

Water boilers and auxiliary installations —

Part 17: Guideline for the involvement of an inspection body independent of the manufacturer

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National foreword

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**Water boilers and auxiliary installations - Part 17: Guideline for
the involvement of an inspection body independent of the
manufacturer**

Chaudières à tubes d'eau et installations auxiliaires - Partie
17: Guide pour l'implication d'un organisme d'inspection
indépendant du fabricant

Wasserrohrkessel und Anlagenkomponenten - Teil 17:
Leitfaden für die Einbeziehung einer
herstellerunabhängigen Prüforganisation

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Foreword

This document (CR 12952-17:2002) has been prepared by Technical Committee CEN /TC 269, "Shell and water-tube boilers" the secretariat of which is held by DIN.

The European Standard EN 12952 concerning water-tube boilers and auxiliary installations consists of the following Parts:

- *Part 1: General.*
- *Part 2: Materials for pressure parts of boilers and accessories.*
- *Part 3: Design and calculation for pressure parts.*
- *Part 4: In-service boiler life expectancy calculations.*
- *Part 5: Workmanship and construction of pressure parts of the boiler.*
- *Part 6: Inspection during construction, documentation and marking of pressure parts of the boiler.*
- *Part 7: Requirements for equipment for the boiler.*
- *Part 8: Requirements for firing systems for liquid and gaseous fuels for the boiler.*
- *Part 9: Requirements for firing systems for pulverized solid fuels for the boiler.*
- *Part 10: Requirements for safeguards against excessive pressure.*
- *Part 11: Requirements for limiting devices of the boiler and accessories.*
- *Part 12: Requirements for boiler feedwater and boiler water quality.*
- *Part 13: Requirements for flue gas cleaning systems.*
- *Part 14: Requirements for flue gas DENOX-systems.*
- *Part 15: Acceptance tests.*
- *Part 16: Requirements for grate and fluidized bed firing systems for solid fuels for the boiler.*

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Although these Parts can be obtained separately, it should be recognized that the Parts are inter-dependent. As such, the design and manufacture of water-tube boilers requires the application of more than one Part in order for the requirements of the standard to be satisfactorily fulfilled.

1 Scope

This Technical report gives guidance for the involvement of an inspection body independent of the manufacturer of shell boilers as defined in EN 12952-1.

2 Normative references

This CEN Report incorporates, by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this CEN Report only when incorporated in it by amendment or revision. For undated references, the latest edition of the publication referred to applies (including amendments).

EN 10204, *Metallic products — Types of inspection documents*.

EN 12952-1, *Water-tube boilers and auxiliary installations — Part 1: General*.

EN 12952-2, *Water-tube boilers and auxiliary installations — Part 2: Materials for pressure parts of boilers and accessories*.

EN 12952-6, *Water-tube boilers and auxiliary installations — Part 6: Inspection during construction; documentation and marking of pressure parts of the boiler*.

3 Guidance

3.1 General

Depending upon the conformance assessment module chosen by the manufacturer for the design and manufacture of each boiler component and the boiler assembly, the inspection activities will involve, to a greater or lesser extent, organisations which are independent of the manufacturer. For the guidance of the manufacturer, the specific involvement of such organisations, known as Responsible Authorities (RA), is described in this CEN report.

For the purpose of this standard, these organizations have been collectively termed RA. A definition of Responsible Authorities is given in EN 12952-1:2002, 3.6.

The involvement of responsible authorities is recognized by this standard as indicated below:

- a) in connection with conformity assessment requirements;
- b) arising from the complexity of the technical requirements.

3.2 Modules

Reference to EN 12952-1:2002, Annex A – Guidance in the use of conformity assessment procedures – indicates that the modules normally applicable to water-tube boilers are B + D or B + F or G or H1. A digest showing the key requirements of these modules is also given in EN 12952-1.

3.3 Technical complexity

Where the technical requirements are complex and no clearly defined procedure is given in this EN 12952, it is the convention within the boiler industry for the manufacturer to prepare procedures based on his own experience proposing how the design/manufacture should proceed. In such cases the proposals are normally submitted to the RA for appraisal. Such appraisal will normally be completed at the initial design stage, but it is recognized that

similar proposals may be needed to introduce design modifications and/or to accommodate concessions (deviations) during the manufacturing stage. These latter proposals also form part of the design/type appraisal procedure.

4 Conformity assessment activities

The extent of RA involvement will depend upon the conformity assessment procedure adopted by the manufacturer. The assumed involvement of the RA for each appropriate conformance assessment module, in accordance with Table 4-1 for category IV steam boilers. For category III steam boilers appropriate modules may be chosen. For the guidance of the manufacturer, examples of the form that the following certificates may take are given in clause 7 – Manufacturer's Declaration of Conformity, Responsible Authority's Certificate of Conformity, Responsible Authority's Surveillance and Inspection Report, Design Examination Certificate and Type Examination Certificate.

Considering the pressures and volumes applicable to water-tube boiler components, Tables 1 to 9 in annex II of the Pressure Equipment Directive (PED) should be consulted to determine the hazard category. The modules permitted for these hazard categories are included in annex III of the PED.

NOTE A manufacturer can choose to adopt a higher category than indicated by annex II.

The inspection activities given in EN 12952-6:2002, Table 4.5-1 are reproduced and supplemented in Table 4-1 with respect to those activities considered to involve the RA. This indicates where the involvement of the responsible authority should be additional to that of the manufacturer as a function of the selected conformity assessment module. It should be noted that for the modules subject to the Type Examination procedure (B + D and B + F), with the issue of the Type Examination certificate, no further design examination is required for the subsequently manufactured components. However, surveillance or inspection is required during the manufacturing stage as indicated in Table 4-1.

Table 4-1 — Conformity assessment activities showing the involvement of Responsible Authorities

Number	Area of activity	Inspection operation	RA involvement by module				
			B	D	F	G	H1
1 Quality system/product type examination							
1.1	Quality system to H1	Assessment of quality system documentation including all modifications	–	–	–	–	RA
		Audit of quality system in operation including all modifications	–	–	–	–	RA
		On going surveillance including all modifications	–	–	–	–	RA
1.2	Quality system to D	Assessment of quality system documentation including all modifications	RA	RA	–	–	–
		Audit of quality system in operation including all modifications	RA	RA	–	–	–
		On going surveillance ^a	RA	RA	–	–	–
1.3	Product type examination	Assessment of product type	RA	–	RA	–	–
1.4	Type examination certificate	Issue type examination certificate – see Figure 7-5	RA	–	RA	–	–
2 Design and general documentation ^b							
2.1	Design data/calculations	Check that the design data/calculations conform to: – technical specifications if applicable – the requirements of this standard	RA	–	–	RA	RA
2.2	Manufacturing drawings	Check that drawing information conform to: – design data and calculations – technical specifications if applicable – the requirements of this standard	RA	–	–	RA	RA
2.3	Design examination certificate	Issue design examination certificate – see Figure 7-2	–	–	–	–	RA
2.4	Specification for subcontracted parts	Check that the specification for subcontracted parts conforms to: – technical specifications if applicable – manufacturing drawings – the requirements of this standard – applicable regulatory requirements	RA	–	RA	RA	–
3 Materials							
3.1	Material certificates	Check that the material can be used	RA	–	RA	RA	–
		Verify that the information on the certificate and results conform to the design specification	RA	–	RA	RA	–