ANCHOR CHAIN – PROOF AND BREAKING LOADS

LOAD (in KN) = c x d^2 x (44 - 0.08 x d) (d in mm) MASS (in kg/m) = 0.0219 x d^2 (d in mm)

Due to the application of different rounding - off - principles at calculation of loads, individual classification societies show slightly different load values in their tables for vessels. The table below for vessels is based on the table established by the international association of classification societies (IACS). (SI Units)

Diameter of Chain d		Anchor Chain for Vessel				Offshore Mooring Chain												Approx. Mass (Weight)	
		Grade 2		Grade 3		ORQ		R3		NVR3		R3S			R4				
		Proof Test Load	Break Test Load	Proof Test Load	Break Test Load	Proof Test Load	Break Test Load	Proof Test Load	Break Test Load	Proof Test Load	Break Test Load	Proof Test Load		Break Test Load	Proof Test Load		Break Test Load		
c-factor		0.0098	0.0137	0.0137	0.0196	0.0014	0.0211	0.0148	0.0223	0.0156	0.0223	0.018	0.0174	0.0249	0.0216	0.0192	0.0274		
Type		Stud Link Anchor Chain										Stud	Stud-less	Stud	Stud	Stud-less	Stud	Stud	Stud-less
Inch	mm	KN	KN	KN	KN	KN	KN	KN	KN	KN	KN	KN	KN	KN	KN	KN	KN	Kg / m	
13/16	20.5	175	244	244	349	–	–	–	–	–	–	–	–	–	–	–	–	9	–
7/8	22	200	280	280	401	–	–	–	–	–	–	–	–	–	–	–	–	11	–
15/16	24	237	332	332	476	–	–	–	–	–	–	–	–	–	–	–	–	13	–
1	26	278	389	389	556	–	–	–	–	–	–	–	–	–	–	–	–	15	–
1-1/8	28	321	449	449	642	–	–	–	–	–	–	–	–	–	–	–	–	17	–
1-3/16	30	368	514	514	735	–	–	–	–	–	–	–	–	–	–	–	–	20	–
1-1/4	32	417	583	583	833	–	–	–	–	–	–	–	–	–	–	–	–	22	–
1-5/16	34	468	655	655	937	–	–	–	–	–	–	–	–	–	–	–	–	25	–
1-7/16	36	523	732	732	1050	–	–	–	–	–	–	–	–	–	–	–	–	28	–
1-1/2	38	581	812	812	1160	–	–	–	–	–	–	–	–	–	–	–	–	32	–
1-9/16	40	640	896	896	1280	–	–	–	–	–	–	–	–	–	–	–	–	35	–
1-5/8	42	703	981	981	1400	–	–	–	–	–	–	–	–	–	–	–	–	39	–
1-3/4	44	769	1080	1080	1540	–	–	–	–	–	–	–	–	–	–	–	–	42	–
1-13/16	46	837	1170	1170	1680	–	–	–	–	–	–	–	–	–	–	–	–	46	–
1-7/8	48	908	1270	1270	1810	–	–	–	–	–	–	–	–	–	–	–	–	50	–
2	50	980	1370	1370	1960	1400	2110	1480	2230	1560	2230	1800	1740	2490	2160	1920	2740	55	50
2-1/16	52	1056	1476	1476	2111	1508	2273	1594	2402	1681	2402	1939	1874	2682	2327	2068	2952	59	54
2-1/8	54	1134	1585	1585	2268	1620	2441	1712	2580	1805	2580	2083	2013	2881	2499	2222	3170	64	58
2-3/16	56	1215	1698	1698	2429	1735	2615	1834	2764	1933	2764	2231	2156	3086	2677	2380	3396	69	63
2-5/16	58	1298	1814	1814	2595	1854	2794	1960	2953	2066	2953	2383	2304	3297	2860	2542	3628	74	67
2-3/8	60	1383	1933	1933	2766	1976	2978	2089	3147	2201	3147	2540	2455	3514	3048	2710	3867	79	72
2-7/16	62	1471	2056	2056	2941	2101	3166	2221	3347	2341	3347	2701	2611	3737	3242	2881	4112	84	77
2-1/2	64	1561	2182	2182	3121	2230	3360	2357	3551	2484	3551	2867	2771	3965	3440	3058	4364	90	82
2-5/8	66	1653	2311	2311	3306	2361	3559	2496	3761	2631	3761	3036	2935	4200	3643	3238	4621	95	87
2-11/16	68	1747	2443	2443	3495	2496	3762	2639	3976	2782	3976	3209	3102	4440	3851	3423	4885	101	92
2-3/4	70	1844	2578	2578	3688	2634	3970	2785	4196	2935	4196	3387	3274	4685	4064	3613	5156	107	98
2-7/8	73	1993	2786	2786	3986	2847	4291	3010	4553	3172	4535	3660	3538	5064	4392	3904	5572	117	107
3	76	2146	3001	3001	4293	3066	4621	3242	4884	3417	4884	3942	3811	5454	4731	4205	6001	126	116
3-1/16	78	2251	3147	3147	4503	3216	4847	3400	5123	3584	5123	4135	3997	5720	4962	4411	6295	133	122
3-3/16	81	2412	3373	3373	4825	3446	5194	3643	5490	3840	5490	4431	4283	6130	5317	4726	6745	144	131
3-5/16	84	2578	3604	3604	5156	3683	5550	3893	5866	4104	5866	4735	4577	6550	5682	5051	7208	155	141
3-7/16	87	2747	3841	3841	5495	3925	5916	4149	6252	4374	6252	5046	4878	6981	6056	5383	7682	166	151
3-9/16	90	2921	4084	4084	5842	4173	6289	4412	6647	4650	6647	5365	5187	7422	6439	5723	8167	177	162
3-5/8	92	3039	4249	4249	6078	4342	6544	4590	6916	4838	6916	5582	5396	7722	6699	5954	8497	185	169
3-3/4	95	3219	4501	4501	6439	4599	6932	4862	7326	5125	7326	5913	5716	8180	7096	6307	9001	198	181
3-13/16	97	3342	4671	4671	6683	4774	7195	5047	7604	5319	7604	6138	5933	8490	7365	6547	9343	206	188
3-15/16	100	3528	4932	4932	7056	5040	7596	5328	8028	5616	8028	6480	6264	8964	7776	6912	9864	219	200
4	102	3654	5108	5108	7308	5220	7868	5519	8315	5817	8315	6712	6488	9285	8054	7159	10217	228	208
4-1/8	105	3846	5377	5377	7693	5495	8282	5809	8753	6123	8753	7065	6829	9773	8478	7536	10754	241	221
4-3/16	107	3976	5559	5559	7953	5681	8561	6005	9048	6330	9048	7304	7060	10103	8764	7790	11118	251	229
4-3/8	111	4241	5928	5928	8481	6058	9130	6404	9650	6750	9650	7789	7529	10775	9347	8308	11856	270	246
4-1/2	114	4442	6210	6210	8885	6346	9565	6709	10109	7071	10109	8159	7887	11287	9791	8703	12420	285	260
4-5/8	117	4647	6496	6496	9294	6639	10005	7018	10574	7397	10574	8535	8251	11807	10242	9104	12993	300	274
4-3/4	120	4855	6786	6786	9709	6935	10452	7331	11047	7728	11047	8916	8619	12334	10700	9511	13573	315	288
4-13/16	122	4994	6982	6987	9989	7135	10753	7542	11365	7950	11365	9173	8868	12690	11008	9785	13964	326	298
4-7/8	124	5135	7179	7179	10271	7336	11057	7755	11686	8175	11686	9432	9118	13048	11319	10061	14358	337	308
5	127	5349	7478	7478	10698	7641	11516	8078	12171	8515	12171	9824	9497	13591	11789	10479	14955	353	323
5-1/8	130	5565	7779	7774	11130	7950	11981	8404	12663	8858	12663	10221	9880	14139	12265	10903	15559	370	338
5-3/16	132	5710	7982	7982	11420	8157	12294	8623	12993	9089	12993	10488	10138	14508	12585	11187	15965	382	348
5-3/8	137	6077	8496	8496	12155	8682	13085	9178	13829	9674	13829	11162	10790	15441	13395	11906	16992	411	375
5-9/16	142	6450	9017	9017	12900	9214	13887	9741	14677	10267	14677	11847	11452	16388	14216	12637	18033	442	403
5-3/4	147	6827	9544	9544	13655	9753	14700	10311	15536	10868	15536	12540	12122	17347	15048	13376	19089	473	432
6	152	7209	10078	10078	14418	10299	15522	10887	16405	11476	16405	13241	12800	18317	15890	14124	20156	506	462
6-3/16	157	7595	10617	10617	15189	10850	16352	11469	17282	12089	17282	13949	13484	19297	16739	14879	21234	540	493
6-3/4	162	7983	11160	11160	15966	11405	17188	12056	18166	12708	18166	14663	14174	20284	17596	15641	22320	575	525

Quality ORQ + 20% has proof - and break - test - values 20% higher than the values for ORQ.