DIN EN 10217-4:2019-08 (E)

Welded steel tubes for pressure purposes - Technical delivery conditio ns - Part 4: Electric welded non-alloy steel tubes with specified low temperature properties

Contents

Page

European foreword 4

1 Scope 6

2 Normative references 6

3 Terms and definitions 7

4 Symbols 8

5 Classification and designation 8
5.1 Classification 8
5.2 Designation 8

6 Information to be supplied by the purchaser 9
6.1 Mandatory information 9
6.2 Options 9
6.3 Example of an order 10

7 Manufacturing process 10
7.1 Steelmaking process 10
7.2 Tube manufacture and delivery conditions 10
7.3 Non Destructive Testing Personnel Requirements 11

8 Requirements 11
8.1 General 11
8.2 Chemical composition 11
8.2.1 Cast analysis 11
8.2.2 Product analysis 14
8.3 Mechanical properties 14
8.4 Appearance and internal soundness 15
8.4.1 Weld seam 15
8.4.2 Tube surface 15
8.4.3 Internal soundness 16
8.5 Straightness 16
8.6 Preparation of ends 16
8.7 Dimensions, masses and tolerances 17
8.7.1 Diameter and wall thickness 17
8.7.2 Mass 17
8.7.3 Lengths 17
8.7.4 Tolerances 20

9 Inspection 21
9.1 Type of inspection 21
9.2 Inspection documents 21
9.2.1 Types of inspection documents 21
9.2.2 Content of inspection documents 22
9.3 Summary of inspection and testing 22

10 Sampling 24
10.1 Frequency of tests 24

10.1.1 Test unit ... 24
10.1.2 Number of sample tubes per test unit ... 24
10.2 Preparation of samples and test pieces ... 25
10.2.1 Selection and preparation of samples for product analysis ... 25

DIN EN 10217-4:2019-08 EN 10217-4:2019 (E) 10.2.2 Location, orientation and preparation of samples and test pieces for mechanical tests ... 25

11 Verification of test methods ... 26
11.1 Chemical analysis ... 26
11.2 Tensile test on the tube body ... 26
11.3 Transverse tensile test on the weld ... 26
11.4 Flattening test ... 27
11.5 Ring tensile test ... 27
11.6 Drift expanding test ... 27
11.7 Ring expanding test ... 27
11.8 Impact test ... 28
11.9 Leak tightness test ... 28
11.9.1 Hydrostatic test ... 28
11.9.2 Electromagnetic test ... 29
11.10 Dimensional inspection ... 29
11.11 Visual examination ... 29
11.12 Non-Destructive Testing ... 29
11.13 Retests, sorting and reprocessing ... 30

12 Marking ... 30
12.1 Marking to be applied ... 30
12.2 Additional marking ... 31

13 Protection ... 31

Annex A (informative) Technical changes from the previous edition ... 32

A.1 Introduction ... 32
A.2 Technical changes ... 32

Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of 2014/68/EU ... 34

Bibliography ... 35