

# ISO 19819:2004-08 (E)

## Metallic materials - Tensile testing in liquid helium

---

<b>Contents</b>		<b>Page</b>
Foreword .....		iv
Introduction .....		v
1	Scope .....	1
2	Normative references .....	1
3	Terms and definitions .....	1
4	Symbols and designations .....	2
5	Principle .....	3
6	Apparatus .....	4
6.1	Testing machine .....	4
6.2	Cryostats and support apparatus .....	5
6.3	Liquid-level indicators .....	5
6.4	Extensometer .....	5
7	Specimens .....	6
7.1	General .....	6
7.2	Standard round bar specimen .....	6
7.3	Alternatives .....	6
7.4	Sub-size specimens .....	6
7.5	Sampling .....	6
8	Test conditions .....	7
8.1	Specimen installation .....	7
8.2	Cooling procedure .....	7
8.3	Rate of testing .....	7
9	Procedure .....	8
9.1	Determination of original cross-sectional area ( $S_0$ ) .....	8
9.2	Marking of the original gauge length ( $L_0$ ) .....	8
9.3	Determination of percentage elongation after fracture (A) .....	9
9.4	Determination of the 0,2 % proof strength, non-proportional extension ( $R_{p0,2}$ ) .....	9
9.5	Discontinuous yielding strength ( $R_i$ ) .....	9
9.6	Tensile strength ( $R_m$ ) .....	9
9.7	Reduction of area (Z) .....	9
10	Test report .....	9
Annex A (informative)	Examples of specimens for tensile testing in liquid helium .....	10
Bibliography .....		12