DIN EN 12285-3:2019-06 (E)

Workshop fabricat ed steel tanks - Part 3: Horizontal cylindrical single skin and double skin tanks for the underground storage of flammable and nonflammable water polluting liquids for heating and cooling of buildings

Contents

Page

European foreword 4

1 Scope 5

2 Normative references 5

3 Terms, definitions, symbols and abbreviations 6
3.1 Terms and definitions 6
3.2 Symbols and abbreviations 8

4 Product characteristics 9
4.1 General 9
4.2 Manufacturing 9
4.2.1 Qualification of the company and welding qualification of the personnel 9
4.2.2 Types of joints 9
4.2.3 Shell plate arrangement 11
4.2.4 Consumables 12
4.2.5 Interstitial space 12
4.3 Load bearing capacity 12
4.4 Additional requirements 12
4.4.1 Manways and inspection covers 12
4.4.2 Structural bolts 14
4.4.3 Tank fittings, pipes and nozzles 14
4.4.4 Lifting lugs 14
4.5 Mechanical resistance and stability 14
4.5.1 Materials for shell, dished ends and manways 14
4.5.2 Wall thickness 14
4.5.3 Stiffening resistance 16
4.5.4 Design of Stiffening Rings 17
4.6 Internal pressure 18
4.7 Electrostatic behaviour (for fuel networks) 18
4.8 Tightness (gas and liquid) 18
4.9 Release of dangerous substances 18
4.10 Durability 18
4.11 Crushing resistance 19

5 Testing, assessment and sampling methods 19
5.1 Mechanical resistance and stability 19
5.1.1 Materials for shell, dished ends and manways 19
5.1.2 Wall thickness 19
5.1.3 Welding 19
5.1.4 Stiffening resistance 19
5.1.5 Strength test 19
5.2 Load-bearing capacity 19
5.3 Electrostatic behaviour (for fuel networks) 20
5.4 Tightness (gas and liquid) 20
5.5 Crushing resistance 20
5.6 Testing of additional requirements 20
5.6.1 Manways and inspection covers 20

5.6.2 Structural bolts 20
5.6.3 Tank fittings, pipes and nozzles 20
5.6.4 Lifting lugs 20
5.7 Durability 20

6 Assessment and verification of constancy of performance (AVCP) 21
6.1 General 21
6.2 Type testing 21
6.2.1 General 21
6.2.2 Test samples, testing and compliance criteria 22
6.2.3 Test reports 23
6.3 Factory production control (FPC) 23
6.3.1 General 23
6.3.2 Requirements 24
6.3.3 Product specific requirements 26
6.3.4 Procedure for modifications 27
6.3.5 One-off products, pre-production products (e.g. prototypes) and products produced in very low quantity 27

7 Classification and designation 28

8 Marking and labelling 28
8.1 Marking of the tank 28
8.2 Documentation 28

9 Environmental aspects 28

Annex A (informative) Environmental aspects 29

Bibliography 31