23	5.6	5.8	2.10	2.1	100
	2.215	0.125	2.22	6.0				
CC14/2	2.148	0.129	2.15	6.4	6.0	2.05	4.0	97
	2.198	0.118	2.20	5.7				
CC13/2	2.258	0.136	2.26	6.4	6.2	2.14	-0.5	101
	2.281	0.131	2.28	6.1				
CC12/2	2.200	0.115	2.20	5.5	5.9	2.05	4.1	97
	2.151	0.126	2.15	6.2				

Remarks:

Test results reported relate only to the items tested.
This report shall not be reproduced except in full without approval of the Laboratory.
Opinions and interpretations expressed herein are outside the scope of UKAS Accreditation. The laboratory does not apply a conformity statement to test reports as standard, unless specifically requested by the customer.

Report Format: NDM042Bulk/TP13/Rep Issue 2 Rev 0

Ruby House
40A Hardwick Grange
Warrington WA1 4RF

0343 227 8545
enquiries@constructiontesting.co.uk
www.constructiontesting.co.uk
END OF REPORT

Approved Signatory
Report date 07-Jul-26

Construction Testing Solutions Ltd.
Registered in England No. 05998333

Report version 1



4161

Determination of Load vs Settlement (Incremental Loading)

BS 1377-9 : 1990 Clause 4.1 & Design Guidance for Road Pavement Foundations Interim Advice Note 73/06 Rev1

REPORT NUMBER:	C5017684 / 414598.1.1.1	CLIENT:	Westshield Limited
CLIENT REF:	5017684	ADDRESS:	Ashcroft House, Bredbury Park Way, SK6 2SN
DATE COMPLETED:	29/06/2026	SITE:	Former Kirkby College Campus, Kirkby
TESTED BY:	Lewis Lacy	MATERIAL:	6f2
LOCATION:	CBR 1	SUPPLIER:	Site won
DEPTH OF TEST:	Surface	SOURCE:	Site won
DISTANCE FROM EDGE OF PLATE TO WALL:	0 mm	SAMPLING PLAN:	Client Specification
WEATHER:	Overcast	SAMPLE TAKEN:	No
TEST METHOD:	Incremental Plate Loading		

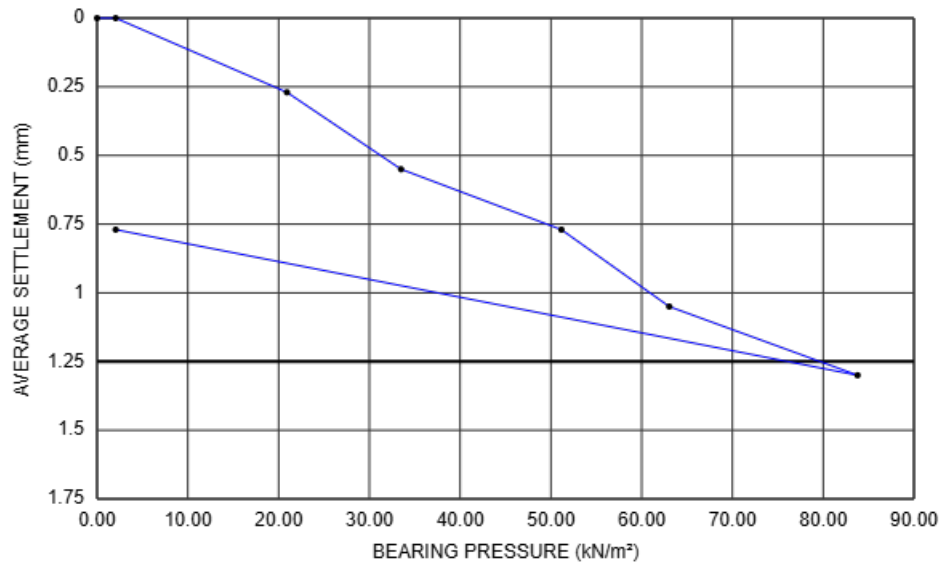
Equipment Details

Type of Kentledge: 12t roller
Plate Diameter: 450 mm
Plate Area: 0.159043 m²
Plate Correction: 0.62

Results

Max applied pressure: 84 kN/m²
Max settlement: 1.30 mm
Avg Bearing Pressure (P) at 1.25mm settlement: 77.4 kN/m²
Modulus of subgrade K762: 39 kN/m²/mm
Equivalent C.B.R Value at 1.25mm settlement: 5.4%
Plate recovery: 41%

APPLIED LOAD vs SETTLEMENT RELATIONSHIP



Equivalent C.B.R Value: 5.4 %

Remarks:

Test results reported relate only to the items tested.
This report shall not be reproduced except in full without approval of the Laboratory.
Opinions and interpretations expressed herein are outside the scope of UKAS Accreditation. The laboratory does not apply a conformity statement to test reports as standard, unless specifically requested by the customer.

Report Format: IPBT/TP15/Rep Issue 2 Rev 0

Ruby House
40A Hardwick Grange
Warrington WA1 4RF

0343 227 8545
enquiries@constructiontesting.co.uk
www.constructiontesting.co.uk

Construction Testing Solutions Ltd.
Registered in England No. 05998333

Determination of Load vs Settlement (Incremental Loading)

BS 1377-9 : 1990 Clause 4.1 & Design Guidance for Road Pavement Foundations Interim Advice Note 73/06 Rev1

REPORT NUMBER: C5017684 / 414598.1.1.1

TEST RESULTS

LOAD APPLIED TO PLATE	AVERAGE BEARING PRESSURE	GAUGE SETTLEMENT			AVERAGE SETTLEMENT
		1	2	3	
kN	kN/m ²	mm			mm
0.0	0.0	0.00	0.00	0.00	0.00
3.0	18.9	0.34	0.23	0.25	0.27
5.0	31.4	0.46	0.67	0.51	0.55
7.8	49.1	0.67	0.91	0.74	0.77
9.7	61.0	0.99	1.24	0.92	1.05
13.0	81.7	1.23	1.54	1.14	1.30
0.0	0.0	0.67	1.02	0.61	0.77

Initial load applied by test equipment determined to be approximately 0.8 kN.

Remarks:

Test results reported relate only to the items tested.
This report shall not be reproduced except in full without approval of the Laboratory.
Opinions and interpretations expressed herein are outside the scope of UKAS
Accreditation. The laboratory does not apply a conformity statement to test reports as
standard, unless specifically requested by the customer.

Report Format: IPBT/TP15/Rep Issue 2 Rev 0

Ruby House
40A Hardwick Grange
Warrington WA1 4RF

0343 227 8545
enquiries@constructiontesting.co.uk
www.constructiontesting.co.uk
END OF REPORT

Approved Signatory
Report date 01-Jul-26

Construction Testing Solutions Ltd.
Registered in England No. 05998333

Report version 1



4161

Determination of Load vs Settlement (Incremental Loading)

BS 1377-9 : 1990 Clause 4.1 & Design Guidance for Road Pavement Foundations Interim Advice Note 73/06 Rev1

REPORT NUMBER:	C5017684 / 414598.1.1.2	CLIENT:	Westshield Limited
CLIENT REF:	5017684	ADDRESS:	Ashcroft House, Bredbury Park Way, SK6 2SN
DATE COMPLETED:	29/06/2026	SITE:	Former Kirkby College Campus, Kirkby
TESTED BY:	Lewis Lacy	MATERIAL:	6f2
LOCATION:	CBR 2	SUPPLIER:	Site won
DEPTH OF TEST:	Surface	SOURCE:	Site won
DISTANCE FROM EDGE OF PLATE TO WALL:	0 mm	SAMPLING PLAN:	Client Specification
WEATHER:	Overcast	SAMPLE TAKEN:	No
TEST METHOD:	Incremental Plate Loading		

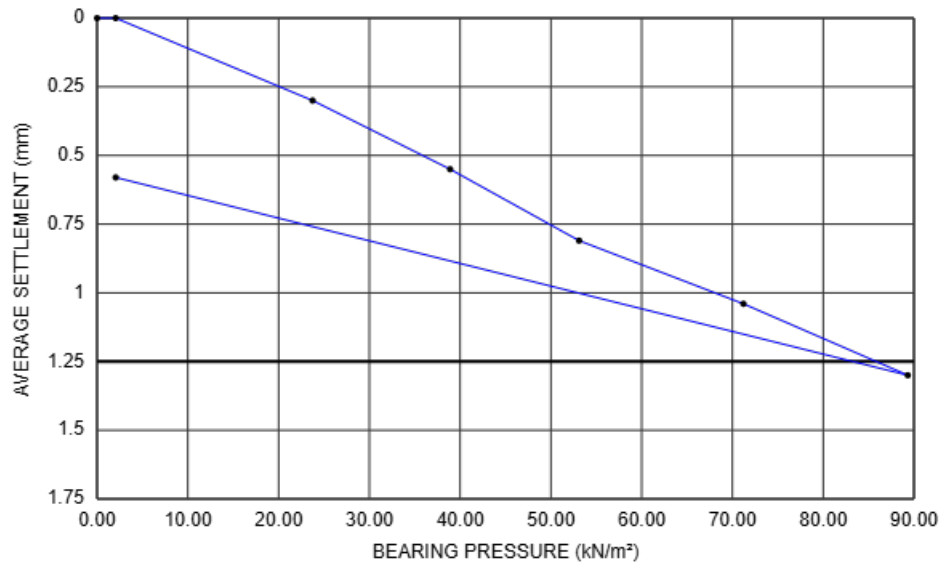
Equipment Details

Type of Kentledge: 12t roller
Plate Diameter: 450 mm
Plate Area: 0.159043 m²
Plate Correction: 0.62

Results

Max applied pressure: 89 kN/m²
Max settlement: 1.30 mm
Avg Bearing Pressure (P) at 1.25mm settlement: 83.6 kN/m²
Modulus of subgrade K762: 42 kN/m²/mm
Equivalent C.B.R Value at 1.25mm settlement: 6.2%
Plate recovery: 55%

APPLIED LOAD vs SETTLEMENT RELATIONSHIP



Equivalent C.B.R Value: 6.2 %

Remarks:

Test results reported relate only to the items tested.
This report shall not be reproduced except in full without approval of the Laboratory.
Opinions and interpretations expressed herein are outside the scope of UKAS Accreditation. The laboratory does not apply a conformity statement to test reports as standard, unless specifically requested by the customer.

Report Format: IPBT/TP15/Rep Issue 2 Rev 0

Ruby House
40A Hardwick Grange
Warrington WA1 4RF

0343 227 8545
enquiries@constructiontesting.co.uk
www.constructiontesting.co.uk

Construction Testing Solutions Ltd.
Registered in England No. 05998333

Determination of Load vs Settlement (Incremental Loading)

BS 1377-9 : 1990 Clause 4.1 & Design Guidance for Road Pavement Foundations Interim Advice Note 73/06 Rev1

REPORT NUMBER: C5017684 / 414598.1.1.2

TEST RESULTS

LOAD APPLIED TO PLATE	AVERAGE BEARING PRESSURE	GAUGE SETTLEMENT			AVERAGE SETTLEMENT
		1	2	3	
kN	kN/m ²	mm			mm
0.0	0.0	0.00	0.00	0.00	0.00
3.5	21.7	0.22	0.44	0.24	0.30
5.9	36.8	0.45	0.71	0.49	0.55
8.1	51.1	0.75	0.99	0.69	0.81
11.0	69.2	1.02	1.21	0.90	1.04
13.9	87.3	1.24	1.51	1.16	1.30
0.0	0.0	0.38	0.83	0.54	0.58

Initial load applied by test equipment determined to be approximately 0.8 kN.

Remarks:

Test results reported relate only to the items tested.
This report shall not be reproduced except in full without approval of the Laboratory.
Opinions and interpretations expressed herein are outside the scope of UKAS
Accreditation. The laboratory does not apply a conformity statement to test reports as
standard, unless specifically requested by the customer.

Report Format: IPBT/TP15/Rep Issue 2 Rev 0

Ruby House
40A Hardwick Grange
Warrington WA1 4RF

0343 227 8545
enquiries@constructiontesting.co.uk
www.constructiontesting.co.uk
END OF REPORT

Approved Signatory
Report date 01-Jul-26

Construction Testing Solutions Ltd.
Registered in England No. 05998333

Report version 1



4161

Determination of Load vs Settlement (Incremental Loading)

BS 1377-9 : 1990 Clause 4.1 & Design Guidance for Road Pavement Foundations Interim Advice Note 73/06 Rev1

REPORT NUMBER:	C5017684 / 414598.1.1.3	CLIENT:	Westshield Limited
CLIENT REF:	5017684	ADDRESS:	Ashcroft House, Bredbury Park Way, SK6 2SN
DATE COMPLETED:	29/06/2026	SITE:	Former Kirkby College Campus, Kirkby
TESTED BY:	Lewis Lacy	MATERIAL:	6f2
LOCATION:	CBR 3	SUPPLIER:	Site won
DEPTH OF TEST:	Surface	SOURCE:	Site won
DISTANCE FROM EDGE OF PLATE TO WALL:	0 mm	SAMPLING PLAN:	Client Specification
WEATHER:	Overcast	SAMPLE TAKEN:	No
TEST METHOD:	Incremental Plate Loading		

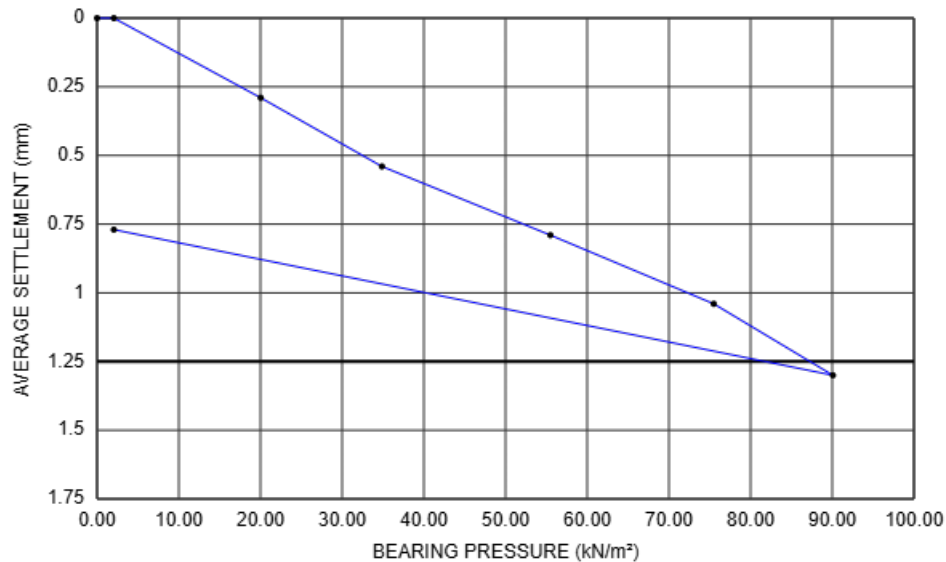
Equipment Details

Type of Kentledge: 12t roller
Plate Diameter: 450 mm
Plate Area: 0.159043 m²
Plate Correction: 0.62

Results

Max applied pressure: 90 kN/m²
Max settlement: 1.30 mm
Avg Bearing Pressure (P) at 1.25mm settlement: 85.4 kN/m²
Modulus of subgrade K762: 43 kN/m²/mm
Equivalent C.B.R Value at 1.25mm settlement: 6.4%
Plate recovery: 41%

APPLIED LOAD vs SETTLEMENT RELATIONSHIP



Equivalent C.B.R Value: 6.4 %

Remarks:

Test results reported relate only to the items tested.
This report shall not be reproduced except in full without approval of the Laboratory.
Opinions and interpretations expressed herein are outside the scope of UKAS Accreditation. The laboratory does not apply a conformity statement to test reports as standard, unless specifically requested by the customer.

Report Format: IPBT/TP15/Rep Issue 2 Rev 0

Ruby House
40A Hardwick Grange
Warrington WA1 4RF

0343 227 8545
enquiries@constructiontesting.co.uk
www.constructiontesting.co.uk

Construction Testing Solutions Ltd.
Registered in England No. 05998333

Determination of Load vs Settlement (Incremental Loading)

BS 1377-9 : 1990 Clause 4.1 & Design Guidance for Road Pavement Foundations Interim Advice Note 73/06 Rev1

REPORT NUMBER: C5017684 / 414598.1.1.3

TEST RESULTS

LOAD APPLIED TO PLATE	AVERAGE BEARING PRESSURE	GAUGE SETTLEMENT			AVERAGE SETTLEMENT
		1	2	3	
kN	kN/m ²	mm			mm
0.0	0.0	0.00	0.00	0.00	0.00
2.9	18.0	0.33	0.34	0.21	0.29
5.2	32.8	0.52	0.63	0.46	0.54
8.5	53.4	0.75	0.92	0.71	0.79
11.7	73.4	0.99	1.21	0.92	1.04
14.0	88.0	1.26	1.44	1.19	1.30
0.0	0.0	0.75	0.89	0.66	0.77

Initial load applied by test equipment determined to be approximately 0.8 kN.

Remarks:

Test results reported relate only to the items tested.
This report shall not be reproduced except in full without approval of the Laboratory.
Opinions and interpretations expressed herein are outside the scope of UKAS
Accreditation. The laboratory does not apply a conformity statement to test reports as
standard, unless specifically requested by the customer.

Report Format: IPBT/TP15/Rep Issue 2 Rev 0

Ruby House
40A Hardwick Grange
Warrington WA1 4RF

0343 227 8545
enquiries@constructiontesting.co.uk
www.constructiontesting.co.uk
END OF REPORT

For and on behalf of CTS
Luke Williams - Operations Supervisor



Approved Signatory
Report date 01-Jul-26

Construction Testing Solutions Ltd.
Registered in England No. 05998333

Report version 1



4161

Determination of Load vs Settlement (Incremental Loading)

BS 1377-9 : 1990 Clause 4.1 & Design Guidance for Road Pavement Foundations Interim Advice Note 73/06 Rev1

REPORT NUMBER:	C5017684 / 414598.1.1.4	CLIENT:	Westshield Limited
CLIENT REF:	5017684	ADDRESS:	Ashcroft House, Bredbury Park Way, SK6 2SN
DATE COMPLETED:	29/06/2026	SITE:	Former Kirkby College Campus, Kirkby
TESTED BY:	Lewis Lacy	MATERIAL:	6f2
LOCATION:	CBR 4	SUPPLIER:	Site won
DEPTH OF TEST:	Surface	SOURCE:	Site won
DISTANCE FROM EDGE OF PLATE TO WALL:	0 mm	SAMPLING PLAN:	Client Specification
WEATHER:	Overcast	SAMPLE TAKEN:	No
TEST METHOD:	Incremental Plate Loading		

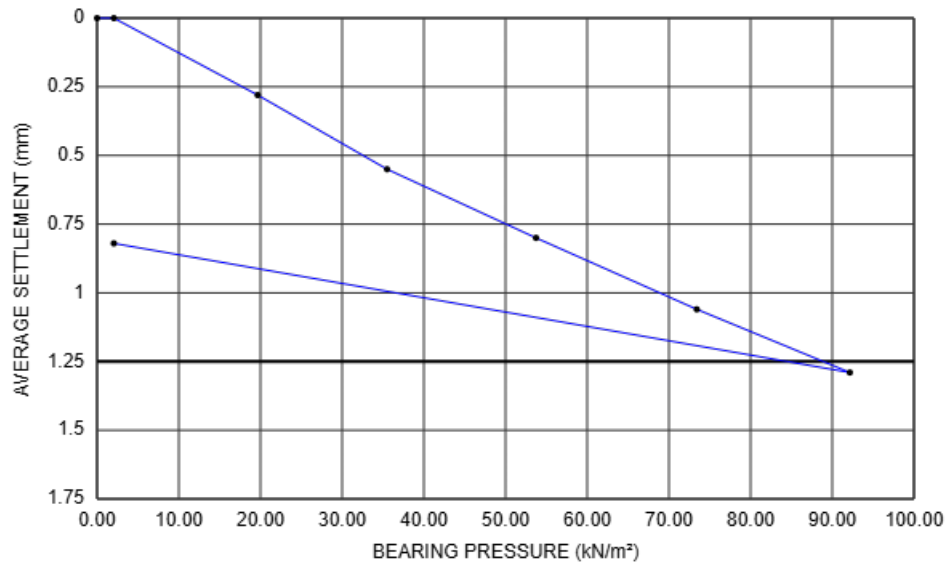
Equipment Details

Type of Kentledge: 12t roller
Plate Diameter: 450 mm
Plate Area: 0.159043 m²
Plate Correction: 0.62

Results

Max applied pressure: 92 kN/m²
Max settlement: 1.29 mm
Avg Bearing Pressure (P) at 1.25mm settlement: 86.7 kN/m²
Modulus of subgrade K762: 43 kN/m²/mm
Equivalent C.B.R Value at 1.25mm settlement: 6.6%
Plate recovery: 37%

APPLIED LOAD vs SETTLEMENT RELATIONSHIP



Equivalent C.B.R Value: 6.6 %

Remarks:

Test results reported relate only to the items tested.
This report shall not be reproduced except in full without approval of the Laboratory.
Opinions and interpretations expressed herein are outside the scope of UKAS Accreditation. The laboratory does not apply a conformity statement to test reports as standard, unless specifically requested by the customer.

Report Format: IPBT/TP15/Rep Issue 2 Rev 0

Ruby House
40A Hardwick Grange
Warrington WA1 4RF

0343 227 8545
enquiries@constructiontesting.co.uk
www.constructiontesting.co.uk

Construction Testing Solutions Ltd.
Registered in England No. 05998333

Determination of Load vs Settlement (Incremental Loading)

BS 1377-9 : 1990 Clause 4.1 & Design Guidance for Road Pavement Foundations Interim Advice Note 73/06 Rev1

REPORT NUMBER: C5017684 / 414598.1.1.4

TEST RESULTS

LOAD APPLIED TO PLATE	AVERAGE BEARING PRESSURE	GAUGE SETTLEMENT			AVERAGE SETTLEMENT
		1	2	3	
kN	kN/m ²	mm			mm
0.0	0.0	0.00	0.00	0.00	0.00
2.8	17.6	0.21	0.37	0.25	0.28
5.3	33.5	0.42	0.74	0.49	0.55
8.2	51.7	0.68	0.99	0.74	0.80
11.4	71.4	0.91	1.25	1.01	1.06
14.3	90.1	1.18	1.49	1.21	1.29
0.0	0.0	0.80	0.99	0.67	0.82

Initial load applied by test equipment determined to be approximately 0.8 kN.

Remarks:

Test results reported relate only to the items tested.
This report shall not be reproduced except in full without approval of the Laboratory.
Opinions and interpretations expressed herein are outside the scope of UKAS
Accreditation. The laboratory does not apply a conformity statement to test reports as
standard, unless specifically requested by the customer.

Report Format: IPBT/TP15/Rep Issue 2 Rev 0

Ruby House
40A Hardwick Grange
Warrington WA1 4RF

0343 227 8545
enquiries@constructiontesting.co.uk
www.constructiontesting.co.uk
END OF REPORT

Approved Signatory
Report date 01-Jul-26

Construction Testing Solutions Ltd.
Registered in England No. 05998333

Report version 1



4161

Determination of Load vs Settlement (Incremental Loading)

BS 1377-9 : 1990 Clause 4.1 & Design Guidance for Road Pavement Foundations Interim Advice Note 73/06 Rev1

REPORT NUMBER:	C5017684 / 414598.1.1.5	CLIENT:	Westshield Limited
CLIENT REF:	5017684	ADDRESS:	Ashcroft House, Bredbury Park Way, SK6 2SN
DATE COMPLETED:	29/06/2026	SITE:	Former Kirkby College Campus, Kirkby
TESTED BY:	Lewis Lacy	MATERIAL:	6f2
LOCATION:	CBR 5	SUPPLIER:	Site won
DEPTH OF TEST:	Surface	SOURCE:	Site won
DISTANCE FROM EDGE OF PLATE TO WALL:	0 mm	SAMPLING PLAN:	Client Specification
WEATHER:	Overcast	SAMPLE TAKEN:	No
TEST METHOD:	Incremental Plate Loading		

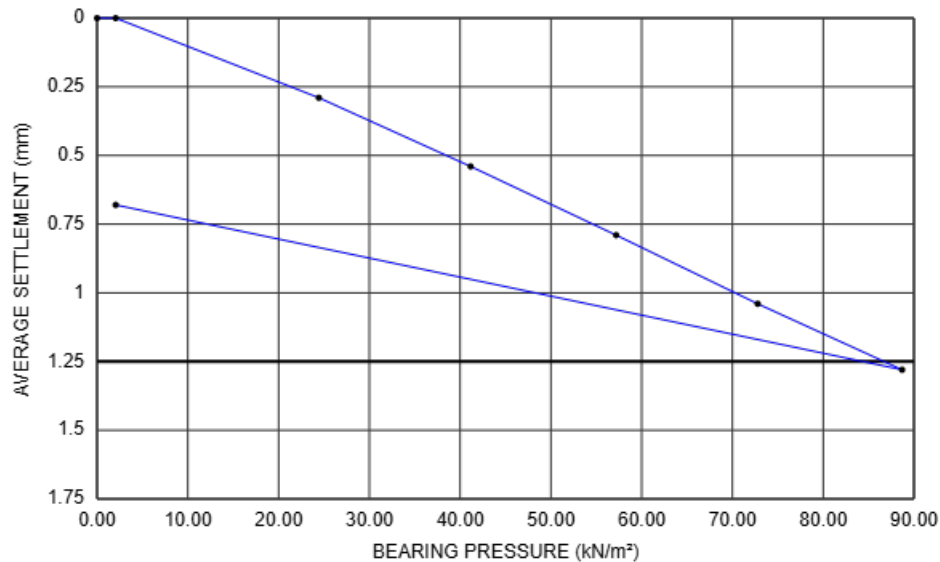
Equipment Details

Type of Kentledge: 12t roller
Plate Diameter: 450 mm
Plate Area: 0.159043 m²
Plate Correction: 0.62

Results

Max applied pressure: 89 kN/m²
Max settlement: 1.28 mm
Avg Bearing Pressure (P) at 1.25mm settlement: 84.9 kN/m²
Modulus of subgrade K762: 42 kN/m²/mm
Equivalent C.B.R Value at 1.25mm settlement: 6.3%
Plate recovery: 47%

APPLIED LOAD vs SETTLEMENT RELATIONSHIP



Equivalent C.B.R Value: 6.3 %

Remarks:

Test results reported relate only to the items tested.
This report shall not be reproduced except in full without approval of the Laboratory.
Opinions and interpretations expressed herein are outside the scope of UKAS Accreditation. The laboratory does not apply a conformity statement to test reports as standard, unless specifically requested by the customer.

Report Format: IPBT/TP15/Rep Issue 2 Rev 0

Ruby House
40A Hardwick Grange
Warrington WA1 4RF

0343 227 8545
enquiries@constructiontesting.co.uk
www.constructiontesting.co.uk

Construction Testing Solutions Ltd.
Registered in England No. 05998333

Determination of Load vs Settlement (Incremental Loading)

BS 1377-9 : 1990 Clause 4.1 & Design Guidance for Road Pavement Foundations Interim Advice Note 73/06 Rev1

REPORT NUMBER: C5017684 / 414598.1.1.5

TEST RESULTS

LOAD APPLIED TO PLATE	AVERAGE BEARING PRESSURE	GAUGE SETTLEMENT			AVERAGE SETTLEMENT
		1	2	3	
kN	kN/m ²	mm			mm
0.0	0.0	0.00	0.00	0.00	0.00
3.6	22.4	0.23	0.33	0.31	0.29
6.2	39.1	0.49	0.66	0.46	0.54
8.8	55.1	0.75	0.99	0.64	0.79
11.3	70.7	0.94	1.28	0.90	1.04
13.8	86.6	1.17	1.41	1.25	1.28
0.0	0.0	0.81	0.71	0.52	0.68

Initial load applied by test equipment determined to be approximately 0.8 kN.

Remarks:

Test results reported relate only to the items tested.
This report shall not be reproduced except in full without approval of the Laboratory.
Opinions and interpretations expressed herein are outside the scope of UKAS
Accreditation. The laboratory does not apply a conformity statement to test reports as
standard, unless specifically requested by the customer.

Report Format: IPBT/TP15/Rep Issue 2 Rev 0

Ruby House
40A Hardwick Grange
Warrington WA1 4RF

0343 227 8545
enquiries@constructiontesting.co.uk
www.constructiontesting.co.uk
END OF REPORT

Approved Signatory
Report date 01-Jul-26

Construction Testing Solutions Ltd.
Registered in England No. 05998333

Report version 1



4161

Determination of Load vs Settlement (Incremental Loading)

BS 1377-9 : 1990 Clause 4.1 & Design Guidance for Road Pavement Foundations Interim Advice Note 73/06 Rev1

REPORT NUMBER:	C5017684 / 414598.1.1.6	CLIENT:	Westshield Limited
CLIENT REF:	5017684	ADDRESS:	Ashcroft House, Bredbury Park Way, SK6 2SN
DATE COMPLETED:	29/06/2026	SITE:	Former Kirkby College Campus, Kirkby
TESTED BY:	Lewis Lacy	MATERIAL:	6f2
LOCATION:	CBR 6	SUPPLIER:	Site won
DEPTH OF TEST:	Surface	SOURCE:	Site won
DISTANCE FROM EDGE OF PLATE TO WALL:	0 mm	SAMPLING PLAN:	Client Specification
WEATHER:	Overcast	SAMPLE TAKEN:	No
TEST METHOD:	Incremental Plate Loading		

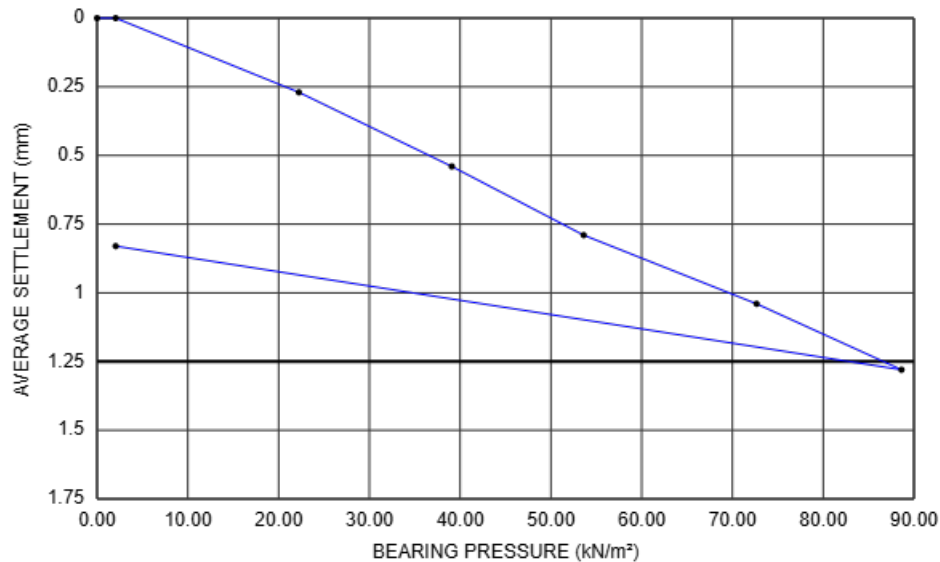
Equipment Details

Type of Kentledge: 12t roller
Plate Diameter: 450 mm
Plate Area: 0.159043 m²
Plate Correction: 0.62

Results

Max applied pressure: 89 kN/m²
Max settlement: 1.28 mm
Avg Bearing Pressure (P) at 1.25mm settlement: 84.6 kN/m²
Modulus of subgrade K762: 42 kN/m²/mm
Equivalent C.B.R Value at 1.25mm settlement: 6.3%
Plate recovery: 35%

APPLIED LOAD vs SETTLEMENT RELATIONSHIP



Equivalent C.B.R Value: 6.3 %

Remarks:

Test results reported relate only to the items tested.
This report shall not be reproduced except in full without approval of the Laboratory.
Opinions and interpretations expressed herein are outside the scope of UKAS Accreditation. The laboratory does not apply a conformity statement to test reports as standard, unless specifically requested by the customer.

Report Format: IPBT/TP15/Rep Issue 2 Rev 0

Ruby House
40A Hardwick Grange
Warrington WA1 4RF

0343 227 8545
enquiries@constructiontesting.co.uk
www.constructiontesting.co.uk

Construction Testing Solutions Ltd.
Registered in England No. 05998333

Determination of Load vs Settlement (Incremental Loading)

BS 1377-9 : 1990 Clause 4.1 & Design Guidance for Road Pavement Foundations Interim Advice Note 73/06 Rev1

REPORT NUMBER: C5017684 / 414598.1.1.6

TEST RESULTS

LOAD APPLIED TO PLATE	AVERAGE BEARING PRESSURE	GAUGE SETTLEMENT			AVERAGE SETTLEMENT
		1	2	3	
kN	kN/m ²	mm			mm
0.0	0.0	0.00	0.00	0.00	0.00
3.2	20.2	0.32	0.28	0.22	0.27
5.9	37.0	0.50	0.48	0.63	0.54
8.2	51.6	0.76	0.75	0.87	0.79
11.2	70.6	0.97	1.00	1.14	1.04
13.8	86.6	1.17	1.24	1.43	1.28
0.0	0.0	0.83	0.71	0.95	0.83

Initial load applied by test equipment determined to be approximately 0.8 kN.

Remarks:

Test results reported relate only to the items tested.
This report shall not be reproduced except in full without approval of the Laboratory.
Opinions and interpretations expressed herein are outside the scope of UKAS
Accreditation. The laboratory does not apply a conformity statement to test reports as
standard, unless specifically requested by the customer.

Report Format: IPBT/TP15/Rep Issue 2 Rev 0

Ruby House
40A Hardwick Grange
Warrington WA1 4RF

0343 227 8545
enquiries@constructiontesting.co.uk
www.constructiontesting.co.uk
END OF REPORT

Approved Signatory
Report date 01-Jul-26

Construction Testing Solutions Ltd.
Registered in England No. 05998333

Report version 1



4161

Determination of Load vs Settlement (Incremental Loading)

BS 1377-9 : 1990 Clause 4.1 & Design Guidance for Road Pavement Foundations Interim Advice Note 73/06 Rev1

REPORT NUMBER: C5017684 / 414598.1.1.7
CLIENT REF: 5017684
DATE COMPLETED: 29/06/2026
TESTED BY: Lewis Lacy
LOCATION: CBR 7 (53.4822063,-2.8901929)
DEPTH OF TEST: Surface
DISTANCE FROM EDGE OF PLATE TO WALL: 0 mm
WEATHER: Overcast
TEST METHOD: Incremental Plate Loading

CLIENT: Westshield Limited
ADDRESS: Ashcroft House, Bredbury Park Way, SK6 2SN
SITE: Former Kirkby College Campus, Kirkby
MATERIAL: 6f2
SUPPLIER: Site won
SOURCE: Site won
SAMPLING PLAN: Client Specification
SAMPLE TAKEN: No

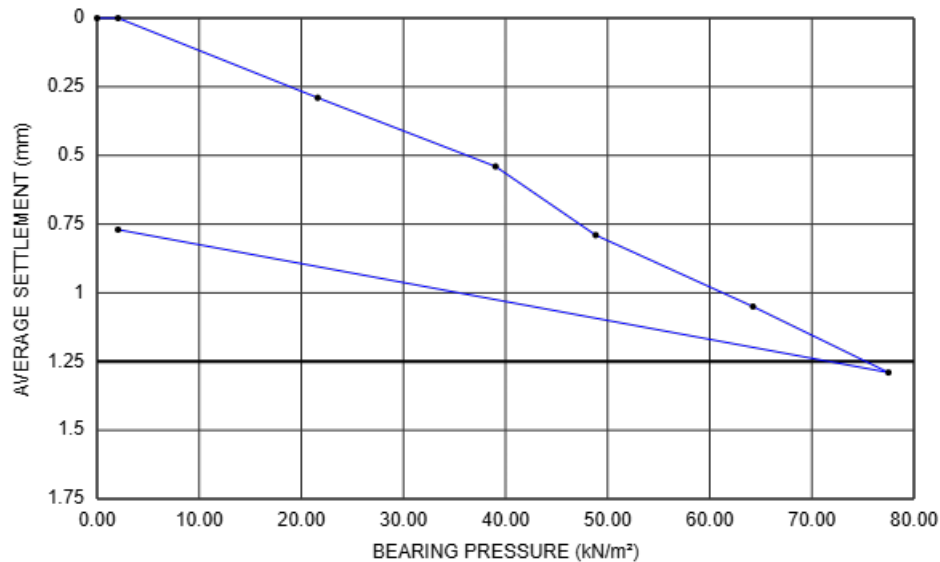
Equipment Details

Type of Kentledge: 12t roller
Plate Diameter: 450 mm
Plate Area: 0.159043 m²
Plate Correction: 0.62

Results

Max applied pressure: 78 kN/m²
Max settlement: 1.29 mm
Avg Bearing Pressure (P) at 1.25mm settlement: 73.2 kN/m²
Modulus of subgrade K762: 36 kN/m²/mm
Equivalent C.B.R Value at 1.25mm settlement: 4.9%
Plate recovery: 41%

APPLIED LOAD vs SETTLEMENT RELATIONSHIP



Equivalent C.B.R Value: 4.9 %

Remarks:

Test results reported relate only to the items tested.
This report shall not be reproduced except in full without approval of the Laboratory.
Opinions and interpretations expressed herein are outside the scope of UKAS Accreditation. The laboratory does not apply a conformity statement to test reports as standard, unless specifically requested by the customer.

Report Format: IPBT/TP15/Rep Issue 2 Rev 0

Ruby House
40A Hardwick Grange
Warrington WA1 4RF

0343 227 8545
enquiries@constructiontesting.co.uk
www.constructiontesting.co.uk

Construction Testing Solutions Ltd.
Registered in England No. 05998333

Determination of Load vs Settlement (Incremental Loading)

BS 1377-9 : 1990 Clause 4.1 & Design Guidance for Road Pavement Foundations Interim Advice Note 73/06 Rev1

REPORT NUMBER: C5017684 / 414598.1.1.7

TEST RESULTS

LOAD APPLIED TO PLATE	AVERAGE BEARING PRESSURE	GAUGE SETTLEMENT			AVERAGE SETTLEMENT
		1	2	3	
kN	kN/m ²	mm			mm
0.0	0.0	0.00	0.00	0.00	0.00
3.1	19.6	0.23	0.32	0.31	0.29
5.9	37.0	0.45	0.59	0.57	0.54
7.4	46.8	0.69	0.86	0.81	0.79
9.9	62.2	0.90	1.21	1.05	1.05
12.0	75.5	1.18	1.45	1.24	1.29
0.0	0.0	0.75	0.82	0.73	0.77

Initial load applied by test equipment determined to be approximately 0.8 kN.

Remarks:

Test results reported relate only to the items tested.
This report shall not be reproduced except in full without approval of the Laboratory.
Opinions and interpretations expressed herein are outside the scope of UKAS
Accreditation. The laboratory does not apply a conformity statement to test reports as
standard, unless specifically requested by the customer.

Report Format: IPBT/TP15/Rep Issue 2 Rev 0

Ruby House
40A Hardwick Grange
Warrington WA1 4RF

0343 227 8545
enquiries@constructiontesting.co.uk
www.constructiontesting.co.uk
END OF REPORT

Approved Signatory
Report date 01-Jul-26

Construction Testing Solutions Ltd.
Registered in England No. 05998333

Report version 1



4161

Determination of Load vs Settlement (Incremental Loading)

BS 1377-9 : 1990 Clause 4.1 & Design Guidance for Road Pavement Foundations Interim Advice Note 73/06 Rev1

REPORT NUMBER:	C5017684 / 414598.1.1.8	CLIENT:	Westshield Limited
CLIENT REF:	5017684	ADDRESS:	Ashcroft House, Bredbury Park Way, SK6 2SN
DATE COMPLETED:	29/06/2026	SITE:	Former Kirkby College Campus, Kirkby
TESTED BY:	Lewis Lacy	MATERIAL:	6f2
LOCATION:	CBR 8	SUPPLIER:	Site won
DEPTH OF TEST:	Surface	SOURCE:	Site won
DISTANCE FROM EDGE OF PLATE TO WALL:	0 mm	SAMPLING PLAN:	Client Specification
WEATHER:	Overcast	SAMPLE TAKEN:	No
TEST METHOD:	Incremental Plate Loading		

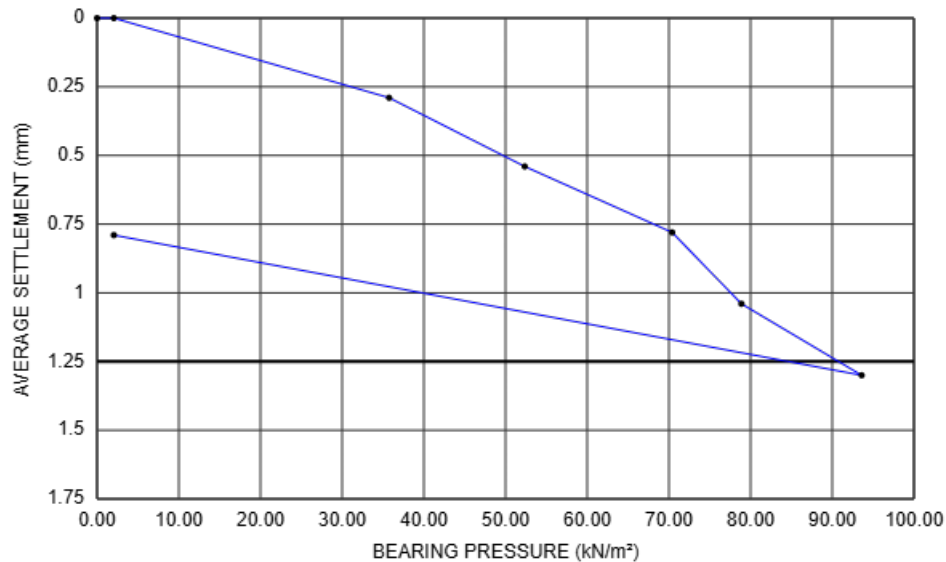
Equipment Details

Type of Kentledge: 12t roller
Plate Diameter: 450 mm
Plate Area: 0.159043 m²
Plate Correction: 0.62

Results

Max applied pressure: 94 kN/m²
Max settlement: 1.30 mm
Avg Bearing Pressure (P) at 1.25mm settlement: 88.6 kN/m²
Modulus of subgrade K762: 44 kN/m²/mm
Equivalent C.B.R Value at 1.25mm settlement: 6.8%
Plate recovery: 40%

APPLIED LOAD vs SETTLEMENT RELATIONSHIP



Equivalent C.B.R Value: 6.8 %

Remarks:

Test results reported relate only to the items tested.
This report shall not be reproduced except in full without approval of the Laboratory.
Opinions and interpretations expressed herein are outside the scope of UKAS Accreditation. The laboratory does not apply a conformity statement to test reports as standard, unless specifically requested by the customer.

Report Format: IPBT/TP15/Rep Issue 2 Rev 0

Ruby House
40A Hardwick Grange
Warrington WA1 4RF

0343 227 8545
enquiries@constructiontesting.co.uk
www.constructiontesting.co.uk

Construction Testing Solutions Ltd.
Registered in England No. 05998333

Determination of Load vs Settlement (Incremental Loading)

BS 1377-9 : 1990 Clause 4.1 & Design Guidance for Road Pavement Foundations Interim Advice Note 73/06 Rev1

REPORT NUMBER: C5017684 / 414598.1.1.8

TEST RESULTS

LOAD APPLIED TO PLATE	AVERAGE BEARING PRESSURE	GAUGE SETTLEMENT			AVERAGE SETTLEMENT
		1	2	3	
kN	kN/m ²	mm			mm
0.0	0.0	0.00	0.00	0.00	0.00
5.4	33.7	0.19	0.39	0.29	0.29
8.0	50.3	0.40	0.75	0.48	0.54
10.9	68.3	0.64	1.01	0.68	0.78
12.2	76.8	0.85	1.25	1.01	1.04
14.6	91.5	1.14	1.56	1.21	1.30
0.0	0.0	0.47	1.06	0.83	0.79

Initial load applied by test equipment determined to be approximately 0.8 kN.

Remarks:

Test results reported relate only to the items tested.
This report shall not be reproduced except in full without approval of the Laboratory.
Opinions and interpretations expressed herein are outside the scope of UKAS
Accreditation. The laboratory does not apply a conformity statement to test reports as
standard, unless specifically requested by the customer.

Report Format: IPBT/TP15/Rep Issue 2 Rev 0

Ruby House
40A Hardwick Grange
Warrington WA1 4RF

0343 227 8545
enquiries@constructiontesting.co.uk
www.constructiontesting.co.uk
END OF REPORT

Approved Signatory
Report date 01-Jul-26

Construction Testing Solutions Ltd.
Registered in England No. 05998333

Report version 1



4161

Determination of Load vs Settlement (Incremental Loading)

BS 1377-9 : 1990 Clause 4.1 & Design Guidance for Road Pavement Foundations Interim Advice Note 73/06 Rev1

REPORT NUMBER:	C5017684 / 414598.1.1.9	CLIENT:	Westshield Limited
CLIENT REF:	5017684	ADDRESS:	Ashcroft House, Bredbury Park Way, SK6 2SN
DATE COMPLETED:	29/06/2026	SITE:	Former Kirkby College Campus, Kirkby
TESTED BY:	Lewis Lacy	MATERIAL:	6f2
LOCATION:	CBR 9	SUPPLIER:	Site won
DEPTH OF TEST:	Surface	SOURCE:	Site won
DISTANCE FROM EDGE OF PLATE TO WALL:	0 mm	SAMPLING PLAN:	Client Specification
WEATHER:	Overcast	SAMPLE TAKEN:	No
TEST METHOD:	Incremental Plate Loading		

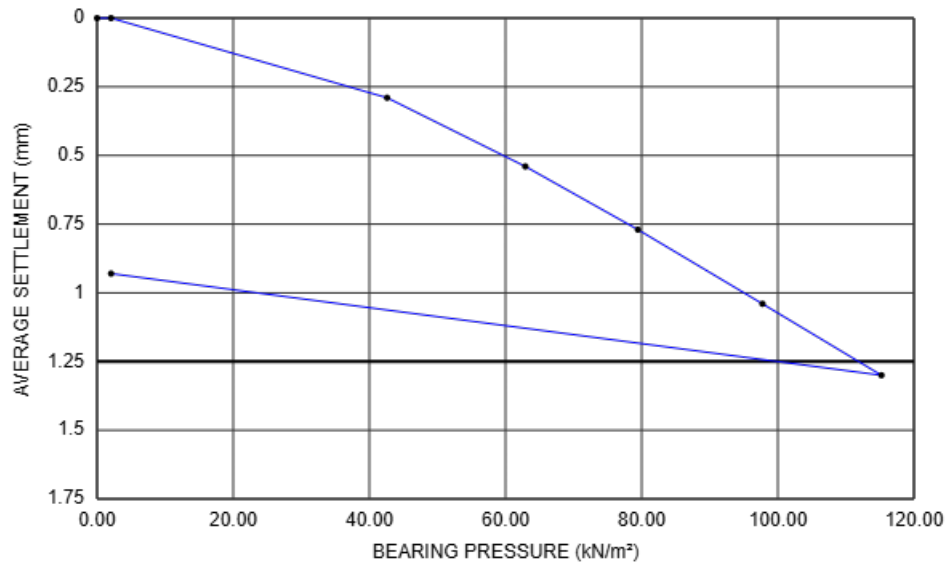
Equipment Details

Type of Kentledge: 12t roller
Plate Diameter: 450 mm
Plate Area: 0.159043 m²
Plate Correction: 0.62

Results

Max applied pressure: 115 kN/m²
Max settlement: 1.30 mm
Avg Bearing Pressure (P) at 1.25mm settlement: 110.0 kN/m²
Modulus of subgrade K762: 55 kN/m²/mm
Equivalent C.B.R Value at 1.25mm settlement: 10.0%
Plate recovery: 28%

APPLIED LOAD vs SETTLEMENT RELATIONSHIP



Equivalent C.B.R Value: 10.0 %

Remarks:

Test results reported relate only to the items tested.
This report shall not be reproduced except in full without approval of the Laboratory.
Opinions and interpretations expressed herein are outside the scope of UKAS Accreditation. The laboratory does not apply a conformity statement to test reports as standard, unless specifically requested by the customer.

Report Format: IPBT/TP15/Rep Issue 2 Rev 0

Ruby House
40A Hardwick Grange
Warrington WA1 4RF

0343 227 8545
enquiries@constructiontesting.co.uk
www.constructiontesting.co.uk

Construction Testing Solutions Ltd.
Registered in England No. 05998333

Determination of Load vs Settlement (Incremental Loading)

BS 1377-9 : 1990 Clause 4.1 & Design Guidance for Road Pavement Foundations Interim Advice Note 73/06 Rev1

REPORT NUMBER: C5017684 / 414598.1.1.9

TEST RESULTS

LOAD APPLIED TO PLATE	AVERAGE BEARING PRESSURE	GAUGE SETTLEMENT			AVERAGE SETTLEMENT
		1	2	3	
kN	kN/m ²	mm			mm
0.0	0.0	0.00	0.00	0.00	0.00
6.5	40.6	0.22	0.38	0.27	0.29
9.7	60.9	0.47	0.64	0.52	0.54
12.3	77.4	0.68	0.94	0.70	0.77
15.2	95.7	0.88	1.18	1.06	1.04
18.0	113.2	1.09	1.52	1.28	1.30
0.0	0.0	0.81	1.10	0.88	0.93

Initial load applied by test equipment determined to be approximately 0.8 kN.

Remarks:

Test results reported relate only to the items tested.
This report shall not be reproduced except in full without approval of the Laboratory.
Opinions and interpretations expressed herein are outside the scope of UKAS
Accreditation. The laboratory does not apply a conformity statement to test reports as
standard, unless specifically requested by the customer.



161

Report Format: IPBT/TP15/Rep Issue 2 Rev 0

Ruby House
40A Hardwick Grange
Warrington WA1 4RF

0343 227 8545
enquiries@constructiontesting.co.uk
www.constructiontesting.co.uk
END OF REPORT

Report date 01-Jul-26

Construction Testing Solutions Ltd.
Registered in England No. 05998333

Report version 1

Page 2 of 2

Determination of Load vs Settlement (Incremental Loading)

BS 1377-9 : 1990 Clause 4.1 & Design Guidance for Road Pavement Foundations Interim Advice Note 73/06 Rev1

REPORT NUMBER: C5017684 / 414598.1.1.10
CLIENT REF: 5017684
DATE COMPLETED: 29/06/2026
TESTED BY: Lewis Lacy
LOCATION: CBR 10 (53.4822063,-2.8901929)
DEPTH OF TEST: Surface
DISTANCE FROM EDGE OF PLATE TO WALL: 0 mm
WEATHER: Overcast
TEST METHOD: Incremental Plate Loading

CLIENT: Westshield Limited
ADDRESS: Ashcroft House, Bredbury Park Way, SK6 2SN
SITE: Former Kirkby College Campus, Kirkby
MATERIAL: 6f2
SUPPLIER: Site won
SOURCE: Site won
SAMPLING PLAN: Client Specification
SAMPLE TAKEN: No

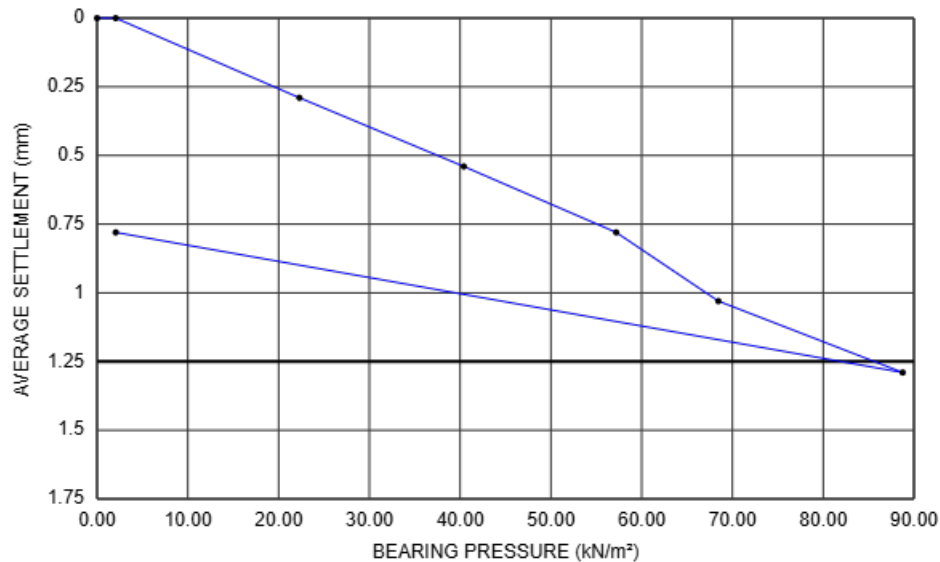
Equipment Details

Type of Kentledge: 12t roller
Plate Diameter: 450 mm
Plate Area: 0.159043 m²
Plate Correction: 0.62

Results

Max applied pressure: 89 kN/m²
Max settlement: 1.29 mm
Avg Bearing Pressure (P) at 1.25mm settlement: 83.4 kN/m²
Modulus of subgrade K762: 42 kN/m²/mm
Equivalent C.B.R Value at 1.25mm settlement: 6.2%
Plate recovery: 39%

APPLIED LOAD vs SETTLEMENT RELATIONSHIP



Equivalent C.B.R Value: 6.2 %

Remarks:

Test results reported relate only to the items tested.
This report shall not be reproduced except in full without approval of the Laboratory.
Opinions and interpretations expressed herein are outside the scope of UKAS Accreditation. The laboratory does not apply a conformity statement to test reports as standard, unless specifically requested by the customer.

Report Format: IPBT/TP15/Rep Issue 2 Rev 0

Ruby House
40A Hardwick Grange
Warrington WA1 4RF

0343 227 8545
enquiries@constructiontesting.co.uk
www.constructiontesting.co.uk

Construction Testing Solutions Ltd.
Registered in England No. 05998333

Determination of Load vs Settlement (Incremental Loading)

BS 1377-9 : 1990 Clause 4.1 & Design Guidance for Road Pavement Foundations Interim Advice Note 73/06 Rev1

REPORT NUMBER: C5017684 / 414598.1.1.10

TEST RESULTS

LOAD APPLIED TO PLATE	AVERAGE BEARING PRESSURE	GAUGE SETTLEMENT			AVERAGE SETTLEMENT
		1	2	3	
kN	kN/m ²	mm			mm
0.0	0.0	0.00	0.00	0.00	0.00
3.2	20.2	0.27	0.37	0.24	0.29
6.1	38.4	0.47	0.65	0.51	0.54
8.8	55.1	0.68	0.88	0.78	0.78
10.6	66.4	0.88	1.18	1.03	1.03
13.8	86.7	1.18	1.45	1.25	1.29
0.0	0.0	0.76	0.85	0.74	0.78

Initial load applied by test equipment determined to be approximately 0.8 kN.

Remarks:

Test results reported relate only to the items tested.
This report shall not be reproduced except in full without approval of the Laboratory.
Opinions and interpretations expressed herein are outside the scope of UKAS
Accreditation. The laboratory does not apply a conformity statement to test reports as
standard, unless specifically requested by the customer.

Report Format: IPBT/TP15/Rep Issue 2 Rev 0

Ruby House
40A Hardwick Grange
Warrington WA1 4RF

0343 227 8545
enquiries@constructiontesting.co.uk
www.constructiontesting.co.uk
END OF REPORT

Approved Signatory
Report date 01-Jul-26

Construction Testing Solutions Ltd.
Registered in England No. 05998333

Report version 1



4161

Determination of Load vs Settlement (Incremental Loading)

BS 1377-9 : 1990 Clause 4.1 & Design Guidance for Road Pavement Foundations Interim Advice Note 73/06 Rev1

REPORT NUMBER:	C5017684 / 414598.1.1.11	CLIENT:	Westshield Limited
CLIENT REF:	5017684	ADDRESS:	Ashcroft House, Bredbury Park Way, SK6 2SN
DATE COMPLETED:	29/06/2026	SITE:	Former Kirkby College Campus, Kirkby
TESTED BY:	Lewis Lacy	MATERIAL:	6f2
LOCATION:	CBR 11	SUPPLIER:	Site won
DEPTH OF TEST:	Surface	SOURCE:	Site won
DISTANCE FROM EDGE OF PLATE TO WALL:	0 mm	SAMPLING PLAN:	Client Specification
WEATHER:	Overcast	SAMPLE TAKEN:	No
TEST METHOD:	Incremental Plate Loading		

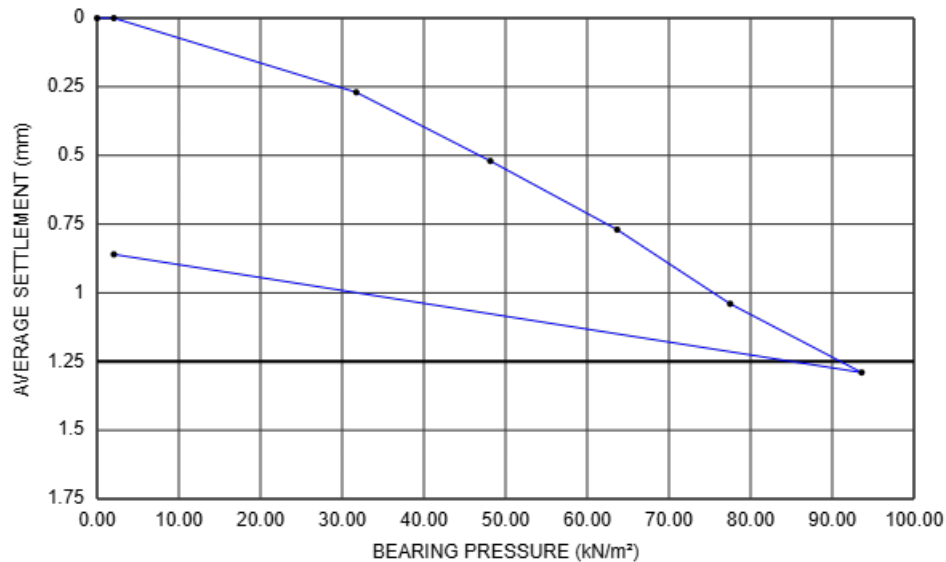
Equipment Details

Type of Kentledge: 12t roller
Plate Diameter: 450 mm
Plate Area: 0.159043 m²
Plate Correction: 0.62

Results

Max applied pressure: 94 kN/m²
Max settlement: 1.29 mm
Avg Bearing Pressure (P) at 1.25mm settlement: 89.0 kN/m²
Modulus of subgrade K762: 44 kN/m²/mm
Equivalent C.B.R Value at 1.25mm settlement: 6.9%
Plate recovery: 33%

APPLIED LOAD vs SETTLEMENT RELATIONSHIP



Equivalent C.B.R Value: 6.9 %

Remarks:

Test results reported relate only to the items tested.
This report shall not be reproduced except in full without approval of the Laboratory.
Opinions and interpretations expressed herein are outside the scope of UKAS Accreditation. The laboratory does not apply a conformity statement to test reports as standard, unless specifically requested by the customer.

Report Format: IPBT/TP15/Rep Issue 2 Rev 0

Ruby House
40A Hardwick Grange
Warrington WA1 4RF

0343 227 8545
enquiries@constructiontesting.co.uk
www.constructiontesting.co.uk

Construction Testing Solutions Ltd.
Registered in England No. 05998333

Determination of Load vs Settlement (Incremental Loading)

BS 1377-9 : 1990 Clause 4.1 & Design Guidance for Road Pavement Foundations Interim Advice Note 73/06 Rev1

REPORT NUMBER: C5017684 / 414598.1.1.11

TEST RESULTS

LOAD APPLIED TO PLATE	AVERAGE BEARING PRESSURE	GAUGE SETTLEMENT			AVERAGE SETTLEMENT
		1	2	3	
kN	kN/m ²	mm			mm
0.0	0.0	0.00	0.00	0.00	0.00
4.7	29.7	0.31	0.23	0.26	0.27
7.3	46.1	0.54	0.46	0.55	0.52
9.8	61.6	0.80	0.68	0.83	0.77
12.0	75.5	1.05	0.94	1.13	1.04
14.6	91.5	1.30	1.14	1.43	1.29
0.0	0.0	0.73	0.88	0.98	0.86

Initial load applied by test equipment determined to be approximately 0.8 kN.

Remarks:

Test results reported relate only to the items tested.
This report shall not be reproduced except in full without approval of the Laboratory.
Opinions and interpretations expressed herein are outside the scope of UKAS
Accreditation. The laboratory does not apply a conformity statement to test reports as
standard, unless specifically requested by the customer.

Report Format: IPBT/TP15/Rep Issue 2 Rev 0

Ruby House
40A Hardwick Grange
Warrington WA1 4RF

0343 227 8545
enquiries@constructiontesting.co.uk
www.constructiontesting.co.uk
END OF REPORT

Approved Signatory
Report date 01-Jul-26

Construction Testing Solutions Ltd.
Registered in England No. 05998333

Report version 1



4161

