

DIN 50154:2019-09 (E)

Tensile test on foils and strips of aluminum and aluminum wrought alloys with a nominal thickness less than 0,200 mm

Contents

Page

| | |
|--|----|
| Foreword | 3 |
| 1 Scope | 4 |
| 2 Normative references | 4 |
| 3 Terms and definitions..... | 4 |
| 4 Symbols | 4 |
| 5 Designation of method | 5 |
| 6 Apparatus | 6 |
| 6.1 Tensile testing machine | 6 |
| 6.2 Width measuring device | 6 |
| 6.3 Thickness measuring device | 6 |
| 6.4 Balance for gravimetric thickness determination..... | 6 |
| 6.5 Gripping devices | 6 |
| 7 Test pieces..... | 7 |
| 7.1 Test piece shape | 7 |
| 7.2 Test piece preparation | 8 |
| 8 Procedure | 8 |
| 8.1 Measurement of test piece thickness and width..... | 8 |
| 8.2 Marking the original gauge length L_0 | 9 |
| 8.3 Direct strain measurement on the test piece using an extensometer | 9 |
| 8.4 Measurement of the change in distance between grips L_C via crosshead displacement | 9 |
| 8.5 Measurement of the change in distance between grips L_C via an extensometer | 9 |
| 8.6 Gripping the test piece..... | 10 |
| 8.7 Loading the test piece | 10 |
| 9 Evaluation | 11 |
| 9.1 Exclusion of fractured test pieces | 11 |
| 9.2 Original cross-section | 11 |
| 9.3 Characteristic values..... | 11 |
| 9.4 Manual determination of elongation after fracture..... | 12 |
| 10 Test report..... | 13 |
| Bibliography | 14 |

Figures

| | |
|---|----|
| Figure 1 — Strip test pieces when using different test methods | 7 |
| Figure 2 — Example of a cutter | 8 |
| Figure 3 — Various test set-ups for strain measurement (schematic)..... | 10 |
| Figure 4 — Schematic representation of characteristic values in a stress/strain diagram | 12 |

Tables

| | |
|--|---|
| Table 1 — Symbols and designations | 4 |
|--|---|