

DIN 5481:2019-04 (E)

Serration splines

Contents

Page

Foreword	4
1 Scope	6
2 Normative references	6
3 Symbols and abbreviated terms.....	6
4 Structure	7
5 Diameters	8
5.1 General	8
5.2 Hub diameters	9
5.3 Shaft diameters	10
6 Fit system for tooth thickness/space width.....	10
6.1 Fit diagram	10
6.2 Structure of the tolerance system	11
6.3 Total tolerance.....	11
6.4 Actual tolerance T_{act}	11
6.5 Effective tolerance T_{eff}	11
6.6 Space widths and dimensions of hubs	12
6.7 Tooth thicknesses and dimensions of shafts	14
6.7.1 Tooth thicknesses and dimensions of shafts with straight flanks.....	14
6.7.2 Tooth thicknesses and dimensions of shafts with involute flanks.....	16
7 Guideline values for individual deviations	18
7.1 General	18
7.2 Guideline values for individual deviations of hubs.....	18
7.3 Guideline values for individual deviations of shafts	19
7.4 Reference values for radial runout.....	20
8 Designation.....	20
9 Data to be shown on drawings.....	20
10 Quality characteristics.....	21
11 Gauges/general	22
11.1 Types of gauge and gauge dimensions.....	22
11.1.1 Composite GO gauges	22
11.1.2 Sector NO GO gauges.....	22
11.1.3 Plug gauges	22
11.1.4 Ring gauges	23
11.2 Materials, surface finishes, reference temperature, insertion force for inspection.....	24
11.3 Calculating gauge dimensions.....	25
11.3.1 Tolerance diagram	25
11.3.2 Determining measurements over/between pins	25
11.3.3 Individual deviations and positional deviations.....	25
11.4 Gauges for hubs	27
11.4.1 GO plug gauges.....	27
11.4.2 NO GO plug gauges.....	29

11.5	Gauges for shafts.....	31
11.5.1	GO ring gauges.....	31
11.5.2	NO GO ring gauges, “precision fit”	33
11.5.3	NO GO ring gauges, “rough fit”	35
11.6	Inspecting gauges.....	36
11.6.1	Inspection of gauges in new condition	36
11.6.2	Gauge wear inspection	37
11.6.3	Master ring gauges.....	38
11.7	Marking.....	38
11.8	Data to be shown on drawings.....	38
	Bibliography.....	40