

# DIN EN ISO 16148:2020-09 (E)

**Gas cylinders - Refillable seamless steel gas cylinders and tubes - Acoustic emission examination (AT) and follow-up ultrasonic examination (UT) for periodic inspection and testing (ISO 16148:2016 + Amd 1:2020) (includes Amendment :2020)**

---

<b>Contents</b>		Page
European foreword .....		3
[A1] European foreword to Amendment [A1] .....		4
Foreword .....		5
[A1] Foreword to Amendment [A1] .....		6
Introduction .....		7
1	Scope .....	8
2	Normative references .....	8
3	Terms and definitions .....	8
4	Operational principles .....	10
5	Personnel qualification .....	10
6	Special considerations to ensure valid tests .....	11
6.1	General .....	11
6.2	Acoustic emission examination methods .....	11
6.3	Pressurization .....	11
6.4	Safety precautions .....	12
7	Acoustic emission examination equipment .....	12
8	Acoustic emission examination calibration and equipment verification .....	14
8.1	Calibration .....	14
8.2	Equipment verification .....	14
9	Overall procedure .....	14
10	Real-time evaluation criteria .....	15
11	AT test report .....	16
12	Follow-up ultrasonic examination .....	17
Annex A (normative) Ultrasonic examination (UT) follow-up to acoustic emission examination (AT) .....		18
Annex B (normative) AT equipment specifications .....		23
Annex C (normative) Example instrument settings, examination methods and rejection criteria for MAE .....		25
Annex D (informative) Alternative method for source location .....		28
Annex E (informative) Distance amplitude correction procedures .....		30
Bibliography .....		33