



RULES
R009CN02-2024

CHINA CLASSIFICATION SOCIETY

CCS Rule Change Notice For:

**Rules for Construction of
Ocean-going Steel Fishing Vessels**

Version: 2024.RCN No.2

Effective date: 1 January, 2025

Beijing

CONTENTS

PART 1 HULL	1
APPENDIX III GUIDELINES FOR CALCULATION OF BENDING MOMENT AND SHEAR FORCE DISTRIBUTION	1-1
PART 2 ENGINE AND FISHING MACHINERY EQUIPMENT	2
CHAPTER 1 GENERAL	2-1
Section 1 GENERAL PROVISIONS	2-1
CHAPTER 2 GENERAL PROVISIONS FOR PUMPS AND PIPING SYSTEMS	2-2
Section 1 GENERAL PROVISIONS	2-2
Section 5 CONNECTION OF PIPE LENGTHS	2-2
CHAPTER 5 DIESEL ENGINES	2-4
Section 5 STARTING ARRANGEMENTS	2-4
PART 5 CONTROL, MONITORING, ALARM AND SAFETY SYSTEM	5
CHAPTER 1 GENERAL	5-1
Section 6 REMOTE CONTROL OF BRIDGE	5-1



CHINA CLASSIFICATION SOCIETY

CCS Rule Change Notice For:

**Rules for Construction of
Ocean-going Steel Fishing Vessels**

Version: 2024.RCN No.2

PART 1 HULL

APPENDIX III GUIDELINES FOR CALCULATION OF BENDING MOMENT AND SHEAR FORCE DISTRIBUTION

2.5 Semi spade rudder with 2-conjugate elastic support

Data for the analysis

K_{11} , K_{2212} , K_{2212} — Rudder horn compliance constants calculated for rudder horn with 2-conjugate elastic supports (Figure 2.5.1). The 2-conjugate elastic supports are defined in terms of horizontal displacements, y_i , by the following equations:

at the lower rudder horn bearing:

$$y_1 = -K_{12}B_2 - K_{22}B_1$$

at the upper rudder horn bearing:

$$y_2 = -K_{11}B_2 - K_{12}B_1$$

where: y_1, y_2 — Horizontal displacements, in m, at the lower and upper rudder horn bearings, respectively.

B_1, B_2 — Horizontal support forces, in kN, at the lower and upper rudder horn bearings, respectively.

$K_{11}, K_{2212}, K_{2212}$ — Obtained, in m/kN, from the following formulae:

$$K_{11} = 1.3 \times \frac{\lambda^3}{3EJ_{1h}} + \frac{e^2\lambda}{GJ_{th}}$$

$$K_{2212} = 1.3 \times \left[\frac{\lambda^3}{3EJ_{1h}} + \frac{\lambda^2(h-\lambda)}{2EJ_{1h}} \right] + \frac{e^2\lambda}{GJ_{th}}$$

$$K_{1222} = 1.3 \times \left[\frac{\lambda^3}{3EJ_{1h}} + \frac{\lambda^2(d-\lambda)}{EJ_{1h}} + \frac{\lambda(h-\lambda)^2}{EJ_{1h}} + \frac{(h-\lambda)^3}{3EJ_{2h}} \right] + \frac{e^2\lambda}{GJ_{th}}$$



CHINA CLASSIFICATION SOCIETY

CCS Rule Change Notice For:

**Rules for Construction of
Ocean-going Steel Fishing Vessels**

Version: 2024.RCN No.2

**PART 2 ENGINE AND FISHING MACHINERY
EQUIPMENT**

CHAPTER 1 GENERAL

Section 1 GENERAL PROVISIONS

1.1.3 Ambient conditions

1.1.3.1 For the structure and arrangement of the diesel engines and transmission gear of shafting for fishing vessels, ~~as well as~~ mechanical equipment related to the safety of fishing vessels, switch gear, electrical and electronic appliances and remote-control systems, the structure and arrangement are to ensure normal operation at the inclination angle of fishing vessel specified in Table 1.1.3.1 (horizontal and vertical inclinations may occur simultaneously). Considering the type, size, navigation area and service conditions of fishing vessel, deviation from the inclination angles listed below upon being approved by CCS.

Angle of inclination of fishing vessels

Table 1.1.3.1

Installations and equipment	Angle of inclination ^①			
	Athwartships		Fore-and-aft	
	Static	Dynamic	Static	Dynamic
Main and auxiliary machinery, shaft system	15°	±22.5°	5° ^②	±7.5°
Emergency power installations Telecontrol system Emergency fire pumps <u>Switch gear, electrical and electronic appliances^③ and remote-control systems</u>	22.5°	±22.5°	10°	±10°

Note: ^① Athwartships and fore-and-aft inclinations may occur simultaneously.

^② Where the length of the ship exceeds 100 m, the fore-and-aft static angle of inclination may be taken as 500/L degrees, where L = length of the ship, in m.

^③ No undesired switching operations or operational changes are to occur.

(1) Main propulsion and steering machinery and auxiliary machinery that is essential to the propulsion and steering, and the safety of the ship shall be capable of operation under the effects of acceleration and motions.

(2) Ship builders are to identify and document the ship accelerations and motions periods to which machinery and equipment might be subjected to. The expected accelerations and ship motions periods are to be within machinery and equipment manufacturers requirements. The estimations are to consider vessel type, machinery or equipment location and expected service conditions.

(3) Machinery and equipment manufacturers are to submit evidence to the Classification Society that their machinery or equipment can operate under the required static and dynamic conditions stated in Table 1.1.3.1 and at least at the levels of shipboard accelerations as stated in provisions of (2) above. Documentation of satisfactory performance shall take the form of:

^① Report of testing under representative conditions; or

^② Report of theoretical verification using recognised computational techniques accompanied

by detailed and relevant validation data: or

③ Historical data which provides relevant demonstration of satisfactory experience in service.

(4) Machinery and equipment manufacturers are to submit details of the requirements /recommendations for installation of the machinery and equipment onboard to ensure satisfactory operation in service under the required static and dynamic conditions as described in Table 1.1.3.1 and at least at the levels of shipboard accelerations as stated in provisions of (2) above.

Note: Consideration should be given for positioning machinery in order to minimize the dynamic load on bearings due to ship motion.

(5) Shipbuilders are to submit details demonstrating that the installation of the machinery and equipment onboard is in accordance with manufacturer's requirements /recommendations.

CHAPTER 2 GENERAL PROVISIONS FOR PUMPS AND PIPING SYSTEMS

Section 1 GENERAL PROVISIONS

2.1.4 Classes of pipes

Piping system class

Table 2.1.4.1

Piping system	Class I		Class II		Class III	
	Design pressure, in MPa	Design temperature, in °C	Design pressure, In MPa	Design temperature, in °C	Design pressure, in MPa	Design temperature, in °C
Steam	> 1.6	Or > 300	≤ 1.6	and ≤300	≤ 0.7	and ≤170
Fuel oil, lub-oil, flammable hydraulic oil	> 1.6	Or > 150	≤ 1.6	and ≤150	≤ 0.7	and ≤60
Other media	> 4.0	Or > 300	≤4.0	and ≤300	≤ 1.6	and ≤200

Note: ① For Class I piping, one parameter for design pressure and design temperature of Class I specified in the Table is to be met; For Class II and III piping, one parameter for design pressure and design temperature of Class II and III specified in the Table is to be met;

② Other media mean air, water, and non-flammable hydraulic oil, [Urea for SCR systems](#)¹.

③ Class III pipes may be used for open ended piping, e.g. drains, overflows, vents boiler waste steam pipes, etc.

Section 5 CONNECTION OF PIPE LENGTHS

2.5.1 Connection of pipe lengths

2.5.1.2 The application of the aforesaid types of connection is as follows:

(2) Slip-on threaded joints are to comply with requirements of a recognized standard. Slip-on threaded joints may be used for outside diameters as stated below except for piping systems conveying toxic or flammable media or services where fatigue, severe erosion or crevice is expected to occur. Threaded joints in CO₂ systems are to be allowed only inside protected spaces and in CO₂ cylinder rooms.

[① Slip-on threaded joints may be used for connecting small bore instrumentation equipment \(e.g., pressure/temperature sensors\) to piping systems conveying flammable media if such connections comply with a recognized national and/or international standard². The use of such threaded joints shall be limited to outside diameters of maximum 25mm.](#)

¹ When piping materials selected according to ISO 18611-3:2014 for Urea in SCR systems.

² Standards such as ASME B31.1 and ASME B31.3 may be referenced for the purpose.

①② Threaded joints for direct connectors of pipe lengths with tapered thread may be allowed for Class I outside diameter not more than 33.7 mm as well as Class II and Class III, outside diameter not more than 60.3 mm.

②③ Threaded joints for parallel thread may be allowed for Class III, outside diameter not more than 60.3mm.

③④ In particular cases, sizes in excess of those mentioned above may be accepted if they satisfy the requirements of recognized international or national standards.

Application of mechanical joints depending upon the class of piping Table 2.5.3.1(3)

Types of joints	Classes of piping system		
	Class I	Class II	Class III
Pipe unions			
Welded and brazed type	x ($D_0 \leq 60.3\text{mm}$)	x ($D_0 \leq 60.3\text{mm}$)	x
Compression couplings			
Swage type	x	x	x
Bite type	x ($D_0 \leq 60.3\text{mm}$)	x ($D_0 \leq 60.3\text{mm}$)	x
Flared type	x ($D_0 \leq 60.3\text{mm}$)	x ($D_0 \leq 60.3\text{mm}$)	x
Press type	-	-	x
Slip-on joints			
Machine grooved type	x	x	x
Grip type	-	x	x
Slip type	-	x	x

CHAPTER 5 DIESEL ENGINES

Section 5 STARTING ARRANGEMENTS

5.5.2 Air charging devices

5.5.2.1 At least two sets of air compressors are to be installed, including at least one set driven independently of the main engine. The capacity of one of the said independently driven compressors or the combined capacity of independently driven compressors shall not be less than 50% of total required capacity, where main engines are arranged to be started by compressed air.



CHINA CLASSIFICATION SOCIETY

CCS Rule Change Notice For:

**Rules for Construction of
Ocean-going Steel Fishing Vessels**

Version: 2024.RCN No.2

**PART 5 CONTROL, MONITORING, ALARM
AND SAFETY SYSTEM**

CHAPTER 1 GENERAL

Section 6 REMOTE CONTROL OF BRIDGE

1.6.1 General requirements

1.6.1.4 ~~The remote control systems and control devices thereof are to be so designed that alarm will be triggered in case of the system failure, and the preset speed and propulsion direction are to remain unchanged till the local control. In particular, lack of power (electric, pneumatic, hydraulic) or changeover of control is not to lead to major and sudden change in propulsion power or propulsion direction.~~ The design of the bridge control system is to be such that in case of its failure, an alarm is given. In this case, the speed and direction of the propeller thrust is to be maintained until local control is in operation, unless this is considered impracticable. In particular, lack of power (electric, pneumatic, hydraulic) is not to lead to major and sudden change in propulsion power or direction of propeller rotation.