

Amendment on 27 June 2024
Resolved by Technical Committee on 30 January 2024

Rudder Carrier Bearing

Object of Amendment

Guidance for the Survey and Construction of Steel Ships Part C Part 1

Reason for Amendment

The standard requirements regarding the thrust bearings of rudder carriers stipulated in the NK Rules were established based on the service histories and other information known about the materials commonly used and the surface pressures for bearings at that particular time.

In recent years, however, there has been an increase in requests to allow the use of other materials, such as resins, that were not envisioned at the time the aforementioned requirements were established.

Therefore, relevant requirements are amended so that materials and surface pressures other than those specified in the standard requirements can be used provided that their equivalency and safety can be confirmed.

Outline of Amendment

Amends relevant requirements to stipulate that materials and surface pressures other than those specified in the standard requirements can be used provided that good lubrication can be confirmed under the assumed bearing surface pressure.

Effective Date and Application

Effective date of this amendment is 27 June 2024.

ID: DH23-17

Amended-Original Requirements Comparison Table (Rudder Carrier Bearing)

Amended	Original	Remarks
<p>GUIDANCE FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS</p> <p>Part C HULL CONSTRUCTION AND EQUIPMENT</p> <p>Part 1 GENERAL HULL REQUIREMENTS</p>	<p>GUIDANCE FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS</p> <p>Part C HULL CONSTRUCTION AND EQUIPMENT</p> <p>Part 1 GENERAL HULL REQUIREMENTS</p>	
C13 RUDDERS	C13 RUDDERS	
C13.2 Rudders	C13.2 Rudders	
C13.2.11 Rudder Accessories	C13.2.11 Rudder Accessories	
<p>C13.2.11.1 Rudder Carriers</p> <p>1 Rudder carriers and intermediate bearings are to be of steel. They are not to be of cast iron.</p> <p>2 Thrust bearing of rudder carrier is to comply with the followings</p> <p>(1) The bearing is to be provided with a bearing disc made of <i>CAC400</i> or other equivalent materials.</p> <p>(2) The calculated bearing pressure is not to exceed <i>0.98MPa</i> as a standard. In calculating the weight of the rudder, its buoyancy is to be neglected.</p> <p><u>(3) The requirements in (1) and (2) above need not be applied to bearings in cases where good lubrication can be confirmed under the assumed bearing surface</u></p>	<p>C13.2.11.1 Rudder Carriers</p> <p>1 Rudder carriers and intermediate bearings are to be of steel. They are not to be of cast iron.</p> <p>2 Thrust bearing of rudder carrier is to comply with the following <u>(1) to (3)</u>:</p> <p>(1) The bearing is to be provided with a bearing disc made of <i>CAC400</i> or other equivalent materials.</p> <p>(2) The calculated bearing pressure is not to exceed <i>0.98MPa</i> as a standard. In calculating the weight of the rudder, its buoyancy is to be neglected.</p> <p>(New)</p>	

Amended-Original Requirements Comparison Table (Rudder Carrier Bearing)

Amended	Original	Remarks
<p><u>pressure through documentation submitted either by manufacturers or shipyards.</u></p> <p>(4) The bearing part is to be well lubricated by dripping oil, automatic grease feeding, or a similar method.</p> <p>(5) The bearing is to be designed to be structurally below the level of lubricating oil at all times. (See Fig. C13.2.11-1)</p> <p>EFFECTIVE DATE AND APPLICATION</p> <ol style="list-style-type: none"> The effective date of this amendment is 27 June 2024. For ships subject to Part C of the Rules for the Survey and Construction of Steel Ships prior to its comprehensive revision by Rule No.62 on 1 July 2022 (hereinafter referred to as “old Part C of the Rules”), this amendment also applies to C3.11.1, old Part C of the Rules. 	<p>(3) The bearing part is to be well lubricated by dripping oil, automatic grease feeding, or a similar method.</p> <p>(4) The bearing is to be designed to be structurally below the level of lubricating oil at all times. (See Fig. C13.2.11-1)</p>	