ISO 23749:2022-04 (E)

Microbeam analysis - Electron backscatter diffraction - Quantitative determination of austenite in steel

Contents

Page

Foreword iv

Introduction v

1 Scope 1

2 Normative references 1

3 Termsanddefinitions 1

4 Specimen preparation 3
4.1 Sampling 3
4.2 Preparation 3

5 Procedure 3
5.1 Stage positioning and calibration 3
5.2 Setting of test parameters 3
5.3 EBSD data acquisition 4

6 Data calculation 4
6.1 Data processing 4
6.2 Calculation of the content of austenite 4
6.3 Calculation of 95 % confidence interval and relative accuracy 5
6.3.1 General 5
6.3.2 Calculation of standard deviation 5
6.3.3 Calculation of 95 % confidence interval 5
6.3.4 Calculation of relative accuracy 6
6.3.5 Expression of austenite content 6
6.4 Analysis of grain size and shape of austenite 6
6.5 Example 6

7 Precision and bias 7

8 Test report 7

Annex A (informative) Determination of the total scanning area in TRIP 590 8

Annex B (informative) Example of quantitative analysis of austenite in TRIP 590 steel 11