

# DIN EN ISO 17279-1:2019-09 (E)

## Welding - Micro joining of 2nd generation high temperature superconductors - Part 1: General requirements for the procedure (ISO 17279-1:2018)

---

<b>Contents</b>	<b>Page</b>
European foreword.....	4
Foreword.....	5
Introduction .....	6
1 Scope.....	9
2 Normative references.....	9
3 Terms and definitions .....	9
4 Symbols and abbreviated terms .....	10
5 Requirements .....	10
5.1 Joint design.....	10
5.1.1 General.....	10
5.1.2 Lap joint.....	11
5.1.3 Bridge joint.....	11
5.2 Equipment .....	12
5.3 Welding procedure qualification .....	13
5.4 Micro-joining and oxygenation-annealing process .....	13
5.4.1 General.....	13
5.4.2 Technical content of a pWPS and WPS .....	16
5.5 Qualification based on standard test joint specimen.....	17
5.5.1 General.....	17
5.5.2 Test specimens.....	17
5.5.3 Micro-joining and oxygenation-annealing procedure of test specimens .....	17
5.5.4 Testing of test specimens .....	21
5.5.5 Re-testing.....	24
5.5.6 Test record .....	24
5.6 Range of qualification.....	24
5.6.1 General.....	24
5.6.2 Related to the manufacturer .....	24
5.6.3 Essential variables .....	24
5.6.4 Other variables .....	25
5.7 Micro-joining and oxygenation-annealing procedure specification and procedure qualification record.....	25
5.8 Final treatment of production run joints .....	25
5.9 Acceptance criteria.....	26
5.10 Identification and traceability.....	27
6 Third-party check .....	27
Annex A (informative) Micro-joining and oxygenation-annealing procedure .....	28
Annex B (informative) Preliminary Welding Procedure Specification (pWPS) .....	32
Annex C (informative) Procedure qualification for micro-joining and oxygenation annealing and Welding Procedure Qualification Record (WPQR).....	35

**Annex D (informative) Welding Procedure Specification (WPS) .....41**  
**Annex E (informative) Check list for micro-joining and oxygenation-annealing procedure qualification..... 44**  
**Bibliography .....47**