DIN EN 16728:2018-08 (E)

LPG equipment and accessories - Transportable refillable LPG cylinders other than traditional welded and brazed steel cylinders - Periodic inspection (includes Amendment :2018)

Contents

Page

European foreword 4

Introduction 5

1 Scope 6

2 Normative references 6

3 Terms and definitions 7

4 Requirements for periodic inspection 8
4.1 General 8
4.2 Steel and aluminium cylinders 9
4.3 Over-moulded cylinders 9
4.4 Composite cylinders 9
4.5 Rejected cylinders 9

5 Inspections and tests 11
5.1 General 11
5.2 External visual inspection 11
5.2.1 Preparation for external visual inspection 11
5.2.2 Inspection procedure 11
5.2.3 Rejection criteria 12
5.3 Proof pressure test 12
5.3.1 General 12
5.3.2 Hydraulic proof pressure test 13
5.3.3 Pneumatic proof test and leak test 14
5.4 Check of the internal condition of the cylinder 15
5.4.1 Welded aluminium and steel cylinders of alternative design and construction 15
5.4.2 Check of the internal condition of composite cylinders 15
5.5 Inspection of cylinder threads 16
5.5.1 General 16
5.5.2 Internal threads 16
5.5.3 External threads 16
5.5.4 Damaged threads 16
5.6 Inspection of valves 16

6 Final operations 17
6.1 General 17
6.2 Valving 17
6.3 Tare mass 17
6.4 Marking 17
6.5 Purging 17

7 Repair of cylinders 17

8 Records 18

Annex A (normative) Specific requirements for external visual inspection for welded steel LPG cylinders in accordance with EN 14140 or equivalent standard 19

A.1 General 19
A.2 Procedure for establishing rejection criteria carbon steel cylinders 19
A.3 Rejection criteria for stainless steel cylinders 22

Annex B (normative) Specific requirements for external visual inspection of welded aluminium LPG cylinders 24

Annex C (normative) Specific requirements for visual inspection of composite LPG cylinders 27

C.1 Establishment of rejection criteria 27
C.1.1 General 27
C.1.2 Procedure 27
C.2 Examples of rejection criteria 27
C.2.1 Cylinders without a metallic liner 27
C.2.2 Cylinders with a metallic liner 32

Annex D (informative) Conditions for 15-year periodic inspection interval of welded steel cylinders manufactured before 1st January 2015 36

D.1 General 36
D.2 Concept of control 36
D.3 Conditions 36

Annex E (informative) Guidance on conditions for 10-year periodic inspection interval of composite cylinders 38

Annex F (normative) Specific Periodic inspection procedure for over-moulded cylinders (OMC) 39

F.1 General 39
F.1.1 Introduction 39
F.1.2 Valve 39
F.1.3 Marking and records 39
F.2 Periodic inspection 39
F.2.1 General 39
F.2.2 External visual inspection 40
F.2.3 Burst test 41
F.2.4 Rejection criteria and annual production sampling 42
F.2.5 Periodic inspection tests reports and records 43
F.3 Lifetime 44

Annex G (informative) Example of an Over-Moulded Cylinder 45

Bibliography 47