

ISO 16792:2015-12 (E)

Technical product documentation - Digital product definition data practices

Contents	Page
Foreword	vi
Introduction	vii
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
3.1 General	2
3.2 Classification codes for drawings and data sets (see Annex A)	2
4 Data set identification and control	3
4.1 General	3
4.2 Related data	3
4.3 Data management	4
5 Data set requirements	5
5.1 General	5
5.1.1 Fundamental requirements	5
5.1.2 Design model requirement	6
5.2 General model requirements	6
5.2.1 Associativity	6
5.2.2 Model coordinate systems	6
5.2.3 Applications of supplemental geometry	7
5.2.4 Workpiece features not fully modelled	8
5.3 General method requirements	8
5.3.1 Data set methods	8
5.3.2 Model-only	8
5.3.3 Model and drawing	8
5.4 Management data	9
5.4.1 General	9
5.4.2 Management data in the data set	9
5.4.3 Management data on a model	9
5.5 Protection marking	10
5.5.1 General	10
5.5.2 Location on models	10
5.6 Views on models	10
6 Design model requirements	12
6.1 General	12
6.2 Geometric scale, units and precision	12
6.3 Model completeness	12
6.4 Assembly model completeness	13
6.5 Installation model completeness	13
7 Common requirements for product definition data	13
7.1 General	13
7.2 Common requirements	14
7.2.1 Display management	14
7.2.2 Screen dump	16
7.3 Model requirements	16

7.3.1	General	16
7.3.2	Associativity	18
7.3.3	Attributes	20
7.3.4	Annotation planes	22
7.3.5	Leader lines	24
7.3.6	Direction-dependent tolerances	24
7.3.7	Indicating limited application of a tolerance	24
7.3.8	Query types	24
7.4	Drawing requirements	29
7.4.1	General	29
7.4.2	Orthographic views	32
7.4.3	Axonometric views	32
8	Notes and special notations	34
8.1	Common requirements	34
8.2	Model requirements	34
8.3	Drawing requirements	35
9	Model values and dimensions	35
9.1	General	35
9.2	Common requirements	35
9.2.1	Model value queries	35
9.2.2	Resolved dimensions	35
9.2.3	Plus and minus tolerances	36
9.3	Model requirements	36
9.3.1	General	36
9.3.2	Theoretically exact and nominal dimensions	36
9.3.3	Size values	37
9.3.4	Coded size tolerances	38
9.3.5	General applications of plus and minus tolerances	38
9.3.6	Chamfers	38
9.3.7	Depth specification	42
9.4	Drawing requirements	45
10	Datum applications	45
10.1	General	45
10.2	Common requirements	45
10.3	Model requirements	45
10.3.1	Datum systems and model coordinate systems	45
10.3.2	Identification of datums	48
10.3.3	Associativity of datum features and design data	50
10.3.4	Datum target identification and attachment	50
10.3.5	Multiple features establishing a datum	52
10.4	Drawing requirements	57
11	Geometric tolerances	58
11.1	General	58
11.2	Common requirements	58
11.3	Model requirements	58
11.3.1	General	58
11.3.2	Form tolerances	58
11.3.3	Orientation tolerances	65
11.3.4	Profile tolerances	72
11.3.5	Location tolerances	80
11.3.6	Runout tolerances	87
11.4	Drawing requirements	94
11.4.1	General	94
11.4.2	Requirements applicable to all geometric tolerances	94
11.4.3	Form tolerances	94
11.4.4	Orientation tolerances	98
11.4.5	Profile tolerances	98

11.4.6	Position tolerances	101
11.4.7	Runout tolerances on a drawing	101
12	Welds	101
12.1	General	101
12.2	Common requirements	101
12.2.1	Application of supplemental geometry	101
12.2.2	Arrow lines	101
12.3	Model requirements	102
12.3.1	Annotation plane	102
12.3.2	Associativity	102
12.3.3	Indicating extents of the weld	102
12.3.4	Query of weld path	104
12.4	Drawing requirements	105
13	Surface texture	105
13.1	General	105
13.2	Common requirements	105
13.3	Model requirements	105
13.3.1	Display techniques	105
13.3.2	Annotation plane	106
13.3.3	Associativity	106
13.3.4	Indication of direction of lay	106
13.3.5	Use of all around indication	107
13.4	Drawing requirements	108
Annex A (informative) Classification codes for drawings and data sets	109	
Bibliography	111	