ISO 18653:2003-12 (E)

Gears - Evaluation of instruments for the measurement of individual gears

Contents

Page

Foreword iv

1 Scope 1

2 Normative references 1

3 Terms, definitions and symbols 1

4 Application 4
4.1 General 4
4.2 Traceability 4
4.3 Artifacts 4
4.4 Measurement uncertainty 5
4.5 Sources of uncertainty 5
4.6 Evaluation interval 6

5 Condition of the measurement system 6
5.1 System characteristics 6
5.2 Suitability for calibration 6
5.3 Table load considerations 6
5.4 Tooling and gauges 6

6 Environment 7

7 Artifacts 7
7.1 Artifact size and geometry 7
7.2 Involute artifacts 8
7.3 Helix artifacts 9
7.4 Pitch artifacts 10
7.5 Runout artifacts 11
7.6 Tooth thickness artifacts 11
7.7 Workpiece-like artifacts 13

8 Method for estimating measurement uncertainty 13
8.1 Methods 14
8.2 Comparator method 14
8.3 Calculation of U95 measurement uncertainty 14
8.4 Procedure 15

Annex A (normative) Artifact calibration certificate requirements 17

Bibliography 19