Amendment on 26 December 2024 Resolved by Technical Committee on 23 July 2024

# Flanged Joints and Expansion Bends of Cargo Oil Piping and Ballast Piping

## **Object of Amendment**

Rules for the Survey and Construction of Steel Ships Part D Guidance for the Survey and Construction of Steel Ships Part D

### **Reason for Amendment**

IACS Unified Requirement (UR) F15 specifies requirements for cargo piping passing through ballast tanks and ballast piping passing through cargo tanks, as permitted by Regulation 19.3.6 of MARPOL Annex I. These requirements have already been incorporated into the NK Rules.

Recently, IACS clarified the terms used in this UR and adopted UR F15(Rev.7) in September 2023.

Accordingly, relevant requirements are amended based upon UR F15(Rev.7).

# **Outline of the Amendment**

Adds definitions for "flanged joints which have no risk of leakage" and "expansion bends" to Chapter 14, Part D of the Rules for the Survey and Construction of Steel Ships.

#### **Effective Date and Application**

This amendment applies to ships for which the date of contract for construction is on or after 1 January 2025.

An asterisk (\*) after the title of a requirement indicates that there is also relevant information in the corresponding Guidance.

ID: DD24-09

Amended-Original Requirements Comparison Table

(Flanges Joints and Expansion Bends of Cargo Oil Piping and Ballast Piping)

Amended	Original	Remarks
RULES FOR THE SURVEY AND	RULES FOR THE SURVEY AND	
<b>CONSTRUCTION OF STEEL SHIPS</b>	<b>CONSTRUCTION OF STEEL SHIPS</b>	
Part D MACHINERY INSTALLATIONS	Part D MACHINERY INSTALLATIONS	
Chapter 14 PIPING SYSTEMS FOR TANKERS	Chapter 14 PIPING SYSTEMS FOR TANKERS	
14.2 Cargo Oil Pumps, Cargo Oil Piping Systems, Piping in Cargo Oil Tanks, etc.	14.2 Cargo Oil Pumps, Cargo Oil Piping Systems, Piping in Cargo Oil Tanks, etc.	
14.2.4 Separation of Cargo Oil Pumps and Cargo Oil Pipes*	14.2.4 Separation of Cargo Oil Pumps and Cargo Oil Pipes*	
6 Notwithstanding the preceding -5, in the case of oil tankers other than double hull tankers, cargo oil pipes may pass through ballast tanks provided that the connections of these pipes are of welded joints or flanged joints which have no risk of leakage. Expansion bends only are permitted in these lines within ballast tanks.	6 Notwithstanding the preceding -5, in the case of oil tankers other than double hull tankers, cargo oil pipes may pass through ballast tanks provided that the connections of these pipes are of welded joints or flanged joints which have no risk of leakage. Expansion bends only, not glands, are permitted in these lines within ballast tanks.	UR F15 (Rev.7) F15.1.1 Delete "not gland"
<ul> <li>14.2.7 Piping in Cargo Oil Tanks*</li> <li>5 Notwithstanding the preceding -4, in the case of oil tankers other than double hull tankers, ballast pipes of ballast tanks adjacent to cargo oil tanks may pass through cargo oil tanks provided that the connections of these pipes are of welded joints or flanged joints which have no risk of leakage. Expansion bends only are permitted in these lines within cargo oil tanks.</li> </ul>	<ul> <li>14.2.7 Piping in Cargo Oil Tanks*</li> <li>5 Notwithstanding the preceding -4, in the case of oil tankers other than double hull tankers, ballast pipes of ballast tanks adjacent to cargo oil tanks may pass through cargo oil tanks provided that the connections of these pipes are of welded joints or flanged joints which have no risk of leakage. Expansion bends only, not glands, are permitted in these lines within cargo oil tanks.</li> </ul>	UR F15 (Rev.7) F15.1.1 Delete "not gland"

# Amended-Original Requirements Comparison Table (Flanges Joints and Expansion Bends of Cargo Oil Piping and Ballast Piping)

In the effective date of the amendments, the current requirements apply to ships for which the date of contract for construction" is before the effective date. * "contract for construction" is defined in the latest version of IACS Procedural Requirement (PR) No.29. IACS PR No.29 (Rev.0, July 2009) In the date of "contract for construction" of a vessel is deate on which the contract to the classification society by the pary applying for the assignment of these there is signed between the prospective owner and the shipbuilder. This date and the construction makers (i.e. hull numbers) of all the vessels including genified optional vessels for which the option is ultimately exercised, is the date on which the contract to be classification society by the pary applying for the assignment of these these is signed between the prospective owner and the shipbuilder. This date and the construction are obscillated in the contract to the classification society by the pary applying for the assignment of these these is signed between the prospective owner and the shipbuilder. (1) and alterations of and these alterations on the classification particles within a series may have design alteriations from the classification particles within a series may have design alteriations from the classification particles within a series and particles. (1) and alterations are solution equivalents, the seal learnions even the classification particles to the Solitish are approved. (1) and alterations are soluted to the Solitizations are obtained as a regret or construction is a mended to include additional vessels or additional options, the date of "contract to be considered as a "new contract" or which he alternations are solution to the construction of the solution of the solution of a secret and the shipbuilder. The amendment to the construction is a mended to include additional options, the date of "contract is to be considered as "review sampled". (2) and the solutions are solution the alternation are not contruction in a mended to inclu		Amended	Original	Remarks
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Note:	4.		ract for construction" of this modified vessel, or vessels, is the date on which revised contract	
		or new contract is signed between the Owner, or Owners, and the shipbuilder.		
This Procedural Requirement applies from 1 July 2009.	Note	x		
	This			

Amended-Original Requirements Comparison Table

(Flanges Joints and Expansion Bends of Cargo Oil Piping and Ballast Piping)

Amended	Original	Remarks
GUIDANCE FOR THE SURVEY AND	<b>GUIDANCE FOR THE SURVEY AND</b>	
CONSTRUCTION OF STEEL SHIPS	<b>CONSTRUCTION OF STEEL SHIPS</b>	
Part D MACHINERY INSTALLATIONS	Part D MACHINERY INSTALLATIONS	
D14 PIPING SYSTEMS FOR TANKERS	D14 PIPING SYSTEMS FOR TANKERS	
D14.2 Cargo Oil Pumps, Cargo Oil Piping Systems, Piping in Cargo Oil Tanks, etc.	D14.2 Cargo Oil Pumps, Cargo Oil Piping Systems, Piping in Cargo Oil Tanks, etc.	
D14.2.4 Separation of Cargo Oil Pumps and Cargo Oil Pipes	D14.2.4 Separation of Cargo Oil Pumps and Cargo Oil Pipes	
1 (Omitted)	(Omitted)	
2 The wording "flanged joints which have no risk of	(Newly added)	UR F15 (Rev.7) F15.1.1 Definitions of "flanged
leakage" in 14.2.4-5 and -6, Part D of the Rules means		joints which have no risk
welded flange joints rated at least a nominal pressure of 1.0		of leakage" and
MPa or a nominal pressure one rank higher than required		" expansion bends"
design pressure, whichever is greater.		
3 The wording "expansion bends" in 14.2.4-6, Part D of	(Newly added)	
the Rules means expansion loops such as omega bends in		
piping systems to counteract excessive stress or displacement		
caused by thermal expansion or hull deformation which could		
be fabricated from straight lengths of pipe.		
D14.2.7 Piping in Cargo Oil Tanks	D14.2.7 Piping in Cargo Oil Tanks	
1 (Omitted)	(Omitted)	
2 (Omitted)	(Omitted)	
<b>3</b> (Omitted)	(Omitted)	
4 (Omitted)	(Omitted)	

Amended-Original Requirements Comparison Table (Flanges Joints and Expansion Bends of Cargo Oil Piping and Ballast Piping)

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Amended	Original	Remarks		
5 The wording "flanged joints which have no risk of	(Newly added)	UR F15 (Rev.7) F15.1.1		
leakage" in 14.2.7-4 and -5, Part D of the Rules means		Definitions of "flanged		
welded flange joints rated at least a nominal pressure of 1.0		joints which have no risk		
MPa or a nominal pressure one rank higher than required		of leakage" and		
design pressure, whichever is greater.		"expansion bends"		
	(Newly added)	-		
6 The wording "expansion bends" in 14.2.7-5, Part D of	(itewiy duded)			
the Rules means expansion loops such as omega bends in				
piping systems to counteract excessive stress or displacement				
caused by thermal expansion or hull deformation which could				
be fabricated from straight lengths of pipe.				
EFFECTIVE DATE A	EFFECTIVE DATE AND APPLICATION			
<ol> <li>The effective date of the amendments is 1 January 2023</li> <li>Notwithstanding the amendments, the current require construction* is before the effective date.</li> <li>* "contract for construction" is defined in the latest version</li> </ol>				
IACS PR No.29 (Rev.0, July 2009)				
<ol> <li>The date of "contract for construction" of a vessel is the date on which the contract the construction numbers (i.e. hull numbers) of all the vessels included in the cont class to a newbuilding.</li> </ol>				
<ol><li>The date of "contract for construction" of a series of vessels, including specified op build the series is signed between the prospective owner and the shipbuilder.</li></ol>	ptional vessels for which the option is ultimately exercised, is the date on which the contract to			
For the purpose of this Procedural Requirement, vessels built under a single contr				
plans for classification purposes. However, vessels within a series may have desig	n alterations from the original design provided:			
<ol> <li>such alterations do not affect matters related to classification, or</li> <li>If the alterations are subject to classification requirements, these alterations are to comply with the classification requirements in effect on the date on which the alterations are contracted between the prospective owner and the shipbuilder or, in the absence of the alteration contract, comply with the classification requirements in effect on the date on which the alterations are submitted to the Society for approval.</li> </ol>				
The optional vessels will be considered part of the same series of vessels if the opt	ion is exercised not later than 1 year after the contract to build the series was signed.			
	itional options, the date of "contract for construction" for such vessels is the date on which the uilder. The amendment to the contract is to be considered as a "new contract" to which 1. and 2.			
above apply.	under. The amenument to the contract is to be considered as a new contract to which I, and 2.	1		
4. If a contract for construction is amended to change the ship type, the date of "cont	ract for construction" of this modified vessel, or vessels, is the date on which revised contract			
or new contract is signed between the Owner, or Owners, and the shipbuilder.				
Note:				
This Procedural Requirement applies from 1 July 2009.				