

ISO 643:2024-08 (E)

Steels - Micrographic determination of the apparent grain size

Contents		Page
Foreword		iv
1	Scope	1
2	Normative references	1
3	Terms and definitions	1
3.1	Grains	1
3.2	General	2
4	Symbols	2
5	Principle	3
6	Selection and preparation of the specimen	5
6.1	Test location	5
6.2	Revealing ferritic grain boundaries	5
6.3	Revealing austenitic and prior-austenitic grain boundaries	5
6.3.1	General	5
7	Characterization of grain size	6
7.1	General	6
7.1.1	Characterization methods	6
7.1.2	Formulae	6
7.1.3	Accuracy of the methods	6
7.2	Comparison method	6
7.3	Planimetric method	9
7.4	Intercept method	13
7.4.1	General	13
7.4.2	Linear intercept method	14
7.4.3	Circular intercept method	15
7.4.4	Assessment of results	15
7.5	Other methods	16
8	Test report	17
Annex A (informative) Methods for revealing austenitic or prior-austenitic grain boundaries in steels		18
Annex B (normative) Determination of grain size with standard comparison charts		23
Annex C (informative) Evaluation method		35
Annex D (informative) Calculation of grain size and confidence interval		37
Annex E (informative) Grains of different size indices		40
Bibliography		46