ISO/TR 15263:2024-01 (E)

Measurement uncertainties in mechanical tests on metallic materials - The evaluation of uncertainties in tensile testing

Contents

Page

Foreword ..... **iv**

Introduction ..... **v**

1 Scope **1**

2 Normative references **1**

3 Terms, definitions and symbols **1**
3.1 Terms and definitions 1
3.2 Symbols 2

4 Steps for the evaluation of uncertainty **4**
4.1 General 4
4.2 Step 1 — Defining the measurands for which uncertainty is to be evaluated 5
4.3 Step 2 — Identifying all sources of uncertainty in the test 6
4.4 Step 3 — Estimating the standard uncertainty for each source of uncertainty 8
4.4.1 General 8
4.4.2 Type A evaluation of standard uncertainty 8
4.4.3 Type B evaluation of standard uncertainty 9
4.4.4 Uncertainty due to repeatability of measurement 9
4.5 Step 4 — Computing the combined uncertainty, u_c 10
4.6 Step 5 — Computing the expanded uncertainty, U 10

5 Reporting of results **10**

Annex A (informative) **Mathematical formulae for calculating uncertainties in tensile testing** **12**

Annex B (informative) **Worked example for calculating uncertainty in the determination of proof strength at ambient temperature** **25**

Annex C (informative) **Interlaboratory scatter** **29**

Bibliography **35**