

ISO 12179:2021-12 (E)

Geometrical product specifications (GPS) - Surface texture: Profile method - Calibration of contact (stylus) instruments

Contents		Page
Foreword.....		v
Introduction.....		vi
1	Scope	1
2	Normative references	1
3	Terms and definitions	1
4	Conditions of use	3
	4.1 Components and configurations of the contact (stylus) instrument.....	3
	4.2 Calibration of a configuration.....	3
	4.3 Place of calibration.....	3
	4.4 Defects.....	3
5	Measurement standards	3
6	Contact (stylus) instrument metrological characteristics	6
	6.1 General.....	6
	6.2 Residual profile calibration.....	6
	6.3 Vertical profile component calibration.....	6
	6.4 Horizontal profile component calibration.....	6
	6.5 Profile coordinate system calibration.....	6
	6.6 Total contact (stylus) instrument calibration.....	6
7	Calibration	7
	7.1 Preparation for calibration.....	7
	7.2 Evaluation of the residual profile.....	7
	7.3 Calibration of the vertical profile component.....	7
	7.3.1 Overall objective.....	7
	7.3.2 Procedure.....	7
	7.4 Calibration of the horizontal profile component.....	8
	7.4.1 Overall objective.....	8
	7.4.2 Procedure.....	8
	7.5 Calibration of the profile coordinate system.....	8
	7.5.1 Overall objective.....	8
	7.5.2 Procedure.....	8
	7.6 Calibration of the total contact (stylus) instrument.....	8
	7.6.1 Overall objective.....	8
	7.6.2 Procedure.....	9
	7.7 Other calibrations.....	9
8	Measurement uncertainty	9
	8.1 Information from the calibration certificate for a measurement standard.....	9
	8.2 The uncertainty of the values measured during calibration of a measuring instrument using a measurement standard.....	9
9	Contact (stylus) instrument calibration certificate	10
10	General information	10
Annex A (normative) Calibration of instruments measuring parameters of the motifs method		11
Annex B (normative) Calibration of simplified operator instruments for the measurements of surface texture		13

Annex C (informative) Example: roughness measurement standard parameter <i>Ra</i>	14
Annex D (informative) Concept diagram	17
Annex E (informative) Overview of profile and areal standards in the GPS matrix model	18
Annex F (informative) Relation to the GPS matrix model	19
Bibliography	20