

DIN EN 1440:2016-07 (E)

LPG equipment and accessories - Transportable refillable traditional welded and brazed steel Liquefied Petroleum Gas (LPG) cylinders - Periodic inspection

| Contents | | Page |
|-------------------------|---|-------------|
| European foreword | | 4 |
| Introduction | | 5 |
| 1 | Scope | 6 |
| 2 | Normative references | 6 |
| 3 | Terms and definitions | 7 |
| 4 | Requirements for periodic inspection | 7 |
| Table 1 -- | Requirements for periodic inspection | 8 |
| 5 | Inspections and tests | 9 |
| 5.1 | General | 9 |
| 5.2 | External visual inspection | 9 |
| 5.2.1 | Preparation for external visual inspection | 9 |
| 5.2.2 | Inspection procedure | 9 |
| 5.2.3 | Rejection criteria | 10 |
| 5.3 | Proof pressure test | 10 |
| 5.3.1 | General | 10 |
| 5.3.2 | Hydraulic proof pressure test | 10 |
| 5.3.3 | Pneumatic proof test and leak test | 11 |
| 5.4 | Check of the internal condition of the cylinder | 12 |
| 5.4.1 | Check of the internal condition of welded steel cylinders | 12 |
| 5.5 | Inspection of cylinder threads | 13 |
| 5.5.1 | General | 13 |
| 5.5.2 | Internal threads | 13 |
| 5.5.3 | External threads | 13 |
| 5.5.4 | Damaged threads | 13 |
| 5.6 | Inspection of valves | 13 |
| 6 | Final operations | 13 |
| 6.1 | General | 13 |
| 6.2 | Valving | 13 |
| 6.3 | Tare mass | 14 |
| 6.4 | Marking | 14 |
| 6.5 | Purging | 14 |
| 7 | Repair of welded steel cylinders | 14 |
| 7.1 | Major repairs | 14 |
| 7.2 | Minor repairs | 14 |
| 7.3 | Requirements for repair | 14 |
| 8 | Records | 15 |
| Annex A (normative) | Specific requirements for external visual inspection | 16 |
| Table A.1 -- | Physical defects in the cylinder wall | 16 |

| | |
|--|----|
| Table A.2 -- Corrosion on the cylinder wall | 17 |
| Table A.3 -- Other defects | 18 |
| Annex B (informative) Requirements for 15 year periodic inspection interval for cylinders manufactured before January 1st 2015 | 19 |
| B.1 General | 19 |
| B.2 Concept of control | 19 |
| B.3 Conditions | 20 |
| Annex C (normative) Periodic inspection procedure for cylinder populations not covered by the RID/ADR | 21 |
| Table C.1 -- Procedures for periodic inspection | 21 |
| Annex D (informative) Requirements to be fulfilled to extend period between two periodic inspections to 15 years for RID/ADR welded steel LPG cylinders | 22 |
| D.1 General | 22 |
| D.2 Design and manufacturing | 22 |
| D.3 Operational provisions | 22 |
| D.4 Periodic inspection | 22 |
| D.5 Marking | 23 |
| Annex E (informative) Alternative test applicable to commercial butane cylinders with less than 6,5 l water capacity | 24 |
| E.1 General | 24 |
| E.2 Preparation of cylinder | 24 |
| E.3 Procedure | 24 |
| Bibliography | 25 |