



正茂集团有限责任公司
ZHENG MAO GROUP CO.,LTD.



工厂方位图 Company Location

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船用链 系泊链
MARINE CHAIN MOORING CHAIN

系泊系统
MOORING SYSTEM



公司简介

Company Profile



正茂集团有限责任公司前身是镇江锚链厂，始建于1974年，距离上海约2小时车程，是中国首家现代化的电焊锚链制造企业。公司研制生产的系泊链及船用锚链是两大支柱产品，使用的“三山”牌标志是江苏省著名商标，公司连续10年获得“国家高新技术企业”称号。企业已发展成为多品种、齐规格、年产船用锚链、系泊链12万吨的专业化生产企业。

公司拥有14台/套制链生产流水线、6套立式热处理炉、1台400吨疲劳试验机，2000KN、5000KN、12000KN、24000KN、40000KN共5台锚链拉力试验检测设备，以及各种金属切削机床和锻

造机等各类设备。公司还建有具有国际一流的理化检测能力的检测中心，并已通过CNAS认证。

主要产品：直径最大到172mm M2、M3级船用锚链和配套附件

直径最大到208mm R3级、R3s级、R4级、R4S级、R5级和R6级海洋工程系泊链和配套附件。

公司于1996年底在国内同行业率先通过了ISO9001质量体系认证。2008年公司又通过了职业健康安全管理体系和环境管理体系的认证。公司生产的船用锚链及其附件先后取得中国、英国、德国和挪威、美国、日本、法国、俄罗斯、印度、意大利和韩国共计10家船级社的认可证书。公司生产的R3级、R3s级、R4级、R4S级、R5级、R6级系泊链，获得DNV.GL（挪威、德国）、ABS（美国）、LR（英国）、BV（法国）、CCS（中国）、NK（日本）、IRS（印度）船级社认可。系泊链产品于1999年11月通过了美国石油协会API对公司的质量体系审核认证，并获得了API标志使用权。公司的“三山”牌锚链远销日本、韩国、德国、挪威、巴西和东南亚等30多个国家和地区，成为国家机电产品出口基地。

Zhengmao Group Co., Ltd., formerly known as Zhenjiang Anchor Chain Factory, was founded in 1974 and is China's first modern flash butt welding anchor chain manufacturer. The offshore mooring chain and marine chain developed and produced by the Company are the two pillar products. The "Sanshan" brand anchor chain is certified as famous trademark in Jiangsu Province. In addition, the Company has been awarded the title of "National High-tech Enterprise" for 10 consecutive years. The Company has developed into a specialized production enterprise with multiple varieties, uniform specifications, and an annual output of 120,000 tons of marine anchor chains and offshore mooring chains.

The Company has 14 sets of chain production lines, 6 sets of vertical heat treatment furnaces, 1 set of 400-ton fatigue testing machine, 5 sets of chain proof test and inspection machines of 2000KN, 5000KN, 12000KN, 24000KN, 40000KN, and various metal cutting & lathing machines and forging machines and other equipment. The Company also has a testing center with world-class physical and chemical testing capabilities, and has passed CNAS certification.

Main products: The diameter up to 172mm, M2 and M3 marine chains and supporting accessories.

The diameter up to 208mm, Grade R3, R3s, R4, R4S, R5 and R6 offshore mooring chains and accessories.

The Company took the lead in passing the ISO9001 quality system certification in China anchor chain industry at the end of 1996. In 2008, the company obtained OHSMS and EMS certification. The Company's marine anchor chain and its accessories have successively obtained China (CCS), Britain (LR), Norway and Germany (DNV.GL), the United States (ABS), Japan (NK), France (BV), and Russia (RMRS), India (IRS), Italy (RINA) and South Korea (KR), a total of 10 classification societies approved certificates. The Company's R3, R3s, R4, R4S, R5, and R6 mooring chains have been type approved by DNV.GL (Norway, Germany), ABS (USA), LR (UK), BV (France), CCS (China), Japan (NK), India (IRS) Classification Societies. The mooring chain products passed the American Petroleum Institute (API) quality system audit certification in November 1999, and authorized to use the API monogram. The Company's "Sanshan" brand anchor chains have been exported to more than 30 countries and regions including Japan, South Korea, Germany, Norway, Brazil and Southeast Asia, becoming a national export base for mechanical and electrical products.

质量为本
走向世界
江泽民
一九九二年元月二十二日
于镇江锚链厂

一九九二年元月二十二日，国家主席江泽民视察了镇江锚链厂，并题写了“质量为本，走向世界”的题词。

On 22nd January, 1992, Chinese President Jiang Zemin visited the company and wrote a few words of encouragement which says, Quality as the fundamental and marching towards the world.



追求卓越 成就非凡

携手并进 共创辉煌

● 1992年

1992年8月，中国船舶工业总公司决定合并镇江锚链厂、润州造船厂、上海船用锚链厂等三厂合并组建成立镇江锚链总厂，成为国家大二型企业。

In August 1992, CSSC decided to merge Zhenjiang Anchor Chain Factory, Runzhou Shipyard, and Shanghai Marine Anchor Chain Factory to form Zhenjiang Anchor Chain General Factory, which became a national large second-sized enterprise.



● 1974年

1974年3月镇江建厂，1978年1月正式投产

The factory was built in Zhenjiang in March 1974 and officially put into production in January 1978.

● 2009年

2009年公司年产量超7万吨，其中系泊链2.5万吨。

In 2009, the company's annual output exceeded 70,000 tons, including 25,000 tons of mooring chains.



● 2020年

2020年公司系泊链累计生产达20万吨。

By the end of 2020, the company has produced a total of 200,000 tons of mooring chains.

● 1995年

1995年8月，在中船集团总公司的支持下，对镇江锚链总厂进行改制，成立正茂集团有限责任公司。

In August 1995, with the support of CSSC, the Zhenjiang Anchor Chain Factory was restructured and Zhengmao Group Co., Ltd. was established.

证书和荣誉 Certificates

技术研发 R & D



高新技术企业证书



API Registration license



API Certificate ISO-9001



Achilles JQS Cert



API Certificate Specification Q1



OHSMS 18001



ISO-9001

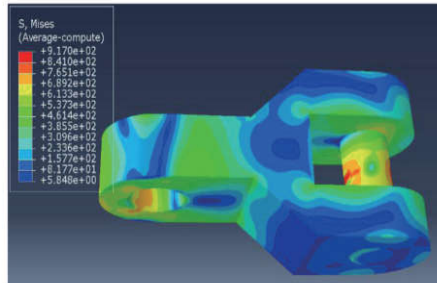
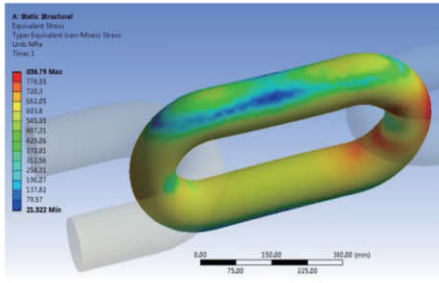


ISO 14001

技术中心是公司的核心技术创新机构，是一支力量雄厚、基础扎实、知识丰富、勇于创新优秀团队。上世纪70年代研制出船用锚链钢，并制订国家标准，八十年代末开始，用了九年的时间开发了首例国产系泊链材料和产品，制订了系泊链标准；国内首家设计制造与链条制造配套的设备，如制链机组、热处理炉、拉力试验机、撑档机、探伤塔架等。到目前为止，成功开发了最大规格为Φ208mm的R3、R3S、R4、R4S、R5、R6等系列产品。致力于船用锚链、系泊链及系泊系统新技术、新方法的研究和开发；从系泊系统的整体设计到产品的外形优化、制造及使用状态等方面解决客户需求；对产品在不同环境下的性能、腐蚀、磨损、疲劳等进行了深入研究。近年来和国际上知名的大石油公司、船级社，在链条防护、海水腐蚀机制及旧链条的残余寿命分析等方面开展合作。

The technical center is the Company's core technology innovation sector. It is an excellent team with strong engineering capability, solid technical background, rich knowledge, and the courage to innovate. Early in 1970s, the Company developed out marine grade anchor chains and finalized China national standards. From the end of the 1980s, we spent 9 years and succeeded in making the first offshore mooring chain materials and chains in China, and formulate national offshore mooring chain standards. In addition, we took the lead in designing & fabricating chain making machineries including full range of links forming carousels, quenching & tempering furnaces, proof test machines, stud setting machine, NDT tower, etc. So far, we have successfully developed the R3, R3S, R4, R4S, R5, R6 series products with the max. size of Φ208mm. The Department is committed to the research and development of new technologies and methods for marine anchor chains, offshore mooring chains and mooring systems; to solve customer needs in terms of mooring system integrated design, product shape/appearance optimization, manufacturing and service status, etc.; Intensive study for products performance, corrosion, wear, fatigue, etc. under the different service environment. In recent years, we have cooperated with internationally renowned major oil companies and classification societies in areas such as chain preservation, seawater corrosion mechanism and residual life analysis of used chains.





有限元分析 Finite element analysis

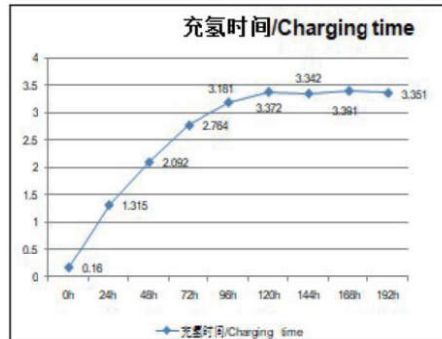


腐蚀状态分析
Corrosion analysis



海水疲劳试验
Fatigue test in sea water

全自动LO5及总长测量系统
Fully automatic LO5 & total length measurement system



R6系泊链研发
R6 mooring chain Development

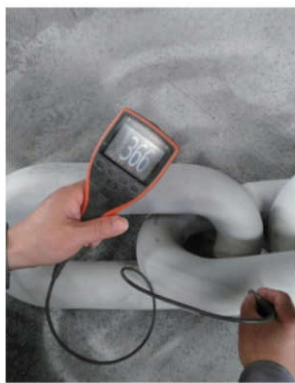
检测中心 Testing Center



Qualification



相控阵
PAUT



表面防护
TSA



陶瓷镀层
Ceramic coating

系泊链

Offshore mooring chain

正茂集团是国内系泊链行业先驱者，自1989年开始，用9年时间成功研制开发出系泊链特种钢。目前年产量8万吨超大规格系泊链，有20多年的海工经验，在世界上享有广泛的声誉。

与专业供应商合作，提供全方位的海工整包服务，范围涵盖摩擦链，浮筒，锚，缆绳，沉块等系列配套产品，广泛用于单点系泊系统，浮筒，浮式生产储油系统，移动式海洋钻井装置，海洋养殖以及海上风电领域。

客户涉及各大石油公司，如雪弗龙，壳牌，美孚，道达尔，英国石油，泰国石油，巴西石油，印度石油天然气公司，日越油气公司等。与世界诸多知名工程公司保持长期合作，如SBM，SOFEC，Bluewater，InterMoor，Bumi Armada，Transocean，Saipem，Atwood，Stena，Orwell等。

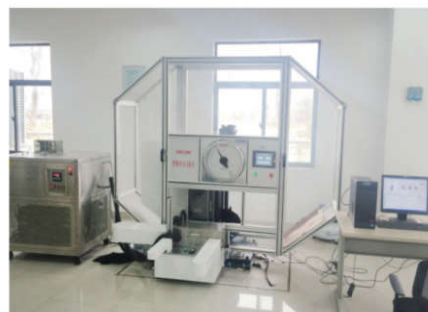
Zheng Mao is the recognized leader of the offshore mooring chain industry in China. Since 1989, the company took nine years and successfully developed offshore grade mooring chain steel bars. With large range of offshore mooring chains, huge capacity of 80,000 tonnes per annum, ZhengMao is well-accepted in the offshore industry more than 20 years.

Work with selected and professional sub-suppliers, we offer a wide range of high-performance mooring system hardwares including chafe chains, buoys, anchors, ropes, clump weights etc. products widely used for Single point mooring, Calm Buoy system, FPSO, MODU, Spar, aquaculture and Renewable Energy marketing.

Main customers including major offshore oil operators like Chevron, Shell, ExxonMobil, Total, BP, PTTEP, Petrobras, ONGC, JVPC etc and long term cooperation with well-known EPC companies such as SBM, SOFEC, Bluewater, InterMoor, Bumi Armada, Transocean, Saipem, Atwood, Stena, Orwell etc.



拉伸试验
Tensile test



冲击试验
Impact test



金相组织分析
Metallographic analysis



断口分析
Fracture analysis



硬度测试
Hardness test



化学元素测定
Chemical element analysis

证书

Certificates



ABS



BV



CCS



LR



DNV-GL



IRS



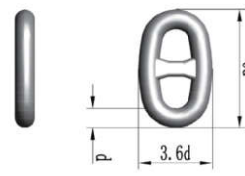
NK



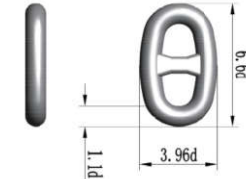
主营产品

Main Products

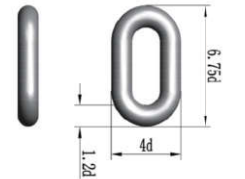
Mooring Chain & Accessories--Stud & Studless Chain
Diameter up to 187mm:Grade R3/R3s/R4/R4s/R5/R6



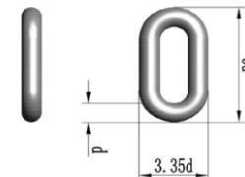
有档普环
Stud Common Link



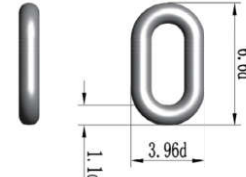
有档加大环
Enlarge Link



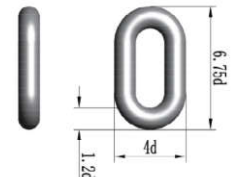
有档末端环
End Link



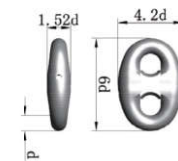
无档普环
Studless Common Link



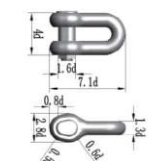
无档加大环
Studless Enlarge Link



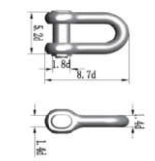
无档末端环
Studless End Link



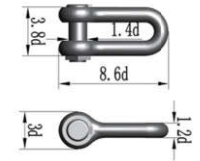
肯特卸扣
Kenter Shackle



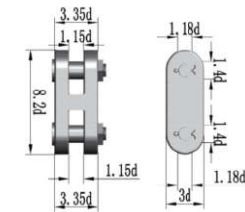
LTM 连接卸扣
LTM Joining Shackle



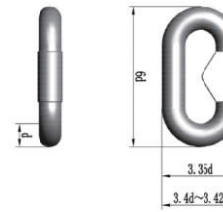
LTM 末端卸扣
LTM End Shackle



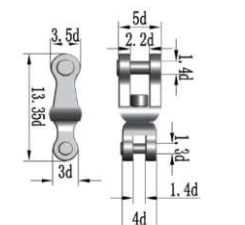
末端连接卸扣
End Joining Shackle



H 型卸扣
H Link



安装环
Installation Link



旋转卸扣
Swivel Shackle-B type

系泊链生产流程

Mooring chain manufacturing process

- ① 原材料入库复检
Material Receipt Inspection
- ② 下料
Cutting
- ③ 棒料加热
Bar Heating
- ④ 弯环
Bending
- ⑤ 焊接
Welding



- ⑩ 热处理
Heat Treatment
- ⑪ 拉力尺寸测量
Proof Load & Dimension Check
- ⑫ 撑档 (有档系泊链)
Stud Expansion
- ⑬ 抛丸
Shot Blasting
- ⑭ 终检探伤
Final NDT



- ⑥ 去刺
Trimming
- ⑦ 整形
Shaping
- ⑧ 抛丸
Shot Blasting
- ⑨ 预检探伤
Pre-inspection



- ⑮ 标识
Marking
- ⑯ 打包
Packing
- ⑰ 终检入库发货
Final inspection & delivery
- ⑱ 装船
Shipping

系泊链

系泊链

负荷实验

Load Testing

海洋系泊链

OFFSHORE MOORING CHAIN

链径 Diameter Of Chain	BV/CCS/LR /ABS	DNV	ABS/DNV /CCS/BV/LR	ABS/DNV /CCS/BV/LR	ABS/DNV /CCS/BV/LR	ABS/DNV /CCS/BV/LR	ABS/DNV /CCS/BV/LR	ABS/DNV /CCS/BV/LR	ABS/DNV /CCS/BV/LR	ABS/DNV /CCS/BV/LR	ABS/DNV /CCS/BV/LR	ABS/DNV /CCS/BV/LR	ABS/DNV /CCS/BV/LR	ABS/DNV /CCS/BV/LR	ABS/DNV /CCS/BV/LR	DNV	DNV	DNV
	R3	R3	R3	R3S	R3S	R3S	R4	R4	R4	R4S	R4S	R4S	R5	R5	R5	R6	R6	R6
	STUDLESS /STUD	STUDLESS / STUD	STUDLESS /STUD	STUDLESS	STUD	STUDLESS /STUD	STUDLESS	STUD	STUDLESS /STUD	STUDLESS	STUD	STUDLESS /STUD	STUDLESS	STUD	STUDLESS /STUD	STUDLESS	STUD	STUDLESS /STUD
	无档、有档 拉力负荷	无档、有档 拉力负荷	破断负荷	无档拉力负荷	有档拉力负荷	破断负荷	无档拉力负荷	有档拉力负荷	破断负荷	无档拉力负荷	有档拉力负荷	破断负荷	无档拉力负荷	有档拉力负荷	破断负荷	无档拉力负荷	有档拉力负荷	破断负荷
	Proof Load	Proof Load	Break Load	Proof Load	Proof Load	Break Load	Proof Load	Proof Load	Break Load	Proof Load	Proof Load	Break Load	Proof Load	Proof Load	Break Load	Proof Load	Proof Load	Break Load
	0.0148d ² (44-0.08d)	0.0156d ² (44-0.08d)	0.0223d ² (44-0.08d)	0.0174d ² (44-0.08d)	0.0180d ² (44-0.08d)	0.0249d ² (44-0.08d)	0.0192d ² (44-0.08d)	0.0216d ² (44-0.08d)	0.0274d ² (44-0.08d)	0.0213d ² (44-0.08d)	0.0240d ² (44-0.08d)	0.0304d ² (44-0.08d)	0.0223d ² (44-0.08d)	0.0251d ² (44-0.08d)	0.0320d ² (44-0.08d)	0.0246d ² (44-0.08d)	0.0276d ² (44-0.08d)	0.0352d ² (44-0.08d)
mm	KN	KN	KN	KN	KN	KN	KN	KN	KN	KN	KN	KN	KN	KN	KN	KN	KN	KN
34	706	744	1064	830	858	1188	916	1030	1307	1016	1145	1450	1064	1197	1527	1173	1317	1679
36	788	831	1188	927	959	1326	1023	1151	1460	1135	1278	1620	1188	1337	1705	1310	1470	1875
38	875	922	1318	1029	1064	1472	1135	1277	1620	1259	1419	1798	1318	1484	1892	1454	1632	2081
40	966	1018	1455	1135	1175	1625	1253	1410	1788	1390	1566	1984	1455	1638	2088	1605	1801	2297
42	1060	1118	1598	1247	1290	1785	1376	1548	1964	1526	1720	2179	1598	1799	2294	1763	1978	2523
44	1159	1222	1747	1363	1410	1951	1504	1692	2147	1669	1880	2382	1747	1967	2507	1927	2162	2758
46	1262	1330	1902	1484	1535	2124	1638	1842	2337	1817	2047	2593	1902	2141	2730	2098	2354	3003
48	1369	1443	2063	1609	1665	2303	1776	1998	2535	1970	2220	2812	2063	2322	2960	2276	2553	3257
50	1480	1560	2230	1740	1800	2490	1920	2160	2740	2130	2400	3040	2230	2510	3200	2460	2760	3520
52	1594	1680	2402	1874	1939	2682	2068	2326	2951	2294	2585	3274	2402	2703	3447	2650	2973	3792
54	1712	1805	2580	2013	2082	2881	2221	2499	3170	2464	2776	3517	2580	2904	3702	2846	3193	4072
56	1834	1933	2763	2156	2230	3085	2379	2676	3395	2639	2974	3767	2763	3110	3965	3048	3420	4362
58	1959	2065	2952	2303	2383	3296	2542	2859	3627	2820	3177	4025	2952	3323	4237	3257	3654	4660
60	2088	2201	3146	2455	2540	3513	2709	3048	3866	3005	3386	4290	3146	3542	4515	3471	3894	4967
62	2221	2341	3346	2611	2701	3736	2881	3241	4111	3196	3601	4562	3346	3766	4802	3691	4141	5282
64	2356	2484	3551	2770	2866	3965	3057	3439	4363	3392	3822	4841	3551	3997	5096	3917	4395	5605
66	2496	2631	3761	2934	3035	4199	3238	3643	4621	3592	4047	5127	3761	4233	5397	4149	4655	5936
68	2638	2781	3976	3102	3209	4439	3423	3851	4885	3797	4279	5420	3976	4475	5705	4386	4921	6276
70	2784	2935	4195	3273	3386	4685	3612	4064	5155	4007	4515	5720	4195	4722	6021	4628	5193	6623
73	3009	3172	4534	3538	3660	5063	3904	4392	5571	4331	4880	6181	4534	5104	6507	5002	5612	7158
76	3241	3416	4884	3811	3942	5453	4205	4730	6001	4665	5256	6658	4884	5497	7008	5388	6045	7709
78	3400	3583	5123	3997	4135	5720	4410	4962	6294	4893	5513	6983	5123	5766	7351	5651	6340	8086
81	3643	3840	5489	4283	4431	6129	4726	5317	6745	5243	5908	7483	5489	6178	7877	6055	6794	8665
84	3893	4103	5865	4577	4734	6549	5050	5681	7207	5602	6313	7996	5865	6602	8417	6470	7260	9259
87	4149	4373	6251	4878	5046	6980	5382	6055	7681	5971	6728	8522	6251	7036	8971	6896	7737	9868
90	4411	4650	6647	5186	5365	7422	5723	6438	8167	6349	7153	9061	6647	7481	9538	7332	8227	10492
92	4589	4837	6915	5396	5582	7722	5954	6698	8497	6605	7442	9427	6915	7784	9923	7628	8559	10916
95	4861	5124	7325	5716	5913	8179	6307	7095	9001	6997	7884	9986	7325	8245	10512	8081	9066	11563
97	5046	5319	7603	5933	6137	8490	6546	7365	9342	7262	8183	10365	7603	8558	10911	8388	9411	12002

系泊链

系泊链

负荷实验

Load Testing

海洋系泊链

OFFSHORE MOORING CHAIN

链径 Diameter Of Chain	BV/CCS /LR/ABS	DNV	ABS/DNV /CCS/BV/LR	ABS/DNV /CCS/BV/LR	ABS/DNV /CCS/BV/LR	ABS/DNV /CCS/BV/LR	ABS/DNV /CCS/BV/LR	ABS/DNV /CCS/BV/LR	ABS/DNV /CCS/BV/LR	ABS/DNV /CCS/BV/LR	ABS/DNV /CCS/BV/LR	ABS/DNV /CCS/BV/LR	ABS/DNV /CCS/BV/LR	ABS/DNV /CCS/BV/LR	ABS/DNV /CCS/BV/LR	DNV	DNV	DNV
	R3	R3	R3	R3S	R3S	R3S	R4	R4	R4	R4S	R4S	R4S	R5	R5	R5	R6	R6	R6
	STUDLESS /STUD	STUDLESS /STUD	STUDLESS /STUD	STUDLESS	STUD	STUDLESS /STUD	STUDLESS	STUD	STUDLESS /STUD	STUDLESS	STUD	STUDLESS /STUD	STUDLESS	STUD	STUDLESS /STUD	STUDLESS	STUD	STUDLESS /STUD
	无档、有档 拉力负荷	无档、有档 拉力负荷	破断负荷	无档拉力负荷	有档拉力负荷	破断负荷	无档拉力负荷	有档拉力负荷	破断负荷	无档拉力负荷	有档拉力负荷	破断负荷	无档拉力负荷	有档拉力负荷	破断负荷	无档拉力负荷	有档拉力负荷	破断负荷
	Proof Load	Proof Load	Break Load	Proof Load	Proof Load	Break Load	Proof Load	Proof Load	Break Load	Proof Load	Proof Load	Break Load	Proof Load	Proof Load	Break Load	Proof Load	Proof Load	Break Load
	0.0148d ² (44-0.08d)	0.0156d ² (44-0.08d)	0.0223d ² (44-0.08d)	0.0174d ² (44-0.08d)	0.0180d ² (44-0.08d)	0.0249d ² (44-0.08d)	0.0192d ² (44-0.08d)	0.0216d ² (44-0.08d)	0.0274d ² (44-0.08d)	0.0213d ² (44-0.08d)	0.0240d ² (44-0.08d)	0.0304d ² (44-0.08d)	0.0223d ² (44-0.08d)	0.0251d ² (44-0.08d)	0.0320d ² (44-0.08d)	0.0246d ² (44-0.08d)	0.0276d ² (44-0.08d)	0.0352d ² (44-0.08d)
mm	KN	KN	KN	KN	KN	KN	KN	KN	KN	KN	KN	KN	KN	KN	KN	KN	KN	KN
100	5328	5616	8028	6264	6480	8964	6912	7776	9864	7668	8640	10944	8028	9036	11520	8856	9936	12672
102	5518	5816	8315	6488	6711	9284	7159	8054	10216	7942	8949	11335	8315	9359	11932	9172	10291	13125
105	5808	6122	8752	6829	7064	9773	7535	8477	10754	8360	9419	11931	8752	9851	12559	9655	10832	13815
107	6005	6329	9048	7060	7303	10103	7790	8764	11117	8642	9738	12334	9048	10184	12984	9981	11198	14282
111	6404	6750	9649	7529	7788	10774	8308	9346	11856	9216	10385	13154	9649	10861	13846	10644	11942	15231
114	6708	7071	10108	7887	8159	11287	8703	9791	12420	9655	10879	13780	10108	11377	14505	11151	12511	15956
117	7017	7397	10574	8250	8535	11807	9104	10242	12992	10100	11380	14415	10574	11902	15173	11664	13087	16691
120	7331	7727	11046	8619	8916	12334	9510	10699	13572	10551	11888	15058	11046	12433	15851	12185	13671	17436
122	7542	7950	11364	8867	9173	12689	9784	11007	13963	10855	12231	15492	11364	12791	16308	12536	14065	17933
124	7755	8174	11685	9117	9432	13047	10061	11318	14357	11161	12576	15930	11685	13152	16768	12890	14462	18445
127	8077	8514	12171	9497	9824	13590	10479	11789	14955	11625	13099	16592	12171	13699	17465	13426	15064	19212
130	8404	8858	12662	9880	10221	14139	10902	12265	15558	12094	13628	17262	12662	14252	18170	13968	15672	19987
132	8623	9089	12993	10138	10487	14508	11187	12585	15964	12410	13983	17712	12993	14624	18645	14333	16081	20509
137	9177	9673	13828	10790	11162	15441	11906	13394	16991	13208	14883	18851	13828	15565	19844	15255	17115	21823
142	9740	10267	14676	11451	11846	16388	12636	14216	18033	14018	15795	20007	14676	16519	21060	16190	18165	23166
147	10310	10868	15535	12122	12540	17347	13376	15048	19088	14839	16720	21178	15535	17486	22293	17138	19228	24522
152	10887	11475	16404	12799	13241	18317	14124	15889	20156	15668	17655	22363	16404	18464	23540	18096	20303	25894
157	11469	12089	17281	13484	13949	19296	14879	16739	21234	16506	18599	23558	17281	19451	24798	19064	21389	27278
162	12056	12707	18165	14174	14663	20283	15640	17595	22320	17351	19550	24764	18165	20446	26067	20039	22483	28674
167	12646	13330	19055	14868	15381	21277	16406	18457	23413	18201	20508	25977	19055	21448	27344	21021	23584	30079
172	13240	13956	19950	15566	16103	22276	17176	19323	24512	19055	21470	27196	19950	22454	28627	22007	24691	31490
177	13835	14583	20847	16266	16827	23277	17949	20192	25615	19912	22436	28419	20847	23464	29915	22997	25802	32906
182	14432	15212	21746	16967	17553	24281	18723	21063	26719	20771	23404	29645	21746	24476	31205	23989	26914	34326
187	15029	15841	22645	17669	18278	25285	19497	21934	27824	21630	24371	30871	22645	25489	32495	24981	28027	35745
192	15625	16470	23544	18370	19004	26289	20271	22804	28928	22488	25338	32095	23544	26500	33785	25972	29139	37163
197	16220	17097	24440	19069	19727	27289	21042	23672	30029	23344	26303	33317	24440	27508	35070	26960	30248	38578
202	16812	17721	25332	19766	20447	28285	21810	24537	31125	24196	27263	34533	25332	28513	36351	27945	31353	39986
208	17518	18465	26396	20596	21306	29474	22727	25567	32433	25212	28408	35984	26396	29710	37878	29119	32670	41666

系泊链

系泊链

系泊链性能指标 Mechanical Property

级别 Grade	屈服强度 Yield stress ⁴⁾	抗拉强度 Tensile strength ⁴⁾	延伸率 Elongation	断面收缩率 Reduction of area	夏比 V 型缺口 Charpy V-notch				
					温度 ¹⁾ Temperature	母材 Base		焊口 Weld	
	平均值 Average energy	单值 Single energy	平均值 Average energy	单值 Single energy					
	°C	J	J	J		J			
R3	410	690	17	50 ²⁾	0	60	45	50	38
					-20	40	30	30	23
R3S	490	770	15	50 ²⁾	0	65	49	53	40
					-20	45	34	33	25
R4	580	860	12	50 ³⁾	-20	50	38	36	27
R4S	700	960	12	50 ³⁾	-20	56	42	40	30
R5	760	1000	12	50 ³⁾	-20	58	44	42	32
R6	900	1100	12	50 ³⁾	-20	60	46	44	34

1) R3 和 R3S 级别, 可在 0°C 或 -20°C 进行冲击测试。
For grade R3 and R3S, testing may be carried out at either 0°C or -20°C.

2) 铸造附件的最低值应为 40% For cast accessories, the minimum value shall be 40%.

3) 铸造附件的最低值应为 35% For cast accessories, the minimum value shall be 35%.

4) 仅供参考: 典型的屈服比是在 0.85-0.95 之间。拉伸强度通常不超过最小拉伸强度 150MPa。
For guidance only: Typical yield to tensile strength ration is in the range of 0.85 to 0.95. Tensile strength is normally not to exceed the minimum tensile strength with more than 150 MPa.



船用锚链

Marine Chain

正茂集团是国内船用链行业先驱者, 年产 10 万吨超大规模锚链, 产品出口 30 多个国家和地区, 国内外享有盛誉。

40 多年来为客户提供优质的船用锚链及配套产品, 如锚, 卸扣, 弃锚器, 掣链器, 缆绳, 护舷, 舱口盖等, 广泛用于各种船舶, 起吊, 防撞, 养殖, 核电等领域。

与各大船厂建立长期合作, 如国内的沪东, 江南, 大连, 广船, 外高桥, 韩国的大宇, 三星, 现代船厂以及世界其它知名船厂。

Zheng Mao is the recognized leader of the Marine chain industry in China since 1974, with an annual output of 100,000 tons of marine chain, supplying to customers in over 30 countries with well-known reputation in the world.

For more than 40 years, we have provided customers with high-quality marine anchor chains and ancillary products, such as anchors, shackles, cable clenches, chain stoppers, ropes, fenders, hatch cover etc., which are widely used in various ships, lifting, anti-collision, aquaculture, nuclear power plant and other fields.

ZhengMao has established long-term friendly cooperative relationships with major shipyards like Hudong, Jiangnan, Dalian, Guangchuan and Shanghai Waigaoqiao Shipbuilding etc. in China, the world famous Daewoo, Samsung, Hyundai in south Korea, and other famous shipbuilding facilities in the world.



证书 Certificates



ABS

BV

CCS

DNV-GL



IRS

KR

ZC

RMRS



LR

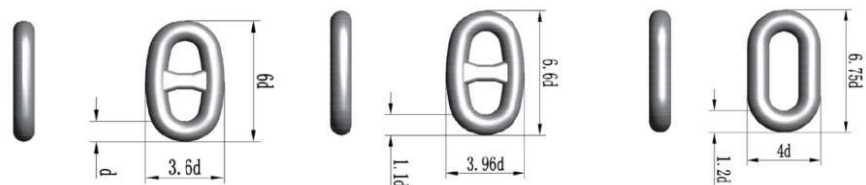
NK

RINA



主营产品 Main Products

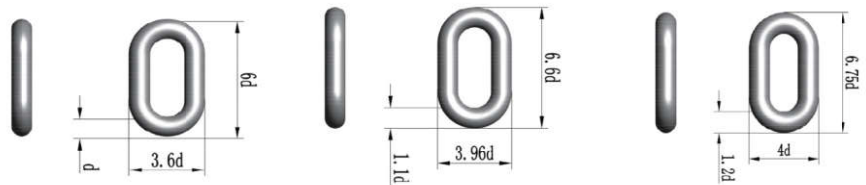
Marine Chain & Accessories--Diameter up to 172mm:Grade U2 & U3



有档普环
Stud Common Link

有档加大环
Stud Enlarge Link

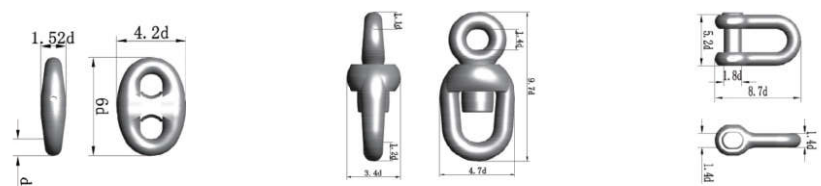
有档末端环
Stud End Link



无档普环
Studless Common Link

无档加大环
Studless Enlarge Link

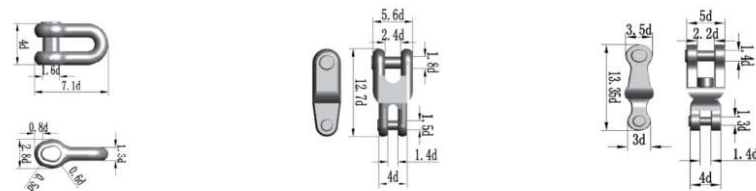
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Studless End Link



肯特卸扣
Kenter Shackle

转环
Swivel

末端卸扣
Anchor Shackle



连接卸扣
Joining Shackle

旋转卸扣
Swivel Shackle-A type

旋转卸扣
Swivel Shackle-B type

船用锚链生产流程

Marine chain manufacturing process

- ① 原材料入库复检
Material Receipt Inspection
- ② 下料
Cutting
- ③ 材料加热
Bar Heating
- ④ 弯环
Bending
- ⑤ 焊接
Welding



- ⑧ 焊档&预检
Stud welding&Pre-inspection
- ⑨ 热处理
Heat Treatment
- ⑩ 拉力试验
Proof Testing
- ⑪ 抛丸
Shot Blasting
- ⑫ 打包
Packing



- ⑥ 去刺
Trimming
- ⑦ 压档
Stud Setting



- ⑬ 浸漆
Painting
- ⑭ 发货
Delivery



负荷实验

Load Testing

船用锚链 Marine Chain				
链径 Diameter Of Chain	Grade 2		Grade 3	
	拉力负荷	破断负荷	拉力负荷	破断负荷
	Proof Load	Breaking Load	Proof Load	Breaking Load
	$0.00981d^2(44-0.08d)$	$0.01373d^2(44-0.08d)$	$0.01373d^2(44-0.08d)$	$0.01961d^2(44-0.08d)$
mm	KN	KN	KN	KN
12.5	65	92	92	131
14	82	115	115	164
16	107	150	150	214
17.5	127	179	179	255
19	150	210	210	300
20.5	174	244	244	349
22	200	280	280	400
24	237	332	332	475
26	277	389	389	555
28	321	449	449	642
30	367	514	514	734
32	416	582	582	832
34	468	655	655	935
36	522	731	731	1045
38	580	812	812	1159
40	640	896	896	1280
42	703	984	984	1405
44	768	1076	1076	1536
46	836	1171	1171	1673
48	907	1270	1270	1814
50	981	1373	1373	1961
52	1056	1479	1479	2112
54	1135	1588	1588	2269
56	1215	1701	1701	2430
58	1298	1817	1817	2596
60	1384	1937	1937	2767
62	1472	2060	2060	2942
64	1562	2186	2186	3122
66	1654	2315	2315	3307
68	1749	2448	2448	3496
70	1845	2583	2583	3689

负荷实验

Load Testing

船用锚链 Marine Chain				
链径 Diameter Of Chain	Grade 2		Grade 3	
	拉力负荷	破断负荷	拉力负荷	破断负荷
	Proof Load	Breaking Load	Proof Load	Breaking Load
	$0.00981d^2(44-0.08d)$	$0.01373d^2(44-0.08d)$	$0.01373d^2(44-0.08d)$	$0.01961d^2(44-0.08d)$
mm	KN	KN	KN	KN
73	1994	2792	2792	3987
76	2148	3007	3007	4295
78	2253	3154	3154	4505
81	2414	3379	3379	4827
84	2580	3611	3611	5158
87	2750	3849	3849	5497
90	2924	4092	4092	5845
92	3042	4257	4257	6081
95	3222	4510	4510	6442
97	3345	4681	4681	6686
100	3531	4942	4942	7059
102	3657	5119	5119	7312
105	3850	5388	5388	7696
107	3980	5570	5570	7956
111	4244	5941	5941	8485
114	4446	6223	6223	8889
117	4651	6510	6510	9298
120	4859	6801	6801	9714
122	4999	6997	6997	9993
124	5140	7194	7194	10275
127	5354	7493	7493	10703
130	5570	7796	7796	11135
132	5715	7999	7999	11425
137	6083	8514	8514	12160
142	6456	9036	9036	12906
147	6834	9565	9565	13661
152	7216	10100	10100	14425
157	7602	10640	10640	15197
162	7991	11184	11184	15974
167	8382	11732	11732	16757
172	8776	12283	12283	17543

船用锚链

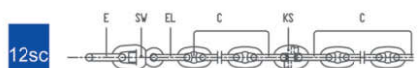
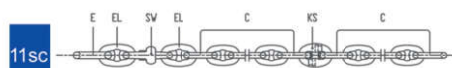
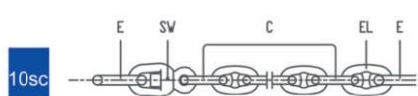
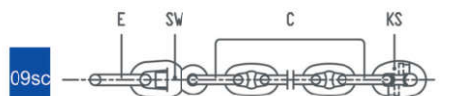
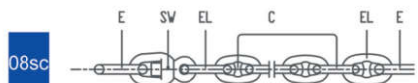
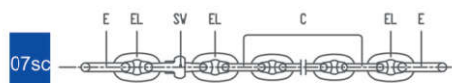
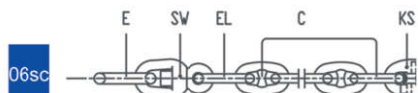
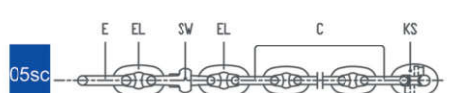
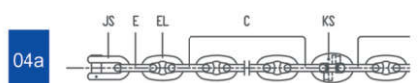
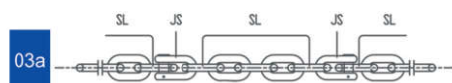
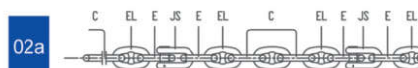
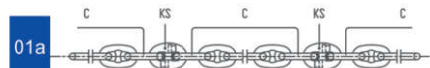
船用锚链

船用锚链连接形式

Joining Forms of Marine Chain

系泊系统

Mooring System



公司利用自身多年的经验与专业设计公司合作，为客户量身定制系泊系统方案，并凭借丰富的管理经验，从国内优选相应配套设备，如：锚机、掣链器、钢丝绳、缆绳，沉块，锚等产品；用自己的质量管理体系对各制造商进行质量、环保及安全方面的体系审核，并对产品制造过程进行管理。

With years experienced engineering background, ZhengMao work with professional design companies to tailor design the mooring system for customers. The Company's profound management experience will optimize the corresponding products sourcing from the whole country, such as: windlass, chain lockers, steel wire ropes, polyester ropes, sinkers, anchors, etc.; we extend our own quality control system to well manage quality, environmental protection and safety system audits for each sub-supplier/manufacturer, and monitor their manufacturing process.



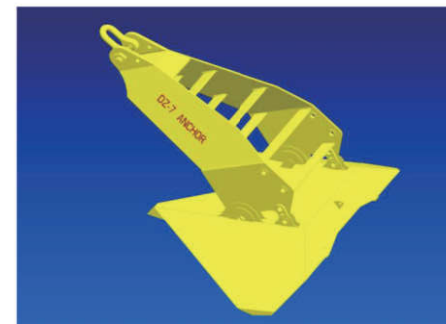
系泊系统 Mooring System



整体配套产品 Auxiliary Products



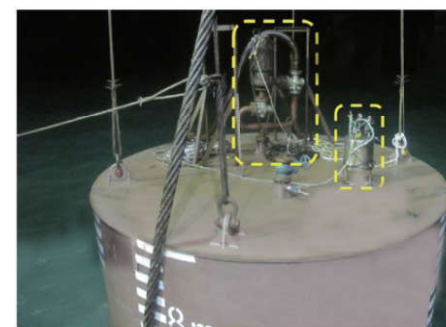
浮筒 Buoy



锚 Anchor



系泊缆绳 Polyester Cable



吸力锚 Suction Anchor



沉块 Clump weight



沉块 Clump weight

精心制造

Manufacturing Elaborately

环环可靠

Guaranteeing Each Link

关注期望

Focus on Customer's Expectation

持续改进

Continual Improvement



发展愿景：铸一流品质 成一流品牌

拥有一流品质的员工队伍，创造一流品质的产品质量，提供一流品质的客户服务，成为锚链行业具有卓著地位的制链企业集团。

具有高于同行、优于竞争者的品牌价值，具有持续的盈利能力和成长能力，代表一流的行业技术标准和品质标准。

Development Vision: To build first-rate quality, to achieve first-rate brand.

To build first-rate quality --- to possess employees with first-rate quality; to create first-rate product quality; to provide customer service of first-rate quality; to become chain enterprise with outstanding status in chain industry.

To achieve first-rate brand --- to possess brand value higher than same industries and superior to competitors; to have sustained profitability and growth ability; be able to represent first-rate industry technical standard and quality standard.



销售网络

Sales Channel

公司产品被国内外各主要船舶、海洋工程项目重点选用之一。

国内主要用户：江南、沪东中华、外高桥、黄埔、文冲、广船国际、招商局重工、广东中远、大连重工、渤海重工，澄西船舶、山东北海、中集来福士，黄海，青岛、马尾、东南、厦门，福州，湖北的武昌、长江沿线等数十家主要船厂等。

国外部分用户：如 InterMoor、NOV/APL、SBM、SOFEC 等著名公司等多个项目。

