

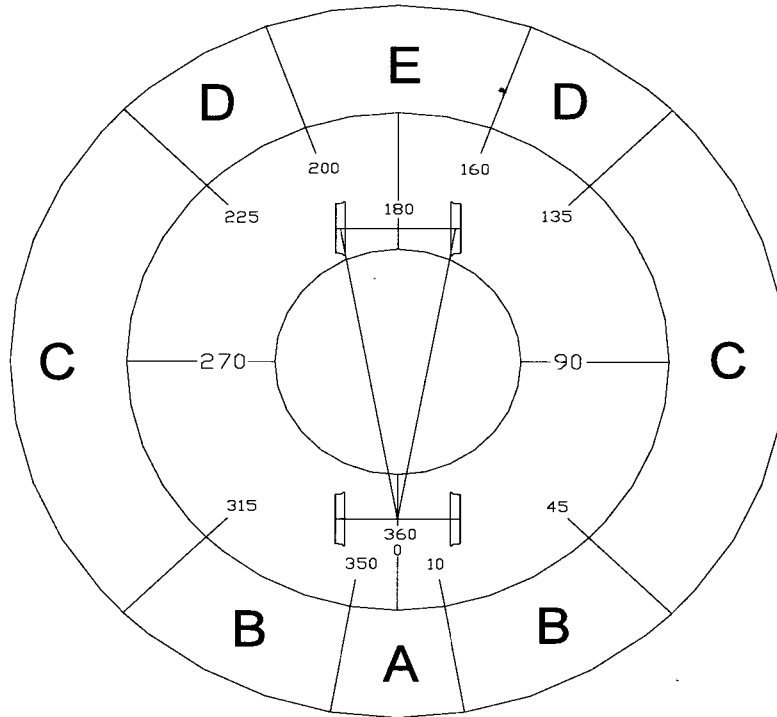
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SUPERAILER

by REXQUOTE

Broadgauge Business Park
Bishops Lydeard, Somerset. TA4 3RU
TEL:01823 433398 FAX:01823 433725
e-mail: sales@rexquote.co.uk Web: Rexquote.co.uk

Fixed Axle



Oscillating Axle

Machine Type:	_____	Case 988
Serial Number:	_____	CGG0232239
Rail Axle Number:	_____	1571
Equipment:	_____	Boom 1.8m Artic 3.13m Arm 2.1m
Date:	_____	12 April 2010
Issue:	_____	2
Software Version:	_____	V2.09

This machine is equipped with a Rexquote Rated Capacity Indicator. This system is designed to comply with RAILWAY SAFETY STANDARD RIS-1530-PLT Issue 1

Radius / Height are given in METRES. Loads are given in TONNES, and assume that the load is suspended vertically below the lifting point with no other equipment attached. This machine is fitted with an hydraulically adjustable boom. This allows the machine to reach the same point in space with a variety of different equipment angles, each combination has a different safe working load. The charts above show both the upper & lower limits of the loads achievable. Loads marked 'b' boom, 'r' articulation, and 'a' arm are limited by hydraulic capacity.

All rail duties listed are valid for use on up to a 1:29 gradient, and with a maximum track twist of 27mm.

NETWORK RAIL DUTIES

SECTOR A

LOWER SAFE WORKING LOADS

UPPER SAFE WORKING LOADS

Road
 Unlocked
 71% SWL



	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	3.81	3.2	2.7	-	-	-	-	-
6.0m	-	-	-	3.64a	3.22	2.75	2.37	2.06	-	-	-
5.0m	-	-	-	3.24a	3.16	2.71	2.36	2.06	1.81	-	-
4.0m	-	-	-	3.69	3.04	2.61	2.28	2.01	1.79	1.59	-
3.0m	-	-	-	3.61	2.97	2.5	2.19	1.95	1.74	1.56	-
2.0m	-	-	-	3.45	2.85	2.4	2.1	1.88	1.69	1.52	1.38
1.0m	-	5.07	3.97	3.23	2.7	2.3	2.03	1.82	1.64	1.49	1.36
0.0m	5.89a	4.6	3.69	3.05	2.57	2.24	1.99	1.79	1.62	1.48	-
-1.0m	5.16a	4.41	3.56	2.97	2.54	2.23	1.98	1.78	1.62	-	-
-2.0m	5.81	4.49	3.84	3.05	2.62	2.29	2.05	-	-	-	-

	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	3.82	3.21	2.7	-	-	-	-	-
6.0m	-	-	-	3.68a	3.26	2.81	2.4	2.06	-	-	-
5.0m	-	-	-	3.46a	3.23	2.81	2.46	2.12	1.82	-	-
4.0m	-	-	-	3.71	3.19	2.78	2.46	2.14	1.85	1.6	-
3.0m	-	-	-	3.64	3.14	2.75	2.45	2.13	1.85	1.6	-
2.0m	-	-	-	3.6	3.12	2.74	2.41	2.09	1.81	1.58	1.39
1.0m	-	5.07	4.19	3.55	3.06	2.66	2.33	2.04	1.77	1.54	1.37
0.0m	6.13	4.86	4.01	3.41	2.93	2.57	2.25	1.95	1.72	1.51	-
-1.0m	6.05	4.76	3.92	3.31	2.86	2.49	2.15	1.88	1.66	-	-
-2.0m	6.04	4.74	3.88	3.27	2.8	2.4	2.09	-	-	-	-

Road
 Locked
 71% SWL



	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	4.67a	4.49	3.86	-	-	-	-	-
6.0m	-	-	-	3.64a	3.99a	3.91	3.42	3.01	-	-	-
5.0m	-	-	-	3.24a	3.66a	3.86	3.4	3.02	2.69	-	-
4.0m	-	-	-	4.33a	4.34	3.77	3.33	2.97	2.67	2.41	-
3.0m	-	-	-	5.07	4.26	3.66	2.99r	2.91	2.63	2.38	-
2.0m	-	-	-	4.61r	3.79r	2.95r	2.49r	2.84	2.57	2.34	2.14
1.0m	-	5.67r	4.42r	3.72r	3.25r	2.93r	2.79r	2.79	2.53	2.31	2.12
0.0m	5.89a	6.46a	5.39	4.52	3.88	3.4	3.05	2.75	2.51	2.3	-
-1.0m	5.15a	5.81a	5.27	4.45	3.86	3.4	3.04	2.75	2.5	-	-
-2.0m	8.25	6.5	5.36	4.53	3.92	3.46	3.11	-	-	-	-

	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	4.77a	4.5	3.86	-	-	-	-	-
6.0m	-	-	-	3.68a	4.25a	3.97	3.45	3.02	-	-	-
5.0m	-	-	-	3.46a	4.01a	3.96	3.51	3.07	2.71	-	-
4.0m	-	-	-	4.34a	4.48	3.94	3.5	3.1	2.73	2.42	-
3.0m	-	-	-	5.1	4.43	3.91	3.47	3.08	2.73	2.42	-
2.0m	-	-	-	5.03	4.36r	3.84	3.41	3.04	2.7	2.39	2.15
1.0m	-	5.67r	5.78	4.92	4.28	3.76	3.35	3	2.65	2.36	2.13
0.0m	7.59a	6.86	5.7	4.85	4.22	3.72	3.3	2.91	2.6	2.33	-
-1.0m	8.48	8.76	5.61	4.79	4.16	3.65	3.2	2.84	2.54	-	-
-2.0m	8.48	8.74	5.58	4.74	4.1	3.56	3.14	-	-	-	-

Level Rail
 0-50mm
 67% SWL
 Unlocked



	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	3.89a	4.14a	4.16a	-	-	-	-	-
6.0m	-	-	-	3.09a	3.41a	3.72a	3.78	3.25	-	-	-
5.0m	-	-	-	2.90a	3.28a	3.60a	3.45r	3.24	2.84	-	-
4.0m	-	-	-	4.31a	4.39a	4.11r	3.13r	2.80r	2.8	2.49	-
3.0m	-	-	-	5.05r	4.16r	3.34r	2.41r	2.58r	2.74	2.45	2.2
2.0m	-	-	4.44r	3.72r	3.03r	2.30r	2.22r	2.34r	2.69	2.41	2.18
1.0m	-	5.53r	4.11r	3.47r	2.93r	2.66r	2.55r	2.97	2.65	2.38	2.16
0.0m	4.95a	5.44a	5.62r	4.43r	3.71r	3.37r	3.33	2.94	2.63	2.37	-
-1.0m	4.93a	5.36a	6.41a	5.48	4.51	3.83	3.32	2.94	2.65	-	-
-2.0m	10	9.58	7.08	5.6	4.62	3.94	-	-	-	-	-

	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	3.94a	4.42a	4.40a	-	-	-	-	-
6.0m	-	-	-	3.16a	3.68a	4.08a	3.83	3.26	-	-	-
5.0m	-	-	-	3.15a	3.62a	3.99a	3.86	3.32	2.86	-	-
4.0m	-	-	-	4.34a	4.47a	4.43	3.82	3.32	2.88	2.51	-
3.0m	-	-	-	5.64r	5.12	4.34	3.75	3.28	2.87	2.5	2.2
2.0m	-	-	4.81r	6.01	4.99	4.25	3.68	3.23	2.83	2.47	2.19
1.0m	-	6.57r	7.42	5.92	4.9	4.18r	3.62	3.18	2.77	2.44	2.16
0.0m	7.60a	9.93	7.38	5.87	4.86	4.13	3.59	3.1	2.71	2.4	-
-1.0m	10	9.92	7.39	5.88r	4.86	4.09	3.49	3.03	2.66	-	-
-2.0m	10	9.91	7.37	5.83	4.74	4	-	-	-	-	-

Level Rail
 0-50mm
 90% SWL
 Locked



	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	3.89a	4.14a	4.16a	-	-	-	-	-
6.0m	-	-	-	3.09a	3.41a	3.72a	3.88a	3.89a	-	-	-
5.0m	-	-	-	2.90a	3.28a	3.60a	3.45r	3.61a	3.77a	-	-
4.0m	-	-	-	4.31a	4.39a	4.11r	3.13r	2.80r	3.47a	3.50a	-
3.0m	-	-	-	5.05r	4.16r	3.34r	2.41r	2.58r	3.40r	3.86a	3.61a
Radius	-	-	4.44r	3.72r	3.03r	2.30r	2.22r	2.34r	3.46r	4.01a	3.65a
the lift	-	5.53r	4.11r	3.47r	2.93r	2.66r	2.55r	2.97r	3.88r	3.82a	3.65
the ma	4.95a	5.44a	5.62r	4.43r	3.71r	3.37r	3.42r	4.30r	4.53	4.04	-
safe w	4.93a	5.36a	6.41a	5.88r	5.06r	5.18r	5.67r	5.15	4.57	-	-
r artic	10	10	10	9.49b	8.07b	7.03b	-	-	-	-	-

	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	3.94a	4.42a	4.40a	-	-	-	-	-
6.0m	-	-	-	3.16a	3.68a	4.08a	4.09a	4.09a	-	-	-
5.0m	-	-	-	3.15a	3.62a	3.99a	4.10a	4.11a	4.08a	-	-
4.0m	-	-	-	4.34a	4.47a	4.49a	4.50a	4.47a	4.38a	4.17a	-
3.0m	-	-	-	5.64r	6.56r	6.92b	6.28	5.45	4.78	4.22	3.71
2.0m	-	-	4.81r	6.26r	7.23r	7.3	6.21	5.37	4.72	4.19	3.68
1.0m	-	6.57r	8.00r	9.10r	8.73b	7.24	6.14	5.32	4.68	4.13	3.65
0.0m	7.60a	10	10	10	8.78r	7.22	6.12	5.3	4.66	4.09	-
-1.0m	10	10	10	10	8.81	7.24	6.15	5.28	4.59	-	-
-2.0m	10	10	10	10	8.93	7.28	-	-	-	-	-

NETWORK RAIL DUTIES

SECTOR A

LOWER SAFE WORKING LOADS

UPPER SAFE WORKING LOADS

Canted Rail
50-150mm
67% SWL
Unlocked



	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	3.89a	3.84	3.26	-	-	-	-	-
6.0m	-	-	-	3.09a	3.41a	3.27	2.83	2.46	-	-	-
5.0m	-	-	-	2.90a	3.28a	3.22	2.79	2.45	2.16	-	-
4.0m	-	-	-	4.31a	3.66	3.11	2.71	2.4	2.13	1.9	-
3.0m	-	-	-	4.35	3.57	3	2.41r	2.33	2.08	1.87	1.68
2.0m	-	-	4.44r	3.72r	3.03r	2.30r	2.22r	2.26	2.03	1.83	1.66
1.0m	-	5.53r	4.11r	3.47r	2.93r	2.66r	2.46	2.21	1.99	1.8	1.64
0.0m	4.95a	5.44a	4.61	3.77	3.17	2.75	2.44	2.18	1.97	1.79	-
-1.0m	4.93a	5.36a	4.63	3.74	3.17	2.76	2.43	2.16	1.90	-	-
-2.0m	7.81	5.84	4.84	3.84	3.27	2.85	-	-	-	-	-

	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	3.94a	3.87	3.26	-	-	-	-	-
6.0m	-	-	-	3.16a	3.68a	3.34	2.87	2.47	-	-	-
5.0m	-	-	-	3.15a	3.62a	3.33	2.92	2.52	2.18	-	-
4.0m	-	-	-	4.34a	3.81	3.3	2.91	2.54	2.2	1.92	-
3.0m	-	-	-	4.41	3.76	3.28	2.86r	2.52	2.18	1.91	1.68
2.0m	-	-	4.81r	4.31	3.68	3.2	2.8	2.47	2.15	1.89	1.67
1.0m	*	6.29	5.05	4.21	3.6	3.13	2.74	2.41	2.1	1.86	1.64
0.0m	7.60a	6.16	4.97	4.14	3.54	3.07	2.68	2.32	2.04	1.82	-
-1.0m	8.02	6.08	4.98	4.07	3.46	2.98	2.58	2.26	2	-	-
-2.0m	8.06	6.08	4.98	4.02	3.37	2.9	-	-	-	-	-

Canted Rail
50-150mm
90% SWL
Locked



	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	3.89a	4.14a	4.16a	-	-	-	-	-
6.0m	-	-	-	3.09a	3.41a	3.72a	3.88a	3.89a	-	-	-
5.0m	-	-	-	2.90a	3.28a	3.60a	3.45r	3.61a	3.62	-	-
4.0m	-	-	-	4.31a	4.39a	4.11r	3.13r	2.80r	3.47a	3.17	-
3.0m	-	-	-	5.05r	4.16r	3.34r	2.41r	2.58r	3.40r	3.12	2.79
2.0m	-	-	4.44r	3.72r	3.03r	2.30r	2.22r	2.34r	3.43	3.07	2.77
1.0m	-	5.53r	4.11r	3.47r	2.93r	2.66r	2.55r	2.97r	3.37	3.03	2.74
0.0m	4.95a	5.44a	5.62r	4.43r	3.71r	3.37r	3.42r	3.74	3.34	3.01	-
-1.0m	4.83a	5.36a	4.41a	5.89r	5.00r	4.87r	4.23	3.74	3.37	-	-
-2.0m	10	10	9.04	7.14	5.89	5.02	-	-	-	-	-

	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	3.94a	4.42a	4.40a	-	-	-	-	-
6.0m	-	-	-	3.16a	3.68a	4.06a	4.09a	4.09a	-	-	-
5.0m	-	-	-	3.15a	3.62a	3.99a	4.10a	4.11a	3.66	-	-
4.0m	-	-	-	4.34a	4.47a	4.49a	4.50a	4.19	3.68	3.2	-
3.0m	-	-	-	5.64r	6.4	5.43	4.71	4.12	3.64	3.19	2.8
2.0m	-	-	4.81r	6.26r	6.25	5.32	4.62	4.05	3.59	3.15	2.78
1.0m	-	6.57r	8.00r	7.42	6.16	5.24	4.54	4	3.54	3.11	2.74
0.0m	7.60a	10	9.33	7.39	6.11	5.2	4.5	3.95	3.45	3.05	-
-1.0m	10	10	9.38	7.41	6.15	5.19	4.45	3.88	3.39	-	-
-2.0m	10	10	9.44	7.46	6.06	5.1	-	-	-	-	-

Max Cant + Twist
150-177mm
67% SWL
Unlocked



	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	2.34	1.9	1.57	-	-	-	-	-
6.0m	-	-	-	2.32	1.9	1.58	1.33	1.11	-	-	-
5.0m	-	-	-	2.21	1.82	1.53	1.29	1.1	0.94	-	-
4.0m	-	-	-	2.18	1.72	1.43	1.22	1.05	0.91	0.78	-
3.0m	-	-	-	2.09	1.64	1.31	1.13	0.98	0.86	0.75	0.65
2.0m	-	-	2.5	1.91	1.51	1.22	1.04	0.92	0.81	0.71	0.63
1.0m	-	2.88	2.18	1.7	1.37	1.12	0.98	0.87	0.77	0.69	0.62
0.0m	3.35	2.48	1.93	1.54	1.26	1.08	0.95	0.84	0.75	0.68	-
-1.0m	3.18	2.36	1.85	1.5	1.26	1.08	0.95	0.84	0.77	-	-
-2.0m	3.32	2.48	1.95	1.6	1.35	1.17	-	-	-	-	-

	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	2.34	1.93	1.57	-	-	-	-	-
6.0m	-	-	-	2.33	1.95	1.65	1.37	1.12	-	-	-
5.0m	-	-	-	2.28	1.92	1.64	1.41	1.17	0.96	-	-
4.0m	-	-	-	2.2	1.87	1.61	1.4	1.19	0.98	0.8	-
3.0m	-	-	-	2.14	1.83	1.58	1.39	1.17	0.96	0.79	0.65
2.0m	-	-	2.53	2.12	1.81	1.58	1.35	1.14	0.93	0.77	0.64
1.0m	-	2.95	2.42	2.02	1.72	1.48	1.27	1.07	0.88	0.74	0.62
0.0m	3.58	2.77	2.26	1.89	1.61	1.38	1.18	0.98	0.83	0.7	-
-1.0m	3.51	2.7	2.18	1.82	1.54	1.3	1.09	0.92	0.78	-	-
-2.0m	3.54	2.7	2.18	1.78	1.45	1.22	-	-	-	-	-

Max Cant + Twist
150-177mm
90% SWL
Locked



	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	3.89a	3.55	2.95	-	-	-	-	-
6.0m	-	-	-	3.09a	3.41a	2.98	2.51	2.09	-	-	-
5.0m	-	-	-	2.90a	3.28a	2.9	2.45	2.08	1.75	-	-
4.0m	-	-	-	4.12	3.3	2.75	2.34	2	1.71	1.46	-
3.0m	-	-	-	3.98	3.18	2.59	2.2	1.89	1.63	1.41	1.21
2.0m	-	-	4.44r	3.72r	2.99	2.30r	2.06	1.79	1.56	1.36	1.18
1.0m	-	5.53r	4.11r	3.42	2.79	2.28	1.96	1.71	1.5	1.32	1.16
0.0m	4.95a	5.13	3.98	3.19	2.63	2.22	1.92	1.67	1.47	1.3	-
-1.0m	4.83a	4.95	3.85	3.14	2.64	2.23	1.91	1.67	1.5	-	-
-2.0m	6.98	5.12	4.01	3.28	2.77	2.36	-	-	-	-	-

	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	3.94a	3.59	2.96	-	-	-	-	-
6.0m	-	-	-	3.16a	3.62	3.07	2.58	2.11	-	-	-
5.0m	-	-	-	3.15a	3.57	3.05	2.64	2.18	1.79	-	-
4.0m	-	-	-	4.15	3.5	3.01	2.62	2.21	1.82	1.49	-
3.0m	-	-	-	4.06	3.44	2.98	2.59	2.18	1.79	1.48	1.22
2.0m	-	-	4.8	3.97	3.37	2.9	2.5	2.13	1.74	1.44	1.2
1.0m	-	5.78	4.62	3.84	3.26	2.8	2.41	2.02	1.67	1.4	1.16
0.0m	7.37	5.56	4.46	3.7	3.14	2.69	2.28	1.89	1.58	1.34	-
-1.0m	7.27	5.46	4.34	3.6	3.04	2.58	2.13	1.79	1.52	-	-
-2.0m	7.32	5.45	4.32	3.54	2.9	2.44	-	-	-	-	-

NETWORK RAIL DUTIES

SECTOR B

LOWER SAFE WORKING LOADS

UPPER SAFE WORKING LOADS

Road
 Unlocked
 71% SWL



	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	3.81	3.2	2.7	-	-	-	-	-
6.0m	-	-	-	3.64a	3.22	2.75	2.37	2.06	-	-	-
5.0m	-	-	-	3.24a	3.16	2.71	2.36	2.06	1.81	-	-
4.0m	-	-	-	3.69	3.04	2.61	2.28	2.01	1.79	1.59	-
3.0m	-	-	-	3.61	2.97	2.5	2.19	1.95	1.74	1.56	-
2.0m	-	-	-	3.45	2.85	2.4	2.1	1.88	1.69	1.52	1.38
1.0m	-	5.07	3.97	3.23	2.7	2.3	2.03	1.82	1.64	1.49	1.36
0.0m	5.89a	4.6	3.69	3.05	2.57	2.24	1.99	1.79	1.62	1.48	-
-1.0m	5.15a	4.41	3.56	2.97	2.54	2.23	1.98	1.78	1.62	-	-
-2.0m	5.81	4.49	3.84	3.05	2.62	2.29	2.05	-	-	-	-

	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	3.82	3.21	2.7	-	-	-	-	-
6.0m	-	-	-	3.68a	3.26	2.81	2.4	2.06	-	-	-
5.0m	-	-	-	3.46a	3.23	2.81	2.46	2.12	1.82	-	-
4.0m	-	-	-	3.71	3.19	2.78	2.46	2.14	1.85	1.6	-
3.0m	-	-	-	3.64	3.14	2.75	2.45	2.13	1.85	1.6	-
2.0m	-	-	-	3.6	3.12	2.74	2.41	2.09	1.81	1.58	1.39
1.0m	-	5.07	4.19	3.55	3.06	2.66	2.33	2.04	1.77	1.54	1.37
0.0m	6.13	4.86	4.01	3.41	2.93	2.57	2.25	1.95	1.72	1.51	-
-1.0m	6.05	4.76	3.92	3.31	2.86	2.49	2.15	1.88	1.66	-	-
-2.0m	6.04	4.74	3.88	3.27	2.8	2.4	2.09	-	-	-	-

Road
 Locked
 71% SWL



	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	4.67a	4.49	3.86	-	-	-	-	-
6.0m	-	-	-	3.64a	3.99a	3.91	3.42	3.01	-	-	-
5.0m	-	-	-	3.24a	3.66a	3.86	3.4	3.02	2.69	-	-
4.0m	-	-	-	4.33a	4.34	3.77	3.33	2.97	2.67	2.41	-
3.0m	-	-	-	5.07	4.26	3.66	2.99r	2.91	2.63	2.38	-
2.0m	-	-	-	4.61r	3.79r	2.95r	2.49r	2.84	2.57	2.34	2.14
1.0m	-	5.67r	4.42r	3.72r	3.25r	2.93r	2.79r	2.79	2.53	2.31	2.12
0.0m	5.89a	6.46a	5.39	4.52	3.88	3.4	3.05	2.75	2.51	2.3	-
-1.0m	5.15a	5.61a	5.27	4.45	3.85	3.4	3.04	2.75	2.5	-	-
-2.0m	5.25	5.5	5.35	4.83	3.92	3.46	3.11	-	-	-	-

	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	4.77a	4.5	3.86	-	-	-	-	-
6.0m	-	-	-	3.68a	4.25a	3.97	3.45	3.02	-	-	-
5.0m	-	-	-	3.46a	4.01a	3.96	3.51	3.07	2.71	-	-
4.0m	-	-	-	4.34a	4.48	3.94	3.5	3.1	2.73	2.42	-
3.0m	-	-	-	5.1	4.43	3.91	3.47	3.08	2.73	2.42	-
2.0m	-	-	-	5.03	4.36r	3.84	3.41	3.04	2.7	2.39	2.15
1.0m	-	5.67r	5.78	4.92	4.28	3.76	3.35	3	2.65	2.36	2.13
0.0m	7.59a	6.86	5.7	4.85	4.22	3.72	3.3	2.91	2.6	2.33	-
-1.0m	6.48	6.76	5.61	4.76	4.16	3.65	3.2	2.84	2.64	-	-
-2.0m	6.48	6.74	5.58	4.74	4.1	3.65	3.14	-	-	-	-

Level Rail
 0-50mm
 67% SWL
 Unlocked



	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	3.32	2.72	2.26	-	-	-	-	-
6.0m	-	-	-	3.09a	2.71	2.27	1.93	1.64	-	-	-
5.0m	-	-	-	2.90a	2.63	2.22	1.89	1.63	1.41	-	-
4.0m	-	-	-	3.16	2.52	2.11	1.81	1.58	1.38	1.21	-
3.0m	-	-	-	3.06	2.44	1.99	1.72	1.51	1.33	1.18	1.04
2.0m	-	-	3.69	2.86	2.3	1.89	1.62	1.44	1.28	1.14	1.02
1.0m	-	4.43	3.34	2.63	2.14	1.78	1.56	1.39	1.24	1.11	1
0.0m	4.95a	3.98	3.07	2.45	2.02	1.74	1.53	1.36	1.22	1.1	-
-1.0m	4.93a	3.84	2.96	2.42	2.03	1.74	1.53	1.36	1.24	-	-
-2.0m	5.45	3.97	3.1	2.52	2.12	1.84	-	-	-	-	-

	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	3.33	2.75	2.26	-	-	-	-	-
6.0m	-	-	-	3.16a	2.77	2.35	1.97	1.65	-	-	-
5.0m	-	-	-	3.15a	2.73	2.33	2.02	1.7	1.43	-	-
4.0m	-	-	-	3.18	2.68	2.3	2.01	1.72	1.45	1.23	-
3.0m	-	-	-	3.11	2.63	2.28	2	1.7	1.44	1.22	1.04
2.0m	-	-	3.73	3.08	2.62	2.27	1.95	1.67	1.4	1.2	1.03
1.0m	-	4.51	3.61	2.98	2.52	2.16	1.86	1.59	1.35	1.17	1
0.0m	5.75	4.31	3.44	2.84	2.4	2.06	1.78	1.5	1.3	1.13	-
-1.0m	5.68	4.23	3.34	2.76	2.33	1.97	1.67	1.44	1.25	-	-
-2.0m	5.71	4.22	3.33	2.72	2.23	1.89	-	-	-	-	-

Level Rail
 0-50mm
 90% SWL
 Locked



	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	3.89a	4.14a	4.13	-	-	-	-	-
6.0m	-	-	-	3.09a	3.41a	3.72a	3.52	3.01	-	-	-
5.0m	-	-	-	2.90a	3.28a	3.60a	3.45r	3	2.59	-	-
4.0m	-	-	-	4.31a	4.39a	3.91	3.13r	2.80r	2.54	2.2	-
3.0m	-	-	-	5.05r	4.16r	3.34r	2.41r	2.58r	2.45	2.15	1.88
Radius	-	-	4.44r	3.72r	3.03r	2.30r	2.22r	2.34r	2.38	2.09	1.85
the lift	-	5.53r	4.11r	3.47r	2.93r	2.66r	2.55r	2.63	2.31	2.05	1.82
the ma	4.95a	5.44a	5.62r	4.43r	3.71r	3.37r	2.94	2.59	2.28	2.03	-
safe w	4.93a	5.36a	6.04	4.8	3.97	3.38	2.94	2.59	2.31	-	-
r artic	10	8.26	6.22	4.86	4.11	3.52	-	-	-	-	-

	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	3.94a	4.42a	4.15	-	-	-	-	-
6.0m	-	-	-	3.16a	3.68a	4.08a	3.59	3.03	-	-	-
5.0m	-	-	-	3.15a	3.62a	3.99a	3.64	3.1	2.63	-	-
4.0m	-	-	-	4.34a	4.47a	4.19	3.59	3.11	2.66	2.23	-
3.0m	-	-	-	5.64r	4.79	4.07	3.51	3.06	2.63	2.22	1.88
2.0m	-	-	4.81r	5.54r	4.63	3.95	3.42	2.99	2.57	2.18	1.86
1.0m	-	6.57r	6.7	5.41	4.52	3.86	3.35	2.94	2.49	2.13	1.82
0.0m	7.60a	8.76	6.65	5.35	4.45	3.8	3.3	2.81	2.41	2.07	-
-1.0m	10	8.68	6.6	5.32	4.42	3.71	3.15	2.72	2.33	-	-
-2.0m	10	8.67	6.66	5.25	4.27	3.6	-	-	-	-	-

NETWORK RAIL DUTIES

SECTOR B

LOWER SAFE WORKING LOADS

UPPER SAFE WORKING LOADS

Canted Rail
50-150mm
67% SWL
Unlocked



	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	2.78	2.27	1.87	-	-	-	-	-
6.0m	-	-	-	2.76	2.26	1.89	1.59	1.35	-	-	-
5.0m	-	-	-	2.65	2.18	1.83	1.55	1.34	1.14	-	-
4.0m	-	-	-	2.62	2.08	1.73	1.48	1.28	1.11	0.97	-
3.0m	-	-	-	2.52	2	1.61	1.39	1.21	1.06	0.94	0.82
2.0m	-	-	3.03	2.33	1.86	1.51	1.3	1.15	1.01	0.9	0.8
1.0m	-	3.57	2.7	2.11	1.71	1.41	1.23	1.09	0.97	0.87	0.78
0.0m	4.3	3.14	2.43	1.94	1.59	1.37	1.2	1.07	0.95	0.86	-
-1.0m	4.11	3.01	2.35	1.91	1.6	1.37	1.2	1.07	0.97	-	-
-2.0m	4.27	3.14	2.46	2.01	1.69	1.46	-	-	-	-	-

	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	2.78	2.3	1.88	-	-	-	-	-
6.0m	-	-	-	2.78	2.31	1.96	1.64	1.36	-	-	-
5.0m	-	-	-	2.72	2.28	1.95	1.68	1.41	1.17	-	-
4.0m	-	-	-	2.64	2.23	1.92	1.67	1.42	1.19	0.99	-
3.0m	-	-	-	2.57	2.19	1.89	1.66	1.41	1.17	0.98	0.82
2.0m	-	-	3.07	2.55	2.17	1.89	1.61	1.37	1.13	0.95	0.81
1.0m	-	3.65	2.95	2.45	2.08	1.78	1.53	1.3	1.09	0.93	0.78
0.0m	4.55	3.46	2.78	2.31	1.96	1.68	1.44	1.21	1.03	0.89	-
-1.0m	4.48	3.38	2.69	2.24	1.89	1.69	1.34	1.15	0.99	-	-
-2.0m	4.61	3.38	2.68	2.19	1.79	1.62	-	-	-	-	-

Canted Rail
50-150mm
90% SWL
Locked



	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	3.89a	4.14a	3.53	-	-	-	-	-
6.0m	-	-	-	3.09a	3.41a	3.56	2.97	2.48	-	-	-
5.0m	-	-	-	2.90a	3.28a	3.47	2.91	2.47	2.07	-	-
4.0m	-	-	-	4.31a	4.03	3.3	2.8	2.38	2.02	1.71	-
3.0m	-	-	-	5.02	3.9	3.12	2.41r	2.26	1.93	1.66	1.42
2.0m	-	-	4.44r	3.72r	3.03r	2.30r	2.22r	2.14	1.85	1.6	1.39
1.0m	-	5.53r	4.11r	3.47r	2.93r	2.66r	2.38	2.06	1.79	1.56	1.37
0.0m	4.95a	5.44a	5.27	4.05	3.25	2.74	2.33	2.01	1.75	1.54	-
-1.0m	4.83a	5.36a	5.12	4	3.26	2.74	2.33	2.01	1.78	-	-
-2.0m	10	7.27	5.32	4.16	3.41	2.89	-	-	-	-	-

	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	3.94a	4.39	3.54	-	-	-	-	-
6.0m	-	-	-	3.16a	3.68a	3.67	3.04	2.5	-	-	-
5.0m	-	-	-	3.15a	3.62a	3.65	3.11	2.59	2.11	-	-
4.0m	-	-	-	4.34a	4.28	3.6	3.09	2.62	2.14	1.75	-
3.0m	-	-	-	5.09	4.19	3.54r	3.01	2.58r	2.11	1.73	1.43
2.0m	-	-	4.81r	4.88	4.03	3.41	2.93	2.5	2.05	1.69	1.41
1.0m	-	6.57r	5.92	4.72	3.91	3.3	2.85	2.4	1.97	1.65	1.37
0.0m	7.60a	7.87	5.85r	4.63	3.83	3.23	2.74	2.25	1.88	1.58	-
-1.0m	10	7.73	5.73	4.65	3.73	3.09	2.57	2.14	1.81	-	-
-2.0m	10	7.72	5.71	4.47	3.57	2.97	-	-	-	-	-

Max Cant + Twist
150-177mm
67% SWL
Unlocked


	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	2.34	1.9	1.57	-	-	-	-	-
6.0m	-	-	-	2.32	1.9	1.58	1.33	1.11	-	-	-
5.0m	-	-	-	2.21	1.82	1.53	1.29	1.1	0.94	-	-
4.0m	-	-	-	2.18	1.72	1.43	1.22	1.05	0.91	0.78	-
3.0m	-	-	-	2.09	1.64	1.31	1.13	0.98	0.86	0.75	0.65
2.0m	-	-	2.5	1.91	1.51	1.22	1.04	0.92	0.81	0.71	0.63
1.0m	-	2.88	2.18	1.7	1.37	1.12	0.98	0.87	0.77	0.69	0.62
0.0m	3.35	2.48	1.93	1.54	1.26	1.08	0.95	0.84	0.75	0.68	-
-1.0m	3.18	2.36	1.85	1.5	1.26	1.08	0.95	0.84	0.77	-	-
-2.0m	3.32	2.48	1.95	1.6	1.35	1.17	-	-	-	-	-

	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	2.34	1.93	1.57	-	-	-	-	-
6.0m	-	-	-	2.33	1.95	1.65	1.37	1.12	-	-	-
5.0m	-	-	-	2.28	1.92	1.64	1.41	1.17	0.96	-	-
4.0m	-	-	-	2.2	1.87	1.61	1.4	1.19	0.98	0.8	-
3.0m	-	-	-	2.14	1.83	1.58	1.39	1.17	0.96	0.79	0.65
2.0m	-	-	2.53	2.12	1.81	1.58	1.35	1.14	0.93	0.77	0.64
1.0m	-	2.95	2.42	2.02	1.72	1.48	1.27	1.07	0.88	0.74	0.62
0.0m	3.58	2.77	2.26	1.89	1.61	1.38	1.18	0.98	0.83	0.7	-
-1.0m	3.51	2.7	2.18	1.82	1.54	1.3	1.09	0.92	0.78	-	-
-2.0m	3.54	2.7	2.16	1.78	1.45	1.22	-	-	-	-	-

Max Cant + Twist
150-177mm
90% SWL
Locked


	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	3.89a	3.55	2.95	-	-	-	-	-
6.0m	-	-	-	3.09a	3.41a	2.98	2.51	2.09	-	-	-
5.0m	-	-	-	2.90a	3.28a	2.9	2.45	2.08	1.75	-	-
4.0m	-	-	-	4.12	3.3	2.75	2.34	2	1.71	1.46	-
3.0m	-	-	-	3.98	3.18	2.59	2.2	1.89	1.63	1.41	1.21
2.0m	-	-	4.44r	3.72r	2.99	2.30r	2.06	1.79	1.56	1.36	1.18
1.0m	-	5.53r	4.11r	3.42	2.79	2.28	1.96	1.71	1.5	1.32	1.16
0.0m	4.95a	5.13	3.98	3.19	2.63	2.22	1.92	1.67	1.47	1.3	-
-1.0m	4.93a	4.95	3.86	3.14	2.64	2.23	1.91	1.67	1.5	-	-
-2.0m	6.98	5.12	4.01	3.28	2.77	2.36	-	-	-	-	-

	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	3.94a	3.59	2.96	-	-	-	-	-
6.0m	-	-	-	3.16a	3.62	3.07	2.58	2.11	-	-	-
5.0m	-	-	-	3.15a	3.57	3.05	2.64	2.18	1.79	-	-
4.0m	-	-	-	4.15	3.5	3.01	2.62	2.21	1.82	1.49	-
3.0m	-	-	-	4.06	3.44	2.98	2.59	2.18	1.79	1.48	1.22
2.0m	-	-	4.8	3.97	3.37	2.9	2.5	2.13	1.74	1.44	1.2
1.0m	-	5.78	4.62	3.84	3.26	2.8	2.41	2.02	1.67	1.4	1.16
0.0m	7.37	5.56	4.46	3.7	3.14	2.69	2.28	1.89	1.58	1.34	-
-1.0m	7.27	5.48	4.34	3.6	3.04	2.56	2.13	1.79	1.52	-	-
-2.0m	7.32	5.45	4.32	3.54	2.9	2.44	-	-	-	-	-

NETWORK RAIL DUTIES

SECTOR C

LOWER SAFE WORKING LOADS

UPPER SAFE WORKING LOADS

Road
 Unlocked
 71% SWL



	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	3.81	3.2	2.7	-	-	-	-	-
6.0m	-	-	-	3.64a	3.22	2.75	2.37	2.06	-	-	-
5.0m	-	-	-	3.24a	3.16	2.71	2.36	2.06	1.81	-	-
4.0m	-	-	-	3.69	3.04	2.61	2.28	2.01	1.79	1.59	-
3.0m	-	-	-	3.61	2.97	2.5	2.19	1.95	1.74	1.56	-
2.0m	-	-	-	3.45	2.85	2.4	2.1	1.88	1.69	1.52	1.38
1.0m	-	5.07	3.97	3.23	2.7	2.3	2.03	1.82	1.64	1.49	1.36
0.0m	5.89a	4.6	3.69	3.05	2.57	2.24	1.99	1.79	1.62	1.48	-
-1.0m	5.15a	4.41	3.56	2.97	2.54	2.23	1.98	1.78	1.62	-	-
-2.0m	5.81	4.49	3.64	3.05	2.62	2.29	2.05	-	-	-	-

	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	3.82	3.21	2.7	-	-	-	-	-
6.0m	-	-	-	3.68a	3.26	2.81	2.4	2.06	-	-	-
5.0m	-	-	-	3.46a	3.23	2.81	2.46	2.12	1.82	-	-
4.0m	-	-	-	3.71	3.19	2.78	2.46	2.14	1.85	1.6	-
3.0m	-	-	-	3.64	3.14	2.75	2.45	2.13	1.85	1.6	-
2.0m	-	-	-	3.6	3.12	2.74	2.41	2.09	1.81	1.58	1.39
1.0m	-	5.07	4.19	3.55	3.06	2.66	2.33	2.04	1.77	1.54	1.37
0.0m	6.13	4.86	4.01	3.41	2.93	2.57	2.25	1.95	1.72	1.51	-
-1.0m	6.05	4.76	3.92	3.31	2.86	2.49	2.15	1.88	1.68	-	-
-2.0m	6.04	4.74	3.88	3.27	2.8	2.4	2.09	-	-	-	-

Road
 Locked
 71% SWL



	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	4.67a	4.49	3.86	-	-	-	-	-
6.0m	-	-	-	3.64a	3.99a	3.91	3.42	3.01	-	-	-
5.0m	-	-	-	3.24a	3.66a	3.86	3.4	3.02	2.69	-	-
4.0m	-	-	-	4.33a	4.34	3.77	3.33	2.97	2.67	2.41	-
3.0m	-	-	-	5.07	4.26	3.66	2.99r	2.91	2.63	2.38	-
2.0m	-	-	-	4.61r	3.79r	2.95r	2.49r	2.84	2.57	2.34	2.14
1.0m	-	5.67r	4.42r	3.72r	3.25r	2.93r	2.79r	2.79	2.53	2.31	2.12
0.0m	5.89a	6.46a	5.39	4.52	3.88	3.4	3.05	2.75	2.51	2.3	-
-1.0m	5.15a	5.81a	5.27	4.45	3.85	3.4	3.04	2.75	2.5	-	-
-2.0m	6.25	6.5	6.35	4.53	3.92	3.46	3.11	-	-	-	-

	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	4.77a	4.5	3.86	-	-	-	-	-
6.0m	-	-	-	3.68a	4.25a	3.97	3.45	3.02	-	-	-
5.0m	-	-	-	3.46a	4.01a	3.96	3.51	3.07	2.71	-	-
4.0m	-	-	-	4.34a	4.48	3.94	3.5	3.1	2.73	2.42	-
3.0m	-	-	-	5.1	4.43	3.91	3.47	3.08	2.73	2.42	-
2.0m	-	-	-	5.03	4.36r	3.84	3.41	3.04	2.7	2.39	2.15
1.0m	-	5.67r	5.78	4.92	4.28	3.76	3.35	3	2.65	2.36	2.13
0.0m	7.59a	6.86	5.7	4.85	4.22	3.72	3.3	2.91	2.6	2.33	-
-1.0m	6.48	6.76	5.61	4.78	4.16	3.65	3.2	2.84	2.54	-	-
-2.0m	6.48	6.74	5.58	4.74	4.1	3.56	3.14	-	-	-	-

Level Rail
 0-50mm
 67% SWL



	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	2.81	2.3	1.91	-	-	-	-	-
6.0m	-	-	-	2.8	2.3	1.92	1.63	1.38	-	-	-
5.0m	-	-	-	2.68	2.22	1.87	1.59	1.37	1.18	-	-
4.0m	-	-	-	2.66	2.12	1.76	1.52	1.32	1.15	1	-
3.0m	-	-	-	2.56	2.04	1.65	1.43	1.25	1.1	0.97	0.85
2.0m	-	-	3.07	2.37	1.9	1.55	1.33	1.18	1.05	0.93	0.83
1.0m	-	3.61	2.74	2.15	1.75	1.45	1.27	1.13	1.01	0.91	0.82
0.0m	4.32	3.18	2.48	1.99	1.64	1.41	1.24	1.1	0.99	0.89	-
-1.0m	4.14	3.08	2.4	1.95	1.64	1.41	1.24	1.11	1.01	-	-
-2.0m	4.29	3.18	2.5	2.05	1.73	1.51	-	-	-	-	-

	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	2.82	2.33	1.92	-	-	-	-	-
6.0m	-	-	-	2.81	2.35	2	1.67	1.39	-	-	-
5.0m	-	-	-	2.75	2.32	1.98	1.72	1.44	1.2	-	-
4.0m	-	-	-	2.68	2.27	1.95	1.71	1.46	1.22	1.02	-
3.0m	-	-	-	2.61	2.22	1.93	1.7	1.44	1.2	1.01	0.85
2.0m	-	-	3.11	2.58	2.21	1.92	1.65	1.41	1.17	0.99	0.84
1.0m	-	3.68	2.99	2.49	2.12	1.82	1.57	1.33	1.12	0.96	0.82
0.0m	4.56	3.49	2.82	2.35	2	1.72	1.48	1.25	1.07	0.92	-
-1.0m	4.49	3.42	2.74	2.28	1.93	1.63	1.38	1.18	1.02	-	-
-2.0m	4.62	3.41	2.72	2.24	1.83	1.56	-	-	-	-	-

Level Rail
 0-50mm
 90% SWL



	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	3.89a	4.14a	3.67	-	-	-	-	-
6.0m	-	-	-	3.09a	3.41a	3.7	3.15	2.7	-	-	-
5.0m	-	-	-	2.90a	3.28a	3.60a	3.1	2.68	2.29	-	-
4.0m	-	-	-	4.31a	4.14	3.47	2.99	2.6	2.25	1.95	-
3.0m	-	-	-	5.01	4.02	3.3	2.41r	2.5	2.17	1.9	1.66
Radius	-	-	4.44r	3.72r	3.03r	2.30r	2.22r	2.34r	2.1	1.84	1.63
the lift	-	5.53r	4.11r	3.47r	2.93r	2.66r	2.55r	2.31	2.04	1.8	1.6
the ma	4.95a	5.44a	5.21	4.17	3.44	2.96	2.59	2.27	2	1.78	-
safe w	4.93a	5.36a	5.09	4.12	3.45	2.97	2.59	2.27	2.03	-	-
r articu	6.42	6.77	5.25	4.26	3.58	3.1	-	-	-	-	-

	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	3.94a	4.42a	3.68	-	-	-	-	-
6.0m	-	-	-	3.16a	3.68a	3.8	3.21	2.71	-	-	-
5.0m	-	-	-	3.15a	3.62a	3.78	3.28	2.79	2.33	-	-
4.0m	-	-	-	4.34a	4.35	3.74	3.24	2.8	2.36	1.98	-
3.0m	-	-	-	5.07	4.27r	3.66	3.18	2.76	2.34	1.97	1.66
2.0m	-	-	4.81r	4.88r	4.12	3.55r	3.09	2.7	2.28	1.93	1.64
1.0m	-	6.57r	5.77	4.74	4.01	3.45	3.02r	2.63	2.21	1.88	1.6
0.0m	7.60a	7.25	5.71	4.67	3.94	3.39	2.94	2.49	2.12	1.82	-
-1.0m	9.74	7.13	5.59	4.6	3.87	3.28	2.8	2.39	2.05	-	-
-2.0m	9.8	7.13	5.58	4.53	3.73	3.17	-	-	-	-	-


NETWORK RAIL DUTIES

SECTOR C

LOWER SAFE WORKING LOADS

UPPER SAFE WORKING LOADS


Canted Rail
50-150mm
67% SWL
Unlocked



	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	2.43	1.99	1.65	-	-	-	-	-
6.0m	-	-	-	2.41	1.99	1.66	1.4	1.18	-	-	-
5.0m	-	-	-	2.31	1.91	1.61	1.37	1.17	1	-	-
4.0m	-	-	-	2.28	1.81	1.51	1.3	1.12	0.97	0.84	-
3.0m	-	-	-	2.19	1.74	1.4	1.21	1.06	0.92	0.81	0.71
2.0m	-	-	2.6	2.01	1.6	1.3	1.12	0.99	0.88	0.78	0.69
1.0m	-	3.01	2.29	1.8	1.46	1.2	1.06	0.94	0.84	0.75	0.67
0.0m	3.5	2.61	2.05	1.64	1.35	1.17	1.03	0.91	0.82	0.74	-
-1.0m	3.33	2.49	1.97	1.61	1.36	1.17	1.03	0.92	0.84	-	-
-2.0m	3.46	2.61	2.07	1.7	1.44	1.26	-	-	-	-	-

	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	2.44	2.02	1.65	-	-	-	-	-
6.0m	-	-	-	2.43	2.04	1.73	1.45	1.19	-	-	-
5.0m	-	-	-	2.37	2	1.72	1.49	1.24	1.02	-	-
4.0m	-	-	-	2.3	1.96	1.69	1.48	1.26	1.04	0.86	-
3.0m	-	-	-	2.24	1.91	1.66	1.47	1.24	1.03	0.85	0.71
2.0m	-	-	2.64	2.21	1.9	1.66	1.42	1.21	0.99	0.83	0.7
1.0m	-	3.07	2.53	2.12	1.81	1.56	1.34	1.14	0.95	0.8	0.67
0.0m	3.71	2.9	2.37	1.99	1.7	1.47	1.26	1.05	0.89	0.76	-
-1.0m	3.65	2.83	2.29	1.92	1.63	1.38	1.18	0.99	0.85	-	-
-2.0m	3.68	2.83	2.28	1.88	1.54	1.31	-	-	-	-	-


Canted Rail
50-150mm
90% SWL
Locked



	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	3.89a	4.14a	3.37	-	-	-	-	-
6.0m	-	-	-	3.09a	3.41a	3.39	2.82	2.32	-	-	-
5.0m	-	-	-	2.90a	3.28a	3.31	2.76	2.3	1.91	-	-
4.0m	-	-	-	4.31a	3.86	3.13	2.63	2.21	1.86	1.56	-
3.0m	-	-	-	4.85	3.72	2.95	2.41r	2.09	1.77	1.51	1.28
2.0m	-	-	4.44r	3.72r	3.03r	2.30r	2.22r	1.97	1.69	1.45	1.25
1.0m	-	5.53r	4.11r	3.47r	2.93r	2.61	2.19	1.88	1.62	1.41	1.22
0.0m	4.95a	5.44a	5.07	3.84	3.05	2.54	2.14	1.83	1.59	1.38	-
-1.0m	4.93a	5.36a	4.92	3.79	3.06	2.54	2.14	1.84	1.62	-	-
-2.0m	10	7.14	5.12	3.96	3.21	2.71	-	-	-	-	-

	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	3.94a	4.23	3.38	-	-	-	-	-
6.0m	-	-	-	3.16a	3.68a	3.51	2.89	2.33	-	-	-
5.0m	-	-	-	3.15a	3.62a	3.49	2.96	2.42	1.95	-	-
4.0m	-	-	-	4.34a	4.11	3.44	2.94	2.45	1.98	1.6	-
3.0m	-	-	-	4.94	4.04	3.39	2.87	2.42	1.95	1.59	1.29
2.0m	-	-	4.81r	4.73	3.87	3.26	2.78	2.34r	1.89	1.55	1.27
1.0m	-	6.57r	5.78	4.55	3.75	3.15r	2.7	2.23	1.81	1.5	1.22
0.0m	7.60a	7.78	5.7	4.47	3.66	3.06	2.57	2.08	1.72	1.43	-
-1.0m	10	7.63	5.36	4.36	3.54	2.91	2.39	1.97	1.64	-	-
-2.0m	10	7.62	5.53	4.28	3.38	2.79	-	-	-	-	-


Max Cant + Twist 150-177mm
67% SWL
Unlocked



	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	2.34	1.9	1.57	-	-	-	-	-
6.0m	-	-	-	2.32	1.9	1.58	1.33	1.11	-	-	-
5.0m	-	-	-	2.21	1.82	1.53	1.29	1.1	0.94	-	-
4.0m	-	-	-	2.18	1.72	1.43	1.22	1.05	0.91	0.78	-
3.0m	-	-	-	2.09	1.64	1.31	1.13	0.98	0.86	0.75	0.65
2.0m	-	-	2.5	1.91	1.51	1.22	1.04	0.92	0.81	0.71	0.63
1.0m	-	2.88	2.18	1.7	1.37	1.12	0.98	0.87	0.77	0.69	0.62
0.0m	3.35	2.48	1.93	1.54	1.26	1.08	0.95	0.84	0.75	0.68	-
-1.0m	3.18	2.36	1.85	1.5	1.26	1.08	0.95	0.84	0.77	-	-
-2.0m	3.32	2.48	1.95	1.6	1.35	1.17	-	-	-	-	-

	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	2.34	1.93	1.57	-	-	-	-	-
6.0m	-	-	-	2.33	1.95	1.65	1.37	1.12	-	-	-
5.0m	-	-	-	2.28	1.92	1.64	1.41	1.17	0.96	-	-
4.0m	-	-	-	2.2	1.87	1.61	1.4	1.19	0.98	0.8	-
3.0m	-	-	-	2.14	1.83	1.58	1.39	1.17	0.96	0.79	0.65
2.0m	-	-	2.53	2.12	1.81	1.58	1.35	1.14	0.93	0.77	0.64
1.0m	-	2.95	2.42	2.02	1.72	1.48	1.27	1.07	0.88	0.74	0.62
0.0m	3.58	2.77	2.26	1.89	1.61	1.38	1.18	0.98	0.83	0.7	-
-1.0m	3.51	2.7	2.18	1.82	1.54	1.3	1.09	0.92	0.78	-	-
-2.0m	3.54	2.7	2.16	1.78	1.45	1.22	-	-	-	-	-

Max Cant + Twist 150-177mm
90% SWL
Locked



	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	3.89a	3.55	2.95	-	-	-	-	-
6.0m	-	-	-	3.09a	3.41a	2.98	2.51	2.09	-	-	-
5.0m	-	-	-	2.90a	3.28a	2.9	2.45	2.08	1.75	-	-
4.0m	-	-	-	4.12	3.3	2.75	2.34	2	1.71	1.46	-
3.0m	-	-	-	3.98	3.18	2.59	2.2	1.89	1.63	1.41	1.21
2.0m	-	-	4.44r	3.72r	2.99	2.30r	2.06	1.79	1.56	1.36	1.18
1.0m	-	5.53r	4.11r	3.42	2.79	2.28	1.96	1.71	1.5	1.32	1.16
0.0m	4.95a	5.13	3.98	3.19	2.63	2.22	1.92	1.67	1.47	1.3	-
-1.0m	4.93a	4.95	3.86	3.14	2.64	2.23	1.91	1.67	1.5	-	-
-2.0m	6.98	5.12	4.01	3.26	2.77	2.36	-	-	-	-	-

	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	3.94a	3.59	2.96	-	-	-	-	-
6.0m	-	-	-	3.16a	3.62	3.07	2.58	2.11	-	-	-
5.0m	-	-	-	3.15a	3.57	3.05	2.64	2.18	1.79	-	-
4.0m	-	-	-	4.15	3.5	3.01	2.62	2.21	1.82	1.49	-
3.0m	-	-	-	4.06	3.44	2.98	2.59	2.18	1.79	1.48	1.22
2.0m	-	-	4.8	3.97	3.37	2.9	2.5	2.13	1.74	1.44	1.2
1.0m	-	5.78	4.62	3.84	3.26	2.8	2.41	2.02	1.67	1.4	1.16
0.0m	7.37	5.56	4.46	3.7	3.14	2.69	2.28	1.89	1.58	1.34	-
-1.0m	7.27	5.46	4.34	3.6	3.04	2.56	2.13	1.79	1.52	-	-
-2.0m	7.32	5.45	4.32	3.54	2.9	2.44	-	-	-	-	-

NETWORK RAIL DUTIES

SECTOR D

LOWER SAFE WORKING LOADS

UPPER SAFE WORKING LOADS

Road
 Unlocked
 71% SWL



	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	4.67a	4.94a	4.99a	-	-	-	-	-
6.0m	-	-	-	3.64a	3.99a	4.19b	4.31a	4.41	-	-	-
5.0m	-	-	-	3.24a	3.66a	4.00a	3.63b	4.15a	3.88	-	-
4.0m	-	-	-	4.33a	4.44a	4.15b	3.62b	3.56r	3.86	3.43	-
3.0m	-	-	-	5.59b	4.74b	4.03r	2.99r	3.04r	3.62r	3.4	-
2.0m	-	-	-	4.61r	3.79r	2.95r	2.49r	2.89r	3.72r	3.36	3.03
1.0m	-	5.67r	4.42r	3.72r	3.25r	2.93r	2.79r	3.18r	3.68	3.32	3.01
0.0m	5.89a	6.46a	6.04r	4.64r	4.09r	3.56r	3.64r	4.09	3.66	3.3	-
-1.0m	5.15a	5.61a	6.34a	6.39r	5.69r	4.84r	4.62	4.68	3.65	-	-
-2.0m	10	10	8.82	7.73	8.36	5.41	4.71	-	-	-	-

	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	4.77a	5.13a	5.08a	-	-	-	-	-
6.0m	-	-	-	3.68a	4.25a	4.58b	4.63a	4.42	-	-	-
5.0m	-	-	-	3.46a	4.01a	4.38a	4.54b	4.48	3.9	-	-
4.0m	-	-	-	4.34a	4.62a	4.78a	4.86a	4.46b	3.93	3.45	-
3.0m	-	-	-	5.96b	6.68b	5.8	5.04	4.43	3.92	3.44	-
2.0m	-	-	-	6.67r	6.75	5.73	4.97	4.37	3.88	3.42	3.04
1.0m	-	5.67r	7.86r	8.04	6.65	5.66	4.91	4.32	3.83	3.38	3.02
0.0m	7.59a	10	10	8	6.6	5.61	4.87	4.28	3.77	3.34	-
-1.0m	10	10	10	8	6.6	5.6	4.83	4.2	3.7	-	-
-2.0m	10	10	10	8.04	6.6	5.54	4.76	-	-	-	-

Road
 Locked
 71% SWL



	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	4.67a	4.49	3.86	-	-	-	-	-
6.0m	-	-	-	3.64a	3.99a	3.91	3.42	3.01	-	-	-
5.0m	-	-	-	3.24a	3.66a	3.86	3.4	3.02	2.69	-	-
4.0m	-	-	-	4.33a	4.34	3.77	3.33	2.97	2.67	2.41	-
3.0m	-	-	-	5.07	4.26	3.66	2.99r	2.91	2.63	2.38	-
2.0m	-	-	-	4.61r	3.79r	2.95r	2.49r	2.84	2.57	2.34	2.14
1.0m	-	5.67r	4.42r	3.72r	3.25r	2.93r	2.79r	2.79	2.53	2.31	2.12
0.0m	5.89a	6.46a	5.39	4.52	3.88	3.4	3.05	2.75	2.51	2.3	-
-1.0m	5.15a	5.61a	6.27	4.45	3.85	3.4	3.04	2.75	2.5	-	-
-2.0m	6.25	6.5	6.35	4.93	3.92	3.48	3.11	-	-	-	-

	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	4.77a	4.5	3.86	-	-	-	-	-
6.0m	-	-	-	3.68a	4.25a	3.97	3.45	3.02	-	-	-
5.0m	-	-	-	3.46a	4.01a	3.96	3.51	3.07	2.71	-	-
4.0m	-	-	-	4.34a	4.48	3.94	3.5	3.1	2.73	2.42	-
3.0m	-	-	-	5.1	4.43	3.91	3.47	3.08	2.73	2.42	-
2.0m	-	-	-	5.03	4.36r	3.84	3.41	3.04	2.7	2.39	2.15
1.0m	-	5.67r	5.78	4.92	4.28	3.76	3.35	3	2.65	2.36	2.13
0.0m	7.59a	6.86	5.7	4.85	4.22	3.72	3.3	2.91	2.6	2.33	-
-1.0m	6.48	6.76	6.61	4.76	4.16	3.65	3.2	2.84	2.54	-	-
-2.0m	6.48	6.74	6.58	4.74	4.1	3.66	3.14	-	-	-	-

Level Rail
 0-50mm
 67% SWL

Unlocked

	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	3.89a	3.45	2.89	-	-	-	-	-
6.0m	-	-	-	3.09a	3.41a	2.91	2.49	2.14	-	-	-
5.0m	-	-	-	2.90a	3.28a	2.85	2.45	2.13	1.86	-	-
4.0m	-	-	-	4.02	3.25	2.74	2.37	2.08	1.83	1.62	-
3.0m	-	-	-	3.92	3.17	2.62	2.28	2.01	1.78	1.59	1.42
2.0m	-	-	4.44r	3.72	3.02	2.30r	2.18	1.94	1.73	1.55	1.4
1.0m	-	5.53r	4.11r	3.47r	2.87	2.41	2.11	1.88	1.69	1.52	1.38
0.0m	4.95a	5.3	4.11	3.31	2.74	2.37	2.08	1.86	1.67	1.51	-
-1.0m	4.93a	5.16	4.02	3.27	2.75	2.37	2.08	1.86	1.69	-	-
-2.0m	7.29	5.3	4.13	3.37	2.85	2.47	-	-	-	-	-

	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	3.94a	3.48	2.9	-	-	-	-	-
6.0m	-	-	-	3.16a	3.5	2.98	2.53	2.15	-	-	-
5.0m	-	-	-	3.15a	3.46	2.97	2.58	2.2	1.89	-	-
4.0m	-	-	-	4.04	3.41	2.94	2.57	2.22	1.91	1.64	-
3.0m	-	-	-	3.97	3.36	2.91	2.54	2.2	1.89	1.63	1.42
2.0m	-	-	4.74	3.92	3.32	2.85	2.48	2.17	1.85	1.61	1.41
1.0m	-	5.81	4.61	3.81	3.22	2.78r	2.42	2.09	1.8	1.58	1.38
0.0m	7.6	5.64	4.48	3.7	3.13	2.69	2.33	2	1.75	1.54	-
-1.0m	7.52	5.56	4.39	3.62	3.05	2.6	2.23	1.94	1.7	-	-
-2.0m	7.56	5.55	4.37	3.57	2.95	2.62	-	-	-	-	-

Level Rail
 0-50mm
 75% SWL

Locked

	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	3.89a	4.14a	4.16a	-	-	-	-	-
6.0m	-	-	-	3.09a	3.41a	3.72a	3.88a	3.89a	-	-	-
5.0m	-	-	-	2.90a	3.28a	3.60a	3.45r	3.61a	3.51	-	-
4.0m	-	-	-	4.31a	4.39a	4.11r	3.13r	2.80r	3.47	3.1	-
3.0m	-	-	-	5.05r	4.16r	3.34r	2.41r	2.58r	3.40r	3.06	2.76
Radius	-	-	4.44r	3.72r	3.03r	2.30r	2.22r	2.34r	3.35	3.02	2.74
the lift	-	5.53r	4.11r	3.47r	2.93r	2.66r	2.55r	2.97r	3.3	2.99	2.72
the ma	4.95a	5.44a	5.62r	4.43r	3.71r	3.37r	3.42r	3.65	3.28	2.97	-
safe w	4.93a	5.36a	6.41a	5.89r	5.06r	4.68	4.11	3.65	3.3	-	-
articles	10	10	8.28	6.68	5.58	4.81	-	-	-	-	-


	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	3.94a	4.42a	4.40a	-	-	-	-	-
6.0m	-	-	-	3.16a	3.68a	4.08a	4.09a	4	-	-	-
5.0m	-	-	-	3.15a	3.62a	3.99a	4.10a	4.04	3.54	-	-
4.0m	-	-	-	4.34a	4.47a	4.49a	4.50a	4.02	3.55	3.13	-
3.0m	-	-	-	5.64r	6.02	5.16	4.5	3.96r	3.53	3.11	2.76
2.0m	-	-	4.81r	6.26r	5.9	5.06	4.42	3.91	3.48	3.08	2.75
1.0m	-	6.57r	8.00r	6.93	5.81	4.99	4.36	3.87	3.44	3.05	2.72
0.0m	7.60a	10	8.53	6.89	5.78	4.96	4.33	3.82	3.37	3	-
-1.0m	10	10	8.56r	6.91	5.78	4.96	4.28	3.75	3.32	-	-
-2.0m	10	10	8.58	6.82	5.71	4.87	-	-	-	-	-

NETWORK RAIL DUTIES

SECTOR D


LOWER SAFE WORKING LOADS

UPPER SAFE WORKING LOADS

Canted Rail



	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	3.21	2.69	2.29	-	-	-	-	-
6.0m	-	-	-	3.09a	2.69	2.3	1.99	1.72	-	-	-
50-150mm											
5.0m	-	-	-	2.90a	2.62	2.25	1.95	1.71	1.5	-	-
4.0m	-	-	-	3.07	2.52	2.15	1.88	1.66	1.47	1.31	-
67% SWL											
3.0m	-	-	-	2.98	2.45	2.05	1.8	1.6	1.43	1.28	1.15
2.0m	-	-	3.5	2.81	2.32	1.96	1.71	1.54	1.38	1.25	1.13
Unlocked											
1.0m	-	4.05	3.21	2.61	2.19	1.86	1.65	1.49	1.35	1.22	1.11
0.0m	4.75	3.69	2.98	2.46	2.09	1.83	1.63	1.46	1.33	1.21	-
-1.0m	4.6	3.68	2.9	2.44	2.09	1.83	1.63	1.47	1.34	-	-
-2.0m	4.72	3.68	3	2.52	2.17	1.91	-	-	-	-	-

	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	3.21	2.72	2.29	-	-	-	-	-
6.0m	-	-	-	3.16a	2.73	2.37	2.03	1.73	-	-	-
5.0m	-	-	-	3.15a	2.7	2.35	2.07	1.78	1.52	-	-
4.0m	-	-	-	3.08	2.66	2.33	2.06	1.8	1.54	1.33	-
3.0m	-	-	-	3.03	2.62	2.3	2.05	1.78	1.53	1.32	1.15
2.0m	-	-	3.53	3	2.61	2.30r	2.01	1.75	1.49	1.3	1.14
1.0m	-	4.11	3.43	2.91	2.52	2.2	1.93	1.68	1.45	1.27	1.11
0.0m	4.95	3.95	3.28	2.79	2.42	2.11	1.85	1.6	1.4	1.23	-
-1.0m	4.89	3.89	3.21	2.73	2.35	2.03	1.78	1.54	1.36	-	-
-2.0m	4.92	3.88	3.19	2.69	2.26	1.95	-	-	-	-	-

Canted Rail


	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	3.89a	4.14a	4.16a	-	-	-	-	-
6.0m	-	-	-	3.09a	3.41a	3.72a	3.87	3.34	-	-	-
50-150mm											
5.0m	-	-	-	2.90a	3.28a	3.60a	3.45r	3.32	2.91	-	-
4.0m	-	-	-	4.31a	4.39a	4.11r	3.13r	2.80r	2.86	2.52	-
90% SWL											
3.0m	-	-	-	5.05r	4.16r	3.34r	2.41r	2.58r	2.79	2.47	2.18
2.0m	-	-	4.44r	3.72r	3.03r	2.30r	2.22r	2.34r	2.72	2.42	2.15
Locked											
1.0m	-	5.53r	4.11r	3.47r	2.93r	2.66r	2.55r	2.97r	2.67	2.38	2.13
0.0m	4.95a	5.44a	5.62r	4.43r	3.71r	3.37r	3.31	2.94	2.63	2.36	-
-1.0m	4.93a	5.36a	5.41a	5.25	4.39	3.77	3.31	2.94	2.68	-	-
-2.0m	10	8.64	6.66	5.39	4.53	3.91	-	-	-	-	-


	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	3.94a	4.42a	4.40a	-	-	-	-	-
6.0m	-	-	-	3.16a	3.68a	4.08a	3.93	3.35	-	-	-
5.0m	-	-	-	3.15a	3.62a	3.99a	3.96	3.42	2.94	-	-
4.0m	-	-	-	4.34a	4.47a	4.48	3.91	3.42	2.97	2.56	-
3.0m	-	-	-	5.64r	5.13r	4.4	3.82	3.36	2.94	2.54	2.19
2.0m	-	-	4.81r	5.91	4.98	4.29	3.74	3.3	2.89	2.5	2.17
1.0m	-	6.57r	7.09	5.79r	4.87r	4.2	3.67	3.25	2.83	2.46	2.13
0.0m	7.60a	9.07	7.04	5.74	4.82	4.15	3.63	3.14	2.75	2.4	-
-1.0m	10	9.01	7.02	5.74	4.82	4.09	3.51	3.06	2.69	-	-
-2.0m	10	9	7	5.67	4.68	3.98	-	-	-	-	-

Max Cant + Twist


150-177mm

	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	2.34	1.9	1.57	-	-	-	-	-
6.0m	-	-	-	2.32	1.9	1.58	1.33	1.11	-	-	-
5.0m	-	-	-	2.21	1.82	1.53	1.29	1.1	0.94	-	-
4.0m	-	-	-	2.18	1.72	1.43	1.22	1.05	0.91	0.78	-
67% SWL											
3.0m	-	-	-	2.09	1.64	1.31	1.13	0.98	0.86	0.75	0.65
2.0m	-	-	2.5	1.91	1.51	1.22	1.04	0.92	0.81	0.71	0.63
Unlocked											
1.0m	-	2.88	2.18	1.7	1.37	1.12	0.98	0.87	0.77	0.69	0.62
0.0m	3.35	2.48	1.93	1.54	1.26	1.08	0.95	0.84	0.75	0.68	-
-1.0m	3.18	2.36	1.85	1.5	1.26	1.08	0.95	0.84	0.77	-	-
-2.0m	3.32	2.48	1.95	1.6	1.35	1.17	-	-	-	-	-

	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	2.34	1.93	1.57	-	-	-	-	-
6.0m	-	-	-	2.33	1.95	1.65	1.37	1.12	-	-	-
5.0m	-	-	-	2.28	1.92	1.64	1.41	1.17	0.96	-	-
4.0m	-	-	-	2.2	1.87	1.61	1.4	1.19	0.98	0.8	-
3.0m	-	-	-	2.14	1.83	1.58	1.39	1.17	0.96	0.79	0.65
2.0m	-	-	2.53	2.12	1.81	1.58	1.35	1.14	0.93	0.77	0.64
1.0m	-	2.95	2.42	2.02	1.72	1.48	1.27	1.07	0.88	0.74	0.62
0.0m	3.58	2.77	2.26	1.89	1.61	1.38	1.18	0.98	0.83	0.7	-
-1.0m	3.51	2.7	2.18	1.82	1.54	1.3	1.09	0.92	0.78	-	-
-2.0m	3.54	2.7	2.16	1.78	1.45	1.22	-	-	-	-	-

Max Cant + Twist


150-177mm

	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	3.89a	3.55	2.95	-	-	-	-	-
6.0m	-	-	-	3.09a	3.41a	2.98	2.51	2.09	-	-	-
5.0m	-	-	-	2.90a	3.29a	2.9	2.45	2.08	1.75	-	-
4.0m	-	-	-	4.12	3.3	2.75	2.34	2	1.71	1.46	-
90% SWL											
3.0m	-	-	-	3.98	3.18	2.59	2.2	1.89	1.63	1.41	1.21
2.0m	-	-	4.44r	3.72r	2.99	2.30r	2.06	1.79	1.56	1.36	1.18
Locked											
1.0m	-	5.53r	4.11r	3.42	2.79	2.28	1.96	1.71	1.5	1.32	1.16
0.0m	4.95a	5.13	3.98	3.19	2.63	2.22	1.92	1.67	1.47	1.3	-
-1.0m	4.93a	4.95	3.86	3.14	2.64	2.23	1.91	1.67	1.5	-	-
-2.0m	6.96	5.12	4.01	3.28	2.77	2.36	-	-	-	-	-

	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	3.94a	3.59	2.96	-	-	-	-	-
6.0m	-	-	-	3.16a	3.62	3.07	2.58	2.11	-	-	-
5.0m	-	-	-	3.15a	3.57	3.05	2.64	2.18	1.79	-	-
4.0m	-	-	-	4.15	3.5	3.01	2.62	2.21	1.82	1.49	-
3.0m	-	-	-	4.06	3.44	2.98	2.59	2.18	1.79	1.48	1.22
2.0m	-	-	4.8	3.97	3.37	2.9	2.5	2.13	1.74	1.44	1.2
1.0m	-	5.78	4.62	3.84	3.26	2.8	2.41	2.02	1.67	1.4	1.16
0.0m	7.37	5.56	4.46	3.7	3.14	2.69	2.28	1.89	1.58	1.34	-
-1.0m	7.27	5.46	4.34	3.6	3.04	2.56	2.13	1.79	1.52	-	-
-2.0m	7.32	5.45	4.32	3.54	2.9	2.44	-	-	-	-	-

NETWORK RAIL DUTIES

SECTOR E

LOWER SAFE WORKING LOADS

UPPER SAFE WORKING LOADS

Road
 Unlocked
 71% SWL



	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	4.67a	4.94a	4.99a	-	-	-	-	-
6.0m	-	-	-	3.64a	3.99a	4.19b	4.31a	4.41	-	-	-
5.0m	-	-	-	3.24a	3.66a	4.00a	3.63b	4.15a	3.88	-	-
4.0m	-	-	-	4.33a	4.44a	4.15b	3.62b	3.56r	3.86	3.43	-
3.0m	-	-	-	5.59b	4.74b	4.03r	2.99r	3.04r	3.62r	3.4	-
2.0m	-	-	-	4.61r	3.79r	2.95r	2.49r	2.89r	3.72r	3.36	3.03
1.0m	-	5.67r	4.42r	3.72r	3.25r	2.93r	2.79r	3.18r	3.68	3.32	3.01
0.0m	5.89a	6.46a	6.04r	4.64r	4.09r	3.56r	3.64r	4.09	3.66	3.3	-
-1.0m	5.15a	5.81a	6.34a	6.39r	5.09r	4.84r	4.82	4.08	3.65	-	-
-2.0m	10	10	8.82	7.73	6.36	5.41	4.71	-	-	-	-

	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	4.77a	5.13a	5.08a	-	-	-	-	-
6.0m	-	-	-	3.68a	4.25a	4.58b	4.63a	4.42	-	-	-
5.0m	-	-	-	3.46a	4.01a	4.38a	4.54b	4.48	3.9	-	-
4.0m	-	-	-	4.34a	4.62a	4.78a	4.86a	4.46b	3.93	3.45	-
3.0m	-	-	-	5.96b	6.68b	5.8	5.04	4.43	3.92	3.44	-
2.0m	-	-	-	6.67r	6.75	5.73	4.97	4.37	3.88	3.42	3.04
1.0m	-	5.67r	7.86r	8.04	6.65	5.66	4.91	4.32	3.83	3.38	3.02
0.0m	7.59a	10	10	8	6.6	5.61	4.87	4.28	3.77	3.34	-
-1.0m	10	10	10	8	6.6	5.6	4.83	4.2	3.7	-	-
-2.0m	10	10	10	6.04	5.6	5.54	4.76	-	-	-	-

Road
 Locked
 71% SWL



	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	4.67a	4.94a	4.73	-	-	-	-	-
6.0m	-	-	-	3.64a	3.99a	4.19b	4.12	3.59	-	-	-
5.0m	-	-	-	3.24a	3.66a	4.00a	3.63b	3.59	3.18	-	-
4.0m	-	-	-	4.33a	4.44a	4.15b	3.62b	3.54	3.15	2.82	-
3.0m	-	-	-	5.59b	4.74b	4.03r	2.99r	3.04r	3.1	2.79	-
2.0m	-	-	-	4.61r	3.79r	2.95r	2.49r	2.89r	3.04	2.75	2.49
1.0m	-	5.67r	4.42r	3.72r	3.25r	2.93r	2.79r	3.18r	2.99	2.71	2.47
0.0m	5.89a	6.46a	6.04r	4.64r	4.09r	3.56r	3.64r	3.29	2.97	2.7	-
-1.0m	5.15a	5.81a	6.34a	6.39r	4.89r	4.19	3.88	3.29	2.86	-	-
-2.0m	10	9.34	7.16	6.65	4.83	4.26	3.76	-	-	-	-

	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	4.77a	5.13a	4.73	-	-	-	-	-
6.0m	-	-	-	3.68a	4.25a	4.58b	4.16	3.59	-	-	-
5.0m	-	-	-	3.46a	4.01a	4.38a	4.19	3.66	3.19	-	-
4.0m	-	-	-	4.34a	4.62a	4.76	4.17	3.68	3.22	2.83	-
3.0m	-	-	-	5.96b	5.46b	4.73	4.13	3.64	3.22	2.83	-
2.0m	-	-	-	6.35	5.37	4.64	4.06	3.6	3.18	2.8	2.5
1.0m	-	5.67r	7.6	6.24	5.28	4.55	4	3.54	3.13	2.77	2.48
0.0m	7.59a	9.65	7.53	6.18	5.22	4.51	3.95	3.47	3.07	2.73	-
-1.0m	10	8.59	7.52	6.16	5.2	4.49	3.87	3.4	3.01	-	-
-2.0m	10	9.68	7.48	6.12	5.14	4.38	3.81	-	-	-	-

Level Rail
 0-50mm
 87% SWL

Unlocked

	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	3.89a	4.14a	4.16a	-	-	-	-	-
6.0m	-	-	-	3.09a	3.41a	3.72a	3.88a	3.89a	-	-	-
5.0m	-	-	-	2.90a	3.28a	3.60a	3.45r	3.61a	3.77a	-	-
4.0m	-	-	-	4.31a	4.39a	4.11r	3.13r	2.80r	3.47a	3.50a	-
3.0m	-	-	-	5.05r	4.16r	3.34r	2.41r	2.58r	3.40r	3.86a	3.61a
2.0m	-	-	4.44r	3.72r	3.03r	2.30r	2.22r	2.34r	3.46r	4.01a	3.65a
1.0m	-	5.53r	4.11r	3.47r	2.93r	2.66r	2.55r	2.97r	3.88r	3.82a	4.14a
0.0m	4.95a	5.44a	5.62r	4.43r	3.71r	3.37r	3.42r	4.30r	4.86r	4.59a	-
-1.0m	4.93a	5.38a	5.41a	5.88r	5.08r	5.18r	5.87r	5.46b	4.97b	-	-
-2.0m	10	10	10	6.49b	6.07b	7.03b	-	-	-	-	-

	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	3.94a	4.42a	4.40a	-	-	-	-	-
6.0m	-	-	-	3.16a	3.68a	4.08a	4.09a	4.09a	-	-	-
5.0m	-	-	-	3.15a	3.62a	3.99a	4.10a	4.11a	4.08a	-	-
4.0m	-	-	-	4.34a	4.47a	4.49a	4.50a	4.47a	4.38a	4.17a	-
3.0m	-	-	-	5.64r	6.56r	6.92b	6.30b	5.68a	5.15a	4.69a	3.86a
2.0m	-	-	4.81r	6.26r	7.23r	7.40b	6.73b	6.05b	5.52b	5.09b	4.23a
1.0m	-	6.57r	8.00r	9.10r	8.73b	7.78b	6.88b	6.17b	5.59b	5.11b	4.14a
0.0m	7.60a	10	10	10	8.98b	7.82b	6.92b	6.21b	5.60r	4.93b	-
-1.0m	10	10	10	10	9.09b	7.89b	6.94b	6.12b	5.10b	-	-
-2.0m	10	10	10	10	8.95b	7.46b	-	-	-	-	-

Level Rail
 0-50mm
 87% SWL

Locked

	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	3.89a	4.14a	4.16a	-	-	-	-	-
6.0m	-	-	-	3.09a	3.41a	3.72a	3.88a	3.89a	-	-	-
5.0m	-	-	-	2.90a	3.28a	3.60a	3.45r	3.61a	3.77a	-	-
4.0m	-	-	-	4.31a	4.39a	4.11r	3.13r	2.80r	3.47a	3.50a	-
3.0m	-	-	-	5.05r	4.16r	3.34r	2.41r	2.58r	3.40r	3.86a	3.61a
Radius	-	-	4.44r	3.72r	3.03r	2.30r	2.22r	2.34r	3.46r	4.01a	3.65a
the lift	-	5.53r	4.11r	3.47r	2.93r	2.66r	2.55r	2.97r	3.88r	3.82a	4.14a
the ma	4.95a	5.44a	5.62r	4.43r	3.71r	3.37r	3.42r	4.30r	4.86r	4.59a	-
safe w	4.93a	5.38a	5.41a	5.88r	5.08r	5.18r	5.87r	5.46b	4.97b	-	-
r artic	10	10	10	6.49b	6.07b	7.03b	-	-	-	-	-

	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	3.94a	4.42a	4.40a	-	-	-	-	-
6.0m	-	-	-	3.16a	3.68a	4.08a	4.09a	4.09a	-	-	-
5.0m	-	-	-	3.15a	3.62a	3.99a	4.10a	4.11a	4.08a	-	-
4.0m	-	-	-	4.34a	4.47a	4.49a	4.50a	4.47a	4.38a	4.17a	-
3.0m	-	-	-	5.64r	6.56r	6.92b	6.30b	5.68a	5.15a	4.69a	3.86a
2.0m	-	-	4.81r	6.26r	7.23r	7.40b	6.73b	6.05b	5.52b	5.09b	4.23a
1.0m	-	6.57r	8.00r	9.10r	8.73b	7.78b	6.88b	6.17b	5.59b	5.11b	4.14a
0.0m	7.60a	10	10	10	8.98b	7.82b	6.92b	6.21b	5.60r	4.93b	-
-1.0m	10	10	10	10	9.09b	7.89b	6.94b	6.12b	5.10b	-	-
-2.0m	10	10	10	10	8.95b	7.46b	-	-	-	-	-


NETWORK RAIL DUTIES

SECTOR E

LOWER SAFE WORKING LOADS

UPPER SAFE WORKING LOADS


Canted Rail
50-150mm
87% SWL
Unlocked



	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	3.89a	4.14a	4.16a	-	-	-	-	-
6.0m	-	-	-	3.09a	3.41a	3.72a	3.88a	3.89a	-	-	-
5.0m	-	-	-	2.90a	3.28a	3.60a	3.45r	3.61a	3.77a	-	-
4.0m	-	-	-	4.31a	4.39a	4.11r	3.13r	2.80r	3.47a	3.50a	-
3.0m	-	-	-	5.05r	4.16r	3.34r	2.41r	2.58r	3.40r	3.86a	3.61a
2.0m	-	-	4.44r	3.72r	3.03r	2.30r	2.22r	2.34r	3.46r	4.01a	3.65a
1.0m	-	5.53r	4.11r	3.47r	2.93r	2.66r	2.55r	2.97r	3.88r	3.82a	4.14a
0.0m	4.95a	5.44a	5.62r	4.43r	3.71r	3.37r	3.42r	4.30r	4.86r	4.59a	-
-1.0m	4.83a	5.38a	6.41a	5.88r	5.08r	5.18r	5.67r	5.48b	4.87b	-	-
-2.0m	10	10	10	9.49b	8.07b	7.03b	-	-	-	-	-

	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	3.94a	4.42a	4.40a	-	-	-	-	-
6.0m	-	-	-	3.16a	3.68a	4.08a	4.09a	4.09a	-	-	-
5.0m	-	-	-	3.15a	3.62a	3.99a	4.10a	4.11a	4.08a	-	-
4.0m	-	-	-	4.34a	4.47a	4.49a	4.50a	4.47a	4.38a	4.17a	-
3.0m	-	-	-	5.64r	6.56r	6.92b	6.30b	5.68a	5.15a	4.69a	3.86a
2.0m	-	-	4.81r	6.26r	7.23r	7.40b	6.73b	6.05b	5.52b	5.09b	4.23a
1.0m	-	6.57r	8.00r	9.10r	8.73b	7.78b	6.88b	6.17b	5.59b	5.11b	4.14a
0.0m	7.60a	10	10	10	8.98b	7.82b	6.92b	6.21b	5.60r	4.93b	-
-1.0m	10	10	10	10	9.09b	7.89b	6.94b	6.12b	5.10b	-	-
-2.0m	10	10	10	10	8.95b	7.46b	-	-	-	-	-


Canted Rail
50-150mm
87% SWL
Locked



	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	3.89a	4.14a	4.16a	-	-	-	-	-
6.0m	-	-	-	3.09a	3.41a	3.72a	3.88a	3.89a	-	-	-
5.0m	-	-	-	2.90a	3.28a	3.60a	3.45r	3.61a	3.77a	-	-
4.0m	-	-	-	4.31a	4.39a	4.11r	3.13r	2.80r	3.47a	3.50a	-
3.0m	-	-	-	5.05r	4.16r	3.34r	2.41r	2.58r	3.40r	3.86a	3.61a
2.0m	-	-	4.44r	3.72r	3.03r	2.30r	2.22r	2.34r	3.46r	4.01a	3.65a
1.0m	-	5.53r	4.11r	3.47r	2.93r	2.66r	2.55r	2.97r	3.88r	3.82a	4.14a
0.0m	4.95a	5.44a	5.62r	4.43r	3.71r	3.37r	3.42r	4.30r	4.86r	4.59a	-
-1.0m	4.83a	5.38a	6.41a	5.88r	5.08r	5.18r	5.67r	5.48b	4.87b	-	-
-2.0m	10	10	10	9.49b	8.07b	7.03b	-	-	-	-	-

	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	3.94a	4.42a	4.40a	-	-	-	-	-
6.0m	-	-	-	3.16a	3.68a	4.08a	4.09a	4.09a	-	-	-
5.0m	-	-	-	3.15a	3.62a	3.99a	4.10a	4.11a	4.08a	-	-
4.0m	-	-	-	4.34a	4.47a	4.49a	4.50a	4.47a	4.38a	4.17a	-
3.0m	-	-	-	5.64r	6.56r	6.92b	6.30b	5.68a	5.15a	4.69a	3.86a
2.0m	-	-	4.81r	6.26r	7.23r	7.40b	6.73b	6.05b	5.52b	5.09b	4.23a
1.0m	-	6.57r	8.00r	9.10r	8.73b	7.78b	6.88b	6.17b	5.59b	5.11b	4.14a
0.0m	7.60a	10	10	10	8.98b	7.82b	6.92b	6.21b	5.60r	4.93b	-
-1.0m	10	10	10	10	9.09b	7.89b	6.94b	6.12b	5.10b	-	-
-2.0m	10	10	10	10	8.95b	7.46b	-	-	-	-	-


Max Cant + Twist
150-177mm
67% SWL
Unlocked



	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	2.34	1.9	1.57	-	-	-	-	-
6.0m	-	-	-	2.32	1.9	1.58	1.33	1.11	-	-	-
5.0m	-	-	-	2.21	1.82	1.53	1.29	1.1	0.94	-	-
4.0m	-	-	-	2.18	1.72	1.43	1.22	1.05	0.91	0.78	-
3.0m	-	-	-	2.09	1.64	1.31	1.13	0.98	0.86	0.75	0.65
2.0m	-	-	2.5	1.91	1.51	1.22	1.04	0.92	0.81	0.71	0.63
1.0m	-	2.88	2.18	1.7	1.37	1.12	0.98	0.87	0.77	0.69	0.62
0.0m	3.35	2.48	1.93	1.54	1.26	1.08	0.95	0.84	0.75	0.68	-
-1.0m	3.18	2.36	1.85	1.5	1.26	1.08	0.95	0.84	0.77	-	-
-2.0m	3.32	2.48	1.95	1.6	1.35	1.17	-	-	-	-	-

	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	2.34	1.93	1.57	-	-	-	-	-
6.0m	-	-	-	2.33	1.95	1.65	1.37	1.12	-	-	-
5.0m	-	-	-	2.28	1.92	1.64	1.41	1.17	0.96	-	-
4.0m	-	-	-	2.2	1.87	1.61	1.4	1.19	0.98	0.8	-
3.0m	-	-	-	2.14	1.83	1.58	1.39	1.17	0.96	0.79	0.65
2.0m	-	-	2.53	2.12	1.81	1.58	1.35	1.14	0.93	0.77	0.64
1.0m	-	2.95	2.42	2.02	1.72	1.48	1.27	1.07	0.88	0.74	0.62
0.0m	3.58	2.77	2.26	1.89	1.61	1.38	1.18	0.98	0.83	0.7	-
-1.0m	3.51	2.7	2.18	1.82	1.54	1.3	1.09	0.92	0.78	-	-
-2.0m	3.54	2.7	2.16	1.78	1.45	1.22	-	-	-	-	-

Max Cant + Twist
150-177mm
90% SWL
Locked



	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	3.89a	3.55	2.95	-	-	-	-	-
6.0m	-	-	-	3.09a	3.41a	2.98	2.51	2.09	-	-	-
5.0m	-	-	-	2.90a	3.28a	2.9	2.45	2.08	1.75	-	-
4.0m	-	-	-	4.12	3.3	2.75	2.34	2	1.71	1.46	-
3.0m	-	-	-	3.98	3.18	2.59	2.2	1.89	1.63	1.41	1.21
2.0m	-	-	4.44r	3.72r	2.99	2.30r	2.06	1.79	1.56	1.36	1.18
1.0m	-	5.53r	4.11r	3.42	2.79	2.28	1.96	1.71	1.5	1.32	1.16
0.0m	4.95a	5.13	3.98	3.19	2.63	2.22	1.92	1.67	1.47	1.3	-
-1.0m	4.83a	4.85	3.88	3.14	2.64	2.23	1.91	1.67	1.5	-	-
-2.0m	6.98	5.12	4.01	3.28	2.77	2.36	-	-	-	-	-

	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
7.0m	-	-	-	3.94a	3.59	2.96	-	-	-	-	-
6.0m	-	-	-	3.16a	3.62	3.07	2.58	2.11	-	-	-
5.0m	-	-	-	3.15a	3.57	3.05	2.64	2.18	1.79	-	-
4.0m	-	-	-	4.15	3.5	3.01	2.62	2.21	1.82	1.49	-
3.0m	-	-	-	4.06	3.44	2.98	2.59	2.18	1.79	1.48	1.22
2.0m	-	-	4.8	3.97	3.37	2.9	2.5	2.13	1.74	1.44	1.2
1.0m	-	5.78	4.62	3.84	3.26	2.8	2.41	2.02	1.67	1.4	1.16
0.0m	7.37	5.56	4.46	3.7	3.14	2.69	2.28	1.89	1.58	1.34	-
-1.0m	7.27	5.46	4.34	3.6	3.04	2.56	2.13	1.79	1.52	-	-
-2.0m	7.32	5.45	4.32	3.54	2.9	2.44	-	-	-	-	-