

DIN EN 1487:2014-09 (E)

Building valves - Hydraulic safety groups - Tests and requirements

| Contents | | Page |
|--------------------|---|-------------|
| Foreword | | 4 |
| Introduction | | 6 |
| 1 | Scope | 7 |
| 2 | Normative references | 7 |
| 3 | Terms and definitions | 8 |
| 4 | Materials and surface finishes | 11 |
| 4.1 | General | 11 |
| 4.2 | Materials | 11 |
| 4.3 | Detection of residual stress | 11 |
| 4.3.1 | Test | 11 |
| 4.3.2 | Test method (Procedure) | 11 |
| 4.3.3 | Requirements | 12 |
| 4.4 | Outside visible surfaces | 12 |
| 4.4.1 | Surfaces without coatings | 12 |
| 4.4.2 | Surfaces with coatings | 13 |
| 4.5 | Corrosion resistance | 13 |
| 4.5.1 | Test method | 13 |
| 4.5.2 | Requirements | 13 |
| 4.6 | Coating adherence | 13 |
| 4.6.1 | Test method | 13 |
| 4.6.2 | Requirements | 14 |
| 4.7 | Compatibility with the products used for disinfection of the networks | 14 |
| 4.7.1 | General | 14 |
| 4.7.2 | Test method | 14 |
| 4.7.3 | Requirements | 14 |
| 5 | Design and dimensional requirements | 14 |
| 5.1 | General guidance | 14 |
| 5.2 | Dimensional characteristics | 15 |
| 5.2.1 | End connections | 15 |
| 5.3 | Test port | 17 |
| 5.4 | Pressure tapping | 17 |
| 5.5 | Hydraulic safety valve outlet connection to air break to drain | 18 |
| 5.6 | Hydraulic safety valve discharge connection to drain device | 18 |
| 5.7 | Exclusions | 18 |
| 5.8 | Replacing of the safety valve | 18 |
| 5.9 | Check valve | 18 |
| 6 | Apparatus | 18 |
| 6.1 | General | 18 |
| 6.2 | Tolerances of parameters and accuracy of measure instruments | 18 |
| 6.2.1 | Tolerances on set parameters | 18 |
| 6.2.2 | Accuracy of measuring instruments | 19 |
| 6.2.3 | Test media | 19 |
| 7 | Hydraulic tests and requirements | 19 |
| 7.1 | Flow rate test | 19 |

| | | |
|-----------------------|--|----|
| 7.1.1 | Procedure | 19 |
| 7.1.2 | Requirement | 19 |
| 7.2 | Tightness test | 19 |
| 7.2.1 | General | 19 |
| 7.2.2 | Tightness test for the isolating valve at a pressure of 1,6 MPa (16 bar) | 19 |
| 7.2.3 | Hydraulic safety group tightness test | 20 |
| 8 | Mechanical tests and requirements | 20 |
| 8.1 | Mechanical strength | 20 |
| 8.1.1 | Pressure test of the body of the hydraulic safety group | 20 |
| 8.1.2 | Bending test of the body and pull out test of the drainage of the hydraulic safety group .. | 20 |
| 8.1.3 | Torsional strength of the hydraulic safety group's body | 22 |
| 8.1.4 | Tensile strength of the captive rotating nuts | 23 |
| 8.2 | Mechanical strength of the easing gear of the pressure safety valve | 23 |
| 8.2.1 | Procedure | 23 |
| 8.2.2 | Requirement | 23 |
| 9 | Tests and requirements of the components of the hydraulic safety group | 24 |
| 9.1 | Isolating valve | 24 |
| 9.1.1 | General | 24 |
| 9.1.2 | Test of manual operation | 24 |
| 9.1.3 | Endurance test | 24 |
| 9.1.4 | Test for manual operation | 24 |
| 9.2 | Check valve | 25 |
| 9.2.1 | Verification of the leaktightness between the group's body and the check valve at low pressure | 25 |
| 9.2.2 | Verification of the leaktightness between the group's body and the check valve under high pressure | 25 |
| 9.3 | Pressure safety valve | 25 |
| 9.3.1 | Pressures | 25 |
| 9.3.2 | Cold water pressure tests | 26 |
| 9.3.3 | Steam test | 27 |
| 9.4 | Endurance test | 28 |
| 9.4.1 | Procedure | 28 |
| 9.4.2 | Requirement | 28 |
| 9.5 | Easing gear (manual control device) | 29 |
| 9.5.1 | Operation of the easing gear | 29 |
| 9.5.2 | Easing gear endurance test | 29 |
| 9.6 | Manual drainage device | 29 |
| 9.6.1 | General | 29 |
| 9.6.2 | Flow rate test | 29 |
| 9.7 | Air break to drain | 29 |
| 10 | Resistance to thermal shocks | 30 |
| 10.1 | Test method | 30 |
| 10.2 | Requirement | 30 |
| 11 | Acoustic tests and requirements | 30 |
| 12 | Classification | 31 |
| 13 | Designation | 31 |
| 14 | Marking | 32 |
| 15 | Technical documents and presentation at delivery | 32 |
| Annex A (informative) | Test sequences | 34 |