

ISO/TS 15530-2:2026-03 (E)

Geometrical product specifications (GPS) - Coordinate measuring machines (CMM): Technique for determining the uncertainty of measurement - Part 2: Use of multiple workpiece orientations and calibrated simple standards

Contents	Page
Foreword.....	iv
Introduction.....	v
1 Scope.....	1
2 Normative references.....	1
3 Terms and definitions.....	1
4 Symbols.....	2
5 Requirements for uncertainty assessment.....	3
6 Principle of measurement and uncertainty assessment.....	3
7 Procedure.....	4
7.1 Measurements.....	4
7.1.1 General.....	4
7.1.2 Multiple measurements on the workpiece.....	5
7.1.3 Measurements of standards of length.....	8
7.1.4 Measurements for probe qualification error assessment.....	10
7.2 Evaluation of the measurement value.....	12
7.2.1 Calculation of measurement value y_{corr} without error correction.....	12
7.2.2 Calculation of the bias corrected measurement value y_{corr}	12
7.3 Evaluation of the measurement uncertainty.....	13
8 Special considerations.....	14
8.1 Geometrical deviation measurement.....	14
8.1.1 General.....	14
8.1.2 Full information case.....	15
8.1.3 Lesser information case.....	15
8.2 Tolerances.....	16
8.3 Calibration.....	16
8.3.1 Requirements for traceability.....	16
8.3.2 Avoidance of unknown biases and other uncertainty underestimates.....	16
8.3.3 Calculation of the expanded measurement uncertainty.....	16
Annex A (normative) Formulae.....	17
Annex B (informative) Examples for calibration/test use.....	26
Annex C (informative) Application for lot inspection in conformance verification.....	41
Annex D (normative) Calculation of the coverage factor k using the effective degrees of freedom.....	43
Annex E (informative) Guidance of the undetected uncertainty contributors.....	45
Annex F (informative) Relation to the GPS matrix model.....	48
Bibliography.....	49