

DIN EN 10216-4:2014-03 (E)

Seamless steel tubes for pressure purposes - Technical delivery conditions - Part 4: Non-alloy and alloy steel tubes with specified low temperature properties

| Contents | | Page |
|--|--|------|
| Foreword | | 4 |
| 1 Scope | | 5 |
| 2 Normative references | | 5 |
| 3 Terms and definitions | | 6 |
| 4 Symbols | | 6 |
| 5 Classification and designation | | 6 |
| 5.1 Classification | | 6 |
| 5.2 Designation | | 7 |
| 6 Information to be supplied by the purchaser | | 7 |
| 6.1 Mandatory information | | 7 |
| 6.2 Options | | 7 |
| 6.3 Example of an order | | 8 |
| 7 Manufacturing process | | 8 |
| 7.1 Steelmaking process | | 8 |
| 7.2 Tube manufacture and delivery conditions | | 8 |
| 8 Requirements | | 9 |
| 8.1 General | | 9 |
| 8.2 Chemical composition | | 10 |
| 8.3 Mechanical properties | | 12 |
| 8.4 Appearance and internal soundness | | 14 |
| 8.5 Straightness | | 14 |
| 8.6 Preparation of ends | | 14 |
| 8.7 Dimensions, masses and tolerances | | 15 |
| 9 Inspection | | 19 |
| 9.1 Types of inspection | | 19 |
| 9.2 Inspection documents | | 19 |
| 9.3 Summary of inspection and verification testing | | 20 |
| 10 Sampling | | 20 |
| 10.1 Frequency of tests | | 20 |
| 10.2 Preparation of samples and test pieces | | 21 |
| 11 Verification test methods | | 22 |
| 11.1 Chemical analysis | | 22 |
| 11.2 Tensile test | | 22 |
| 11.3 Flattening test | | 22 |
| 11.4 Ring tensile test | | 23 |
| 11.5 Drift expanding test | | 23 |
| 11.6 Ring expanding test | | 24 |
| 11.7 Impact test | | 24 |
| 11.8 Leak tightness test | | 24 |
| 11.9 Dimensional inspection | | 25 |

| | | |
|---|--|----|
| 11.10 | Visual examination | 25 |
| 11.11 | Non-Destructive Testing | 25 |
| 11.12 | Material identification | 26 |
| 11.13 | Retests, sorting and reprocessing | 26 |
| 12 | Marking | 26 |
| 12.1 | Marking to be applied | 26 |
| 12.2 | Additional marking | 26 |
| 13 | Protection | 27 |
| Annex A (informative) Technical changes from the previous edition | | 28 |
| Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 97/23/EC | | 29 |
| Bibliography | | 30 |