

DIN EN ISO 17279-3:2021-07 (E)

Welding - Micro joining of second generation high temperature superconductors - Part 3: Test methods for joints (ISO 17279-3:2021)

Contents		Page
European foreword		4
Foreword		5
Introduction		6
1	Scope	8
2	Normative references	8
3	Terms and definitions	8
4	Test methods for joint	8
4.1	General	8
4.2	Visual testing	9
4.2.1	General	9
4.2.2	Qualification of test personnel	9
4.2.3	Test equipment	9
4.2.4	Surface condition and preparation	9
4.2.5	Testing	9
4.2.6	Acceptance criteria	9
4.2.7	Test report	10
4.3	Four-point-probe testing	10
4.3.1	General	10
4.3.2	Qualification of test personnel	10
4.3.3	Test equipment	10
4.3.4	Surface condition and preparation	10
4.3.5	Testing	10
4.3.6	Acceptance criteria	16
4.3.7	Test report	16
4.4	Field-decay testing	16
4.4.1	General	16
4.4.2	Qualification of test personnel	16
4.4.3	Test equipment	16
4.4.4	Surface condition and preparation	16
4.4.5	Testing	16
4.4.6	Acceptance criteria	19
4.4.7	Test report	19
4.5	In-field testing	19
4.5.1	General	19
4.5.2	Qualification of test personnel	19
4.5.3	Test equipment	19
4.5.4	Surface condition and preparation	19
4.5.5	Testing	19
4.5.6	Acceptance criteria	22
4.5.7	Test report	22
4.6	Tensile testing	22
4.6.1	General	22
4.6.2	Qualification of test personnel	22
4.6.3	Test equipment	22
4.6.4	Surface condition and preparation	22
4.6.5	Testing	22
4.6.6	Acceptance criteria	23

4.6.7	Test report.....	23
4.7	Bend testing.....	23
4.7.1	General.....	23
4.7.2	Qualification of test personnel.....	23
4.7.3	Test equipment.....	23
4.7.4	Surface condition and preparation	23
4.7.5	Testing.....	23
4.7.6	Acceptance criteria	24
4.7.7	Test report.....	24
4.8	Critical magnetic field testing.....	24
4.8.1	General.....	24
4.8.2	Qualification of test personnel.....	24
4.8.3	Test equipment.....	24
4.8.4	Surface condition and preparation	24
4.8.5	Testing.....	25
4.8.6	Acceptance criteria	25
4.8.7	Test report.....	25
4.9	Critical current density distribution testing.....	25
4.9.1	General.....	25
4.9.2	Qualification of test personnel.....	25
4.9.3	Test equipment.....	26
4.9.4	Surface condition and preparation	26
4.9.5	Testing.....	26
4.9.6	Acceptance criteria	26
4.9.7	Test report.....	26
4.10	Microscopic and X-ray diffraction testing.....	26
4.10.1	General.....	26
4.10.2	Qualification of test personnel.....	26
4.10.3	Test equipment.....	26
4.10.4	Surface condition and preparation	26
4.10.5	Testing.....	27
4.10.6	Acceptance criteria	27
4.10.7	Reporting.....	27
Annex A (informative) Report of visual testing results.....		28
Annex B (informative) Report of four-point-probe testing results.....		30
Annex C (informative) Report of field-decay testing results.....		33
Annex D (informative) Report of in-field testing results.....		36
Annex E (informative) Report of tensile testing results.....		40
Annex F (informative) Report of bend testing results.....		43
Annex G (informative) Report of critical magnetic field testing results.....		46
Annex H (informative) Report of critical current density distribution testing results.....		48
Annex I (informative) Report of microscopic and X-ray diffraction testing results.....		50
Bibliography.....		52