

# DIN EN 13175:2021-03 (E)

## LPG Equipment and accessories - Specification and testing for Liquefied Petroleum Gas (LPG) pressure vessel valves and fittings (includes Amendment :2020)

---

<b>Contents</b>		<b>Page</b>
European foreword .....		4
Introduction .....		5
1	Scope .....	6
2	Normative references .....	6
3	Terms and definitions .....	8
3.1	General terms .....	8
3.2	ACME couplings terms .....	10
4	Operating conditions .....	10
5	Materials .....	11
5.1	General .....	11
5.2	Metallic materials .....	11
5.3	Non-metallic components .....	11
5.4	Lubricants, sealants and adhesives .....	12
6	Design - general requirements .....	12
6.1	General .....	12
6.2	Seats and seals .....	13
6.3	Springs .....	13
6.4	Threads .....	13
6.5	Flanges .....	13
7	Design - specific requirements .....	13
7.1	Excess flow valve .....	13
7.2	Non-return valve .....	14
7.3	Shut-off valves .....	14
7.4	Filler valve .....	15
7.5	Filler valve with OPD .....	16
7.6	Occasional liquid withdrawal valve (OLW) .....	16
7.7	Occasional liquid withdrawal valve adaptor .....	17
7.8	Internal valve .....	17
7.9	Vapour equalizing valve .....	18
7.10	Multipurpose valve .....	18
7.11	Break-away coupling .....	18
7.12	Dry disconnect coupling .....	18
7.13	Pressure gauge .....	19
8	Testing of the design .....	20
8.1	General .....	20
8.2	Testing of non-metallic components .....	23
8.3	Over torquing deformation test .....	23
8.4	External leak tightness test .....	24
8.5	Internal leak tightness test .....	24
8.6	Residual flow test .....	25
8.7	Pressure strength test .....	25
8.8	Excess flow test .....	25

8.9	Endurance test .....	27
8.10	Weak section strength test .....	28
8.11	Stress cracking test .....	28
8.12	Vacuum test .....	29
8.13	Flow resistance test .....	29
8.14	Filler valve flow test .....	29
8.15	OPD test .....	29
8.16	Test report .....	30
9	Production testing .....	30
10	Marking .....	30
11	Documentation .....	31
12	Packaging .....	32
Annex A (normative) ACME connections .....		33
Annex B (normative) Special low temperature requirements for valves .....		36
Annex C (informative) Inspection of 3 1/4 inch ACME couplings .....		37
C.1	Introduction .....	37
C.2	Definitions .....	37
C.3	Visual examination .....	37
C.4	Dimensional check .....	38
Annex D (normative) Dry disconnect couplings .....		40
Annex E (informative) Connection and adaptor designs of preferred Occasional Liquid Withdrawal valves .....		45
Annex F (normative) Production testing and inspection .....		48
Annex ZA (informative) Relationship between this European Standard and the essential requirements of Directive 2014/68/EU aimed to be covered .....		50
Bibliography .....		52