

Jiangsu Asian Star Anchor Chain Co., Ltd.

No. 88, Meirengang Road,
Dongxing Town, Jingjiang, Jiangsu, P. R. China

Dear Sirs,

Approval No. : CH1/CA23

Certificate No. : TA22787E

Date: 19 October 2022

**Approval of the Manufacturing Process of Offshore Mooring Chains and
Offshore Mooring Chain Accessories**

We, Nippon Kaiji Kyokai, have recognized the manufacturing process of chain links and chain accessories being approved in accordance with the requirement in 3.2.5, Part L of the Rules under the following condition:

1. Manufacturer : Jiangsu Asian Star Anchor Chain Co., Ltd.
2. Products : Grade R3, R3S, R4 and R4S Chain Links and
Grade R3, R3S, R4 and R4S Chain Accessories
3. Supply Conditions : See the table below

Table Supply Conditions

Kind	Products	Material	Manufacturing Process	Heat Treatment	Max. Nominal Diameter	Remarks
Grade R3 (with stud)	Common link	KSBCR3	Flash butt welded	Quenched and tempered	157mm	(1), (2)
	End link	KSBCR3	Flash butt welded	Quenched and tempered	132mm	
Grade R3 (studless)	Common link	KSBCR3	Flash butt welded	Quenched and tempered	157mm	(1)
				Double Quenched and tempered	220mm	
	End link	KSBCR3	Flash butt welded	Double Quenched and tempered	184mm	
Grade R3 (With stud and Studless)	Common Link	KSBCR3	Flash butt welded	Quenched and tempered	167mm	(6)
	End Link				140mm	
Grade R3	Kenter Shackle End Shackle Joining Shackle End Joining Shackle H Shackle	KSFCR3	Forging	Normalized, quenched and tempered	187mm	(3), (5)
	Swivel	KSFCR3	Forging	Quenched and tempered	137mm	(3), (4)
	Swivel Shackle	KSFCR3	Forging	Quenched and tempered	102mm	
Grade R3S (with stud)	Common link	KSBCR3S	Flash butt welded	Quenched and tempered	157mm	(1), (2)
	End link	KSBCR3S	Flash butt welded	Quenched and tempered	132mm	

(to be cont.)

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Table Supply Conditions (Continued)

Kind	Products	Material	Manufacturing Process	Heat Treatment	Max. Nominal Diameter	Remarks
Grade R3S (studless)	Common link	KSBCR3S	Flash butt welded	Quenched and tempered	157mm	(1)
				Double Quenched and tempered	220mm	
	End link	KSBCR3S	Flash butt welded	Double Quenched and tempered	184mm	
Grade R3S	Kenter Shackle End Shackle Joining Shackle End Joining Shackle H Shackle	KSFCR3S	Forging	Normalized, quenched and tempered	187mm	(3), (5)
	Swivel	KSFCR3S	Forging	Quenched and tempered	137mm	(3), (4)
	Swivel Shackle	KSFCR3S	Forging	Quenched and tempered	102mm	
Grade R4 (with stud)	Common link	KSBCR4	Flash butt welded	Quenched and tempered	124mm	(1), (2)
Grade R4 (studless)	Common link	KSBCR4	Flash butt welded	Quenched and tempered	147mm	(1)
				Double Quenched and tempered	220mm	
	End link	KSBCR4	Flash butt welded	Double Quenched and tempered	184mm	
Grade R4 (With stud and Studless)	Common Link	KSBCR4	Flash butt welded	Quenched and tempered	167mm	(7)
	End Link				140mm	
Grade R4	Kenter Shackle End Shackle Joining Shackle End Joining Shackle H Shackle	KSFCR4	Forging	Normalized, quenched and tempered	187mm	(3), (5)
	Swivel	KSFCR4	Forging	Quenched and tempered	137mm	(3), (4)
	Swivel Shackle	KSFCR4	Forging	Quenched and tempered	102mm	

(to be cont.)

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Table Supply Conditions (Continued)

Kind	Products	Material	Manufacturing Process	Heat Treatment	Max. Nominal Diameter	Remarks
Grade R4S (studless)	Common link	KSBCR4S	Flash butt welded	Double Quenched and tempered	200mm	(1)
	End link	KSBCR4S	Flash butt welded	Double Quenched and tempered	184mm	
Grade R4S	Kenter Shackle End Shackle Joining Shackle End Joining Shackle H Shackle	KSFCR4S	Forging	Normalized, quenched and tempered	187mm	(3), (5)
	Swivel	KSFCR4S	Forging	Quenched and tempered	137mm	(3), (4)

Remarks:

- (1) Round bars for chains manufactured by Jiangyin Xingcheng Special Steel Works Co., Ltd. are to be used.
- (2) Studs are not to be welded.
- (3) Raw materials (Remelting process: ESR process) manufactured by Jiangyin Xingcheng Special Steel Works Co., Ltd. are to be used.
- (4) Minimum forging ratios are as follows:
Swivel: 1.6 / Swivel Shackle: 1.1
- (5) Minimum forging ratios are as follows:
Kenter Shackle: 1.39 / End Shackle: 1.96 / Joining Shackle: 1.85
End Joining Shackle: 2.56 / H Shackle: 1.99
- (6) Round bars for chains manufactured by Jiangsu Shagang Group Huaigang Special Steel Co., Ltd. are to be used.
- (7) Round bars for chains manufactured by Shijianzhuang Iron & Steel Co., Ltd. Special Steel Branch are to be used.

The products for the ships classed with the Society are to be tested/inspected in compliance with the Rules.

This certificate is valid from 19 October 2022 until 26 September 2027.
Issued at Tokyo on 19 October 2022.

Yours faithfully,
NIPPON KAIJI KYOKAI

Y. Takao
General Manager
Material and Equipment Department



Note: This certificate was rewritten because of addition of Round bars manufacturer.