

ISO 21920-1:2021-12 (E)

Geometrical product specifications (GPS) - Surface texture: Profile - Part 1: Indication of surface texture

Contents		Page
	Foreword	v
	Introduction	vi
1	Scope	1
2	Normative references	1
3	Terms and definitions	1
4	Tolerance acceptance rules	1
	4.1 General.....	1
	4.2 Maximum tolerance acceptance rule.....	2
	4.3 16 % tolerance acceptance rule.....	2
	4.4 Median tolerance acceptance rule.....	2
5	Specification elements for indication of profile surface texture specifications	3
	5.1 General.....	3
	5.2 Mandatory indication to be explicitly specified.....	3
	5.3 Optional indications to specify non-default or further requirements.....	3
6	Indication of profile surface texture	4
	6.1 General.....	4
	6.2 Graphical symbols.....	4
	6.3 Minimal indication.....	5
	6.3.1 General.....	5
	6.3.2 Minimal indication for parameters with defined defaults.....	5
	6.3.3 Minimal indication for parameters without defined defaults.....	5
	6.4 Complete indication.....	6
	6.4.1 General.....	6
	6.4.2 Complete indication for evaluation length R-parameters.....	7
	6.4.3 Complete indication for section length R-parameters.....	8
	6.4.4 Complete indication for evaluation length P-parameters and W-parameters.....	9
	6.4.5 Complete indication for section length P-parameters and W-parameters.....	10
7	Rules for indication of profile surface texture specifications	10
	7.1 General.....	10
	7.2 Graphical symbol for the indication of profile surface texture specifications.....	11
	7.3 Profile surface texture parameter.....	11
	7.4 Tolerance limit value of the profile surface texture parameter.....	11
	7.5 Tolerance types.....	11
	7.6 Tolerance acceptance rule.....	11
	7.7 Profile S-filter type.....	11
	7.8 Profile S-filter nesting index.....	11
	7.9 Profile L-filter type (for R-parameter) or profile S-filter type (for W-parameter).....	12
	7.10 Profile L-filter nesting index (for R-parameter) or profile S-filter nesting index (for W-parameter).....	12
	7.11 Evaluation length.....	12
	7.12 Section length.....	12
	7.13 Number of sections.....	12
	7.14 Profile F-operator association method and element.....	12
	7.15 Profile F-operator nesting index.....	12
	7.16 Method of profile extraction.....	13
	7.17 Other requirements, OR(<i>n</i>).....	13

7.18	Manufacturing process	13
7.19	Surface lay and direction of lay	13
7.20	Profile direction	13
7.21	Setting class, <i>Scn</i>	13
8	Position on technical product documentation	14
8.1	General	14
8.2	Position and orientation of the graphical symbol	14
9	Simplified and additional indications	17
9.1	Simplified indications	17
9.1.1	General	17
9.1.2	General tolerances	17
9.1.3	Indication by the graphical symbol combined with a letter	18
9.2	Restrictive specifications	19
9.3	Indication of identical specifications for a number of feature elements	20
9.4	Indication of surface lay and direction of lay	20
9.4.1	General	20
9.4.2	Indication of surface lay without a reference	21
9.4.3	Indication of surface lay and direction of lay relative to a workpiece feature	22
9.5	Indication of the profile direction	22
9.5.1	General	22
9.5.2	Indication of the profile direction relative to the predominant direction of the surface lay	23
9.5.3	Indication of the profile direction relative to a workpiece feature	23
9.6	Indication of bilateral surface profile tolerances	24
9.7	Indication of different requirements for several additional processes on one surface feature	24
Annex A (normative) Proportions and dimensions of graphical symbols		26
Annex B (normative) Filter symbols for profile surface texture		28
Annex C (normative) Symbols for association methods and association elements		29
Annex D (informative) Indications for unambiguous surface profile specification		30
Annex E (normative) Inspection procedure for the 16 % tolerance acceptance rule		43
Annex F (informative) Criteria for the use of the maximum tolerance acceptance rule as the default		44
Annex G (informative) New issues and changes to previous documents		45
Annex H (informative) Overview of profile and areal standards in the GPS matrix model		47
Annex I (informative) Relation to the GPS matrix model		48
Bibliography		49