BS 7882:2008

BRITISH STANDARD

Method for calibration and classification of torque measuring devices

ICS 17.100



Publishing and copyright information

The BSI copyright notice displayed in this document indicates when the document was last issued.

© BSI 2008

ISBN 978 0 580 55351 6

The following BSI references relate to the work on this standard: Committee reference ISE/NFE/4 Draft for comment 07/30133498 DC

Publication history

First published May 1997 Second edition, January 2008

Amendments issued since publication

Amd. no. Date Text affected

Contents

Foreword ii

- 1 Scope 1
- **2** Terms, definitions, abbreviations and symbols 1
- **3** Preparation for calibration *3*
- 4 Calibration procedure 7
- **5** Calculation of results 8
- 6 Classification of torque measuring devices 11
- 7 Calibration certificate 13

Annexes

Annex A (informative) Orientation diagrams 14

Annex B (informative) Method example of determining uncertainty of the calibration results of the torque measuring device 16

Bibliography 25

List of figures

Figure A.1 – Example of preloading and calibration sequences for a torque measuring device with round shaft drives, six increasing and decreasing torques, classes 0.05 to 5.0 14

Figure A.2 – Example of preloading and calibration sequences for a torque measuring device with round shaft drives, six increasing torques only, classes 0.05 to 5.0 14

Figure A.3 – Example of preloading and calibration sequences for a torque measuring device with square drives, six increasing and decreasing torques, classes 0.05 to 5.0 14

Figure A.4 – Example of preloading and calibration sequences for a torque measuring device with square drives, six increasing torques only, classes 0.05 to 5.0 15

Figure A.5 – Example of preloading and calibration sequences for a torque measuring device, six increasing and decreasing torques, classes 0.2 to 5.0. 15

Figure A.6 – Example of preloading and calibration sequences for a torque measuring device, six increasing torques only, classes 0.2 to 5.0 15

Figure B.1 – Worked example in torque units: 100 N·m torque measuring device clockwise torque, increasing series only 19

Figure B.2 – Uncertainties calculated in accordance with B.3 20

Figure B.3 – Worked example in mV/V: 2 kN·m torque measuring device clockwise torque, increasing and decreasing series 22

Figure B.4 – Uncertainties calculated in accordance with B.4 24

List of tables

Table 1 – Uncertainty of calibration torques 3

Table 2 – Criteria for classification of torque measuring devices 12

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 25 and a back cover.