

DIN EN 12952-2:2022-02 (E)

Water-tube boilers and auxiliary installations - Part 2: Materials for pressure parts of boilers and accessories

Contents		Page
European foreword		4
1	Scope	6
2	Normative references	6
3	Terms and definitions	10
4	General requirements	10
4.1	Selection of materials with regard to service conditions	10
4.2	Selection of materials with regard to fabrication	10
4.3	Material specification	11
4.3.1	General	11
4.3.2	European Standards	11
4.3.3	European approvals for materials	11
4.3.4	Particular material appraisals	11
4.4	Consideration of special materials properties	11
4.5	of material specification	11
4.6	Compliance and inspection documentation of materials	12
5	Material for pressure parts	12
5.1	Materials covered by harmonized European product Standards for pressure purposes	12
5.1.1	Flat products, forgings, castings, tubes, fittings, flanges and valve bodies	12
5.1.2	Cast iron	12
5.1.3	Studs, bolts and nuts	12
5.1.4	Welding consumables	13
5.1.5	Requirements for plates used for heads	13
5.1.6	Requirements for non-destructive examination	13
5.1.7	Marking	15
5.2	Material covered by European approvals of materials for pressure equipment -- technical requirements	15
5.2.1	General	15
5.2.2	Manufacture	15
5.2.3	Heat treatment condition	15
5.2.4	Chemical composition	15
5.2.5	Mechanical and technological properties	16
5.3	Materials with particular material appraisals	19
6	Materials for non-pressure parts	19
Annex A (normative) Materials covered by European material Standards		20
A.1	Pressure parts	20
A.2	Fittings	20
A.3	Flanges	20
A.4	Valves	20
Annex B (normative) Establishment of creep rupture strength values for new materials		33
Annex C (normative) Special requirements for composite tubes		34

C.1	General	34
C.2	Special requirements for composite tubing	34
C.2.1	Composite tubing	34
C.2.2	General	34
C.2.3	Chemical composition	34
C.2.4	Mechanical and technological properties	34
C.2.4.1	Tensile test of ferritic pressure retaining inner core	34
C.2.4.2	Ring expanding test (composite tube)	34
C.2.5	Tolerances	35
C.2.5.1	Permissible variations in Outside diameter and wall thickness	35
C.2.5.2	Permissible variations in straightness	35
C.2.6	Surface finish	35
C.2.7	Ultrasonic testing	35
C.2.7.1	Ultrasonic testing of the metallurgical bond in composite tubes	35
C.2.7.1.1	Extent of testing	35
C.2.7.1.2	Reference standard	35
C.2.7.1.3	Acceptance criteria	35
C.2.7.2	Ultrasonic testing of composite tubes concerning longitudinal and transverse imperfections	36
C.2.7.2.1	Method of testing	36
C.2.7.2.2	Reference standard	36
C.2.7.2.3	Calibration	36
C.2.8	Thickness check of stainless steel component	36
C.2.8.1	General	36
C.2.8.2	Calibration	36
C.2.8.3	Acceptance criteria	36
C.2.9	Summary of tests and examinations	37
C.3	Marking	37
C.3.1	General	37
C.3.2	Additional marking requirements	37
Annex D (informative) Significant technical changes between this document and the previous edition		38
Annex ZA (informative) Relationship between this European Standard and the essential requirements of Directive 2014/68/EU aimed to be covered		39
Bibliography		40