DIN EN 13480-2:2024-12 (E)

Metallic industrial piping - Part 2: Materials

Contents

Page

European foreword 4

1 Scope 6

2 Normative references 6

3 Terms and definitions, symbols and units 9

4 Requirements for materials to be used for pressure containing parts in industrial piping 11

5 Requirements for materials to be used for non-pressure parts 15

Annex A (normative) Grouping system for steels for pressure equipment 16

Annex B (normative) Requirements for prevention of brittle fracture at low temperatures 18

B.1 General 18
B.2 Material selection and impact energy requirements 19
B.2.1 General 19
B.2.2 Method 1 - Code of practice 19
B.2.3 Method 2 28
B.2.4 Method 3 -- Fracture mechanics analysis 40
B.3 General test requirements 41
B.3.1 General 41
B.3.2 Sub-sized specimens 42
B.4 Welds 43
B.4.1 General 43
B.4.2 Welding procedure qualification 43
B.4.3 Production test plates 43
B.5 Materials for use at elevated temperatures 43
B.5.1 General 43
B.5.2 Materials 43
B.5.3 Welding procedure qualification and production test plates 43
B.5.4 Start up and shut down procedure 44
B.5.5 Pressure test 44

Annex C (normative) Provisional technical delivery conditions for clad products for pressure purposes 52

C.1 Introduction 52
C.2 Requirements for the base material 52
C.3 Requirements for the cladding material 52
C.4 Qualification of the cladding procedure 53
C.5 Production tests 54

Annex D (informative) European steels for pressure purposes 56

D.1 European Standards for steels and steel components for pressure purposes 56
D.2 European standardised steels grouped according to product forms 57

Annex E (normative) Special provisions for materials and components 80

E.1 General 80
E.2 Mechanical properties and technical delivery conditions for fasteners in accordance with EN ISO 3506-1:2020 and/or EN ISO 3506-2:2020 80
E.2.1 Mechanical properties for austenitic bolts in accordance with EN ISO 3506-1:2020 80
E.2.2 Delivery conditions for austenitic bolts 80

Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 2014/68/EU aimed to be covered 83

Bibliography 84