

**RULES
FOR THE CLASSIFICATION OF
SHIPS**

2009

*Part 10 - BOILERS, HEAT EXCHANGERS
AND PRESSURE VESSELS*

Amendments No.1

2016

CROATIAN REGISTER OF SHIPPING

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By the decision of the General Committee of Croatian Register of Shipping,

Amendments No.1 to the
RULES FOR THE CLASSIFICATION OF SHIPS
Part 10 – BOILERS, HEAT EXCHANGERS AND PRESSURE VESSELS

have been adopted on 17th June 2016 and shall enter into force on 1st July 2016

INTRODUCTORY NOTES

These amendments are necessary to read together with the requirements in the Rules for the Classification of Ships, Part 10 - Boilers, heat exchangers and pressure vessels, edition 2009.

Table 1 contains review of amendments, where items changed or added in relating to 2009 edition are given, with short description of each modification or addition.

The purpose of issuing of these amendments is to provide compliance with IACS Unified Requirements UR P6 (Rev.1).

The subject Rules include the requirements of the following international Organisations:

International Maritime Organization (IMO)

Conventions: International Convention for the Safety of Life at Sea 1974 (SOLAS 1974) and all subsequent amendments up to and including the 2006 amendments (MSC.216(82))
Protocol of 1988 relating to the International Convention for the Safety of Life at Sea 1974, as amended (SOLAS PROT 1988)

International Association of Classification Societies (IACS)

Unified Requirements (UR): P1 (2001, rev. 5), **P6 (Rev.1 June 2015)**

Technische Regeln für Dampfkessel (TRD): TRD 300 (8/2001), TRD 301 (10/1997), TRD 303 (5/1991), TRD 305 (8/1996), TRD 306 (6/1977), TRD 401 (9/2000), TRD 411 (2/1997)

AD - Merkblätter: B1 (6/1986), B3 (10/1990), B9 (7/1995)

International Standard Organization (ISO): ISO 4705-1983, ISO/DIS 2694

TABLE 1 – REVIEW OF AMENDMENTS

This review comprises amendments in relation to the Rules for the Classification of Ships, Part 10 - Boilers, heat exchangers and pressure vessels, edition 2009

<i>ITEM</i>	<i>DESCRIPTION OF THE AMENDMENTS</i>
SECTION 3 - BOILERS	
Head 3.4. – Exhaust gas economizers	
Item 3.4.3	partly changed

SECTION 3 – BOILERS

■ Head **3.4. – EXHAUST GAS ECONOMIZERS**, items 3.4.3 have been amended with marked text and now should be read as follows:

3.4 EXHAUST GAS ECONOMIZERS

3.4.1 Suitable equipment is to be fitted to prevent steam from being generated in the economizer. This may take the form of a circulating line from the economizer to a feed water tank to enable the economizer to be cooled, or of a by-pass enabling the economizer to be completely isolated from the flow of exhaust gas.

3.4.2 Soot deposits on economizer tubes which can cause fire hazard must be removed with a soot cleaning equipment.

3.4.3 Shell type exhaust gas heated economizers that may be isolated from the steam plant system

3.4.3.1 Design and construction of shell type economizers are to pay particular attention to the welding, heat treatment and inspection arrangements at the tube plate connection to the shell.

Every shell type economizer is to be provided with removable lagging at the circumference of the tube end plates to enable ultrasonic examination of the tube plate to shell connection.

3.4.3.2 Where a shell type economizer is capable of being isolated from the steam plant system, it is to be provided with at least one safety valve, and when it has a total heating surface of 50 m² or more, it is to be provided with at least two safety valves in accordance with 3.3.6.5.

3.4.3.3 To avoid the accumulation of condensate on the outlet side of safety valves, the discharge pipes and/or safety valve housings are to be fitted with drainage arrangements from the lowest part, directed with continuous fall to a position clear of the economizer where it will not pose threats to either personnel or machinery. No valves or cocks are to be fitted in the drainage arrangements.

3.4.3.4 Full details of the proposed arrangements to satisfy 3.4.3.2 and 3.4.3.3 are to be submitted for approval.

3.4.3.5 Every shell type economizer is to be provided with a means of indicating the internal pressure in accordance with 3.3.5.4.

3.4.3.6 Every economizer is to be provided with arrangements for pre-heating and de-aeration, feed water treatment and sampling or combination thereof to control if the quality of feed water is within the manufacturer's recommendations.

3.4.3.7 The manufacturer is to provide operating instructions for economizer which are to include reference to:

- feed water treatment and sampling arrangements,
- operating temperatures and operating pressure,
- inspection, maintenance and cleaning procedures,
- the need to maintain adequate water flow through the economizer under all operating conditions,
- procedure for using the economizer in the dry condition,
- procedures for operational checks, maintenance and overhaul of safety devices.