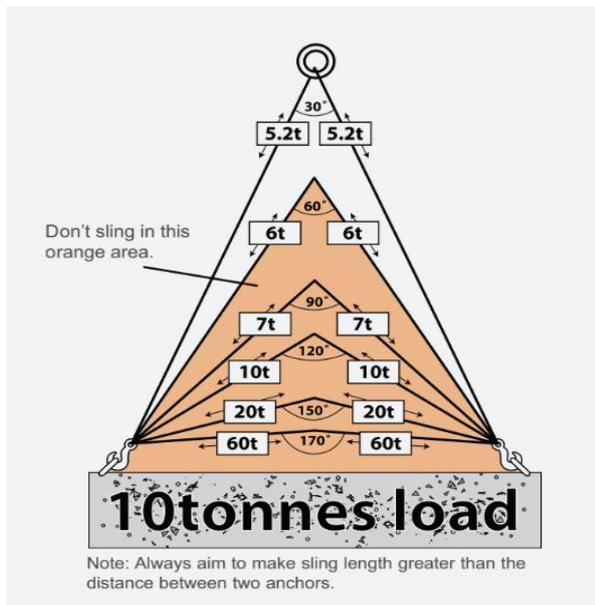


MCG Pipe, Manhole & Sump Safe Handling Guide

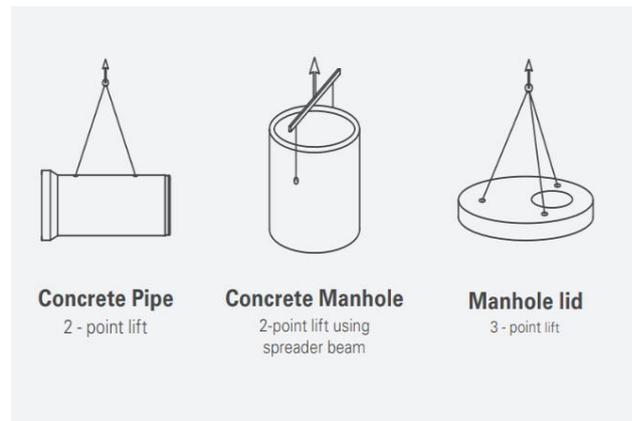


The wider the sling angle (shackle closer to product) the higher the load on the chains. For example at an included angle of 170° the load on each sling is six times the weight of the actual load being lifted.

ENSURE YOUR SLINGS ARE SUFFICIENTLY LONG TO ACHIEVE THIS REQUIREMENT.

Use a spreader between two chains to ensure there is no damage to the top edge of the manhole riser.

Drivers and contractors need to ensure clutches, chains and lifting equipment are appropriately rated and maintained to safely transport any pipe.



MCG has designed and manufactured ELEpipe Concrete Pipe and Manholes with a minimum dynamic factor of 1.2. This dynamic factor requires that all the following conditions are observed when lifting, moving or placing the pipe or manholes;

1. Lifting with mobile plant (such as an excavator or similar) where equipment is specifically exempt from the requirements of the PECPR Regulations 1999, subject to the conditions outlined in the New Zealand Gazette, No. 104, September 2015 and
2. Lifting, travelling and placing over rough or uneven ground where anchor failure is not anticipated to cause harm or injury, by adopting procedures such as:
 - a. Transporting the element as close as practical to ground level (300mm recommended).
 - b. Establishing and maintaining exclusion zones
 - c. Transporting only precast concrete elements that are unlikely to topple if they were to hit the ground
 - d. Inspecting lifting anchors both after transportation and before final lifting into place.

Pipe Size	Spun Mass (KG)	Length	Anchor Size (x2)
225	170	2500	N/A
300	225	2500	N/A
375	278	2500	N/A
450	395	2500	N/A
525	513	2500	N/A
600	625	2440	1.3
675	755	2440	1.3
750	895	2440	1.3
825	1045	2440	1.3
900	1363	2440	1.3
1050	1875	2440	2.5
1200	2125	2440	2.5
1350	2370	2440	2.5
1600	3100	2440	2.5

NOTE: All masses based on Class 2 rubber ring jointed (RRJ) pipes with pipe density of 2500 kg/m³

ELEPIPE pipes 600mm or greater have 'Swiftlift™' type lifting points incorporated in their design.

These points require suitable lifting equipment and methods to ensure that angles of lift are correct and that shock loadings from transport over uneven ground or sudden dynamic load applications do not exceed the individual anchors capacity.

Smaller pipes have the 'Balance' point indicated on the pipe with an arrow.

If elliptical cages are utilized (600mm +) then the pipes will be marked with a "TOP" inscription on the pipe and the pipes

MCG Pipe, Manhole & Sump Safe Handling Guide

ELEPIPE Manhole & Sump units incorporate 'swiftlift™' type lifting anchors cast in to the walls and **should be utilized with a lifting beam or spreader bar** to ensure there is no damage to the top edge of the manhole riser or bending of lifting anchors. This also ensures that an even vertical load is applied to each point.

This will minimize the shock loading effect of uneven terrain which could result in lift point failure.

Refer to "Safe work with precast concrete - handling, transportation and erection of precast concrete elements" published by Worksafe New Zealand (October 2018).

Shock loads resulting from travelling with suspended risers or flanged bases over rough terrain and uneven ground may exceed designed dynamic factor load of the lifting systems.

It is critical that care is taken during lifting and transporting as additional stresses could result in anchor failure.

Sump / Inspection Chamber Size (600)	Height	Mass - Without Base (KG)	Mass - With Internal Base (KG)	Mass - With Flange Base (KG)	Anchor Size (x2)
600	300	69			1.3
600	450	104			1.3
600	600	138	189	421	1.3
600	900	208	259	490	1.3
600	1200	277	328	560	1.3
600	1500	346	397	629	1.3
600	1800	415	466	698	1.3
600	2100	485	535	767	1.3
600	2400	563	614	846	1.3

Sump / Inspection Chamber Size (675)	Height	Mass - Without Base (KG)	Mass - With Internal Base (KG)	Mass - With Flange Base (KG)	Anchor Size (x2)
675	300	84			1.3
675	450	127			1.3
675	600	169	233	496	1.3
675	900	253	318	580	1.3
675	1200	338	402	664	1.3
675	1500	422	486	749	1.3
675	1800	506	571	833	1.3
675	2100	591	655	918	1.3
675	2400	686	751	1013	1.3

Sump / Inspection Chamber Size (900)	Height	Mass - Without Base (KG)	Mass - With Internal Base (KG)	Mass - With Flange Base (KG)	Anchor Size (x2)
900	100	44			1.3
900	300	132			1.3
900	450	197			1.3
900	600	263	378	763	1.3
900	900	395	509	894	1.3
900	1200	527	641	1026	1.3
900	1500	658	773	1158	1.3
900	1800	790	904	1289	1.3
900	2100	922	1036	1421	1.3
900	2400	1071	1185	1570	1.3

Manhole Size (1050)	Height	Mass - Without Base (KG)	Mass - With Internal Base (KG)	Mass - With Flange Base (KG)	Anchor Size (x2)
1050	300	170			2.5
1050	450	255			2.5
1050	600	340	652	971	2.5
1050	900	510	822	1141	2.5
1050	1200	680	992	1311	2.5
1050	1500	850	1162	1481	2.5
1050	1800	1020	1332	1651	2.5
1050	2100	1190	1502	1821	2.5
1050	2400	1383	1695	2014	2.5

Manhole Size (1200)	Height	Mass - Without Base (KG)	Mass - With Internal Base (KG)	Mass - With Flange Base (KG)	Anchor Size (x2)
1200	300	230			2.5
1200	450	345			2.5
1200	600	460	867	1238	2.5
1200	900	689	1097	1468	2.5
1200	1200	919	1326	1698	2.5
1200	1500	1149	1556	1927	2.5
1200	1800	1379	1786	2157	2.5
1200	2100	1609	2016	2387	2.5
1200	2400	1869	2276	2648	2.5

Manhole Size (1350)	Height	Mass - Without Base (KG)	Mass - With Internal Base (KG)	Mass - With Flange Base (KG)	Anchor Size (x2)
1350	300	261			2.5
1350	450	392			2.5
1350	600	522	1038	1463	2.5
1350	900	783	1299	1724	2.5
1350	1200	1044	1560	1985	2.5
1350	1500	1306	1821	2246	2.5
1350	1800	1567	2082	2508	2.5
1350	2100	1828	2343	2769	2.5
1350	2400	2124	2639	3065	2.5

MCG Pipe, Manhole & Sump Safe Handling Guide

Manhole Size (1500)	Height	Mass - Without Base (KG)	Mass - With Internal Base (KG)	Mass - With Flange Base (KG)	Anchor Size (x2)
1500	300	285			2.5
1500	450	392			2.5
1500	600	571	1207	1676	2.5
1500	900	856	1493	1962	2.5
1500	1200	1142	1778	2247	2.5
1500	1500	1427	2064	2533	2.5
1500	1800	1713	2349	2818	2.5
1500	2100	1998	2635	3104	2.5
1500	2400	2322	2958	3427	2.5

Manhole Size (1800)	Height	Mass - Without Base (KG)	Mass - With Internal Base (KG)	Mass - With Flange Base (KG)	Anchor Size (x4)
1800	300	402			2.5
1800	600	804	1720	2311	2.5
1800	900	1206	2123	2713	2.5
1800	1200	1609	2525	3115	2.5
1800	1500	2011	2927	3517	2.5
1800	1800	2413	3329	3919	2.5
1800	2100	2815	3731	4321	2.5
1800	2400	3271	4187	4777	2.5

Manhole Size (2300)	Height	Mass - Without Base (KG)	Mass - With Internal Base (KG)	Mass - With Flange Base (KG)	Anchor Size (x4)
2300	1200	2980		5880	5

Disclaimer: Buyers and users must make their own assessment of our products under their own conditions for their own use. All queries regarding product suitability or purpose or installation should be directed to MCG office for advice and assistance.