

ISO/TS 13399-304:2016-02 (E)

Cutting tool data representation and exchange - Part 304: Creation and exchange of 3D models - Solid milling cutters with arbor hole

Contents		Page
Foreword		v
Introduction		vii
1	Scope	1
2	Normative references	1
3	Starting elements, coordinate systems, planes	2
3.1	General	2
3.2	Reference system	2
3.3	Coordinate system at the cutting part	3
3.4	Planes	3
3.5	Cutting reference point (CRP)	4
4	Design of the model	5
4.1	Necessary properties for the connection interface feature	5
5	Plain milling cutter	6
5.1	General	6
5.2	Necessary properties	6
5.3	Geometry of the non-cutting part inclusive of the connection	7
5.4	Geometry of the cutting part	9
5.5	Plain milling cutter, complete	9
6	Shell mill	9
6.1	General	9
6.2	Necessary properties	10
6.3	Geometry of the non-cutting part inclusive of the connection	10
6.4	Geometry of the cutting part	10
6.5	Shell mill, complete	10
7	Thread milling cutter	11
7.1	General	11
7.2	Necessary properties	11
7.3	Geometry of the non-cutting part inclusive of the connection	12
7.4	Geometry of the cutting part	12
7.5	Thread milling cutter, complete	12
8	Slotting cutter	12
8.1	General	12
8.2	Necessary properties	13
8.3	Geometry of the non-cutting part inclusive of the connection	13
8.4	Geometry of the cutting part	13
8.5	Slotting cutter, complete	14
9	Pointed profiles slotting cutter	14
9.1	General	14
9.2	Necessary properties	15
9.3	Geometry of the non-cutting part inclusive of the connection	15
9.4	Geometry of the cutting part	16

9.5	Pointed profile slotting cutter	16
10	Flatted profileslottingcutter	16
10.1	General	16
10.2	Necessary properties	17
10.3	Geometry of the non-cutting part inclusive of the connection	18
10.4	Geometry of the cutting part	18
10.5	Flatted profile slotting cutter, complete	18
11	Concaveprofilecutter	18
11.1	General	18
11.2	Necessary properties	19
11.3	Geometry of the non-cutting part inclusive of the connection	19
11.4	Geometry of the cutting part	20
11.5	Concave profile cutter, complete	20
12	Convexprofilecutter	20
12.1	General	20
12.2	Necessary properties	21
12.3	Geometry of the non-cutting part inclusive of the connection	21
12.4	Geometry of the cutting part	21
12.5	Convex profile cutter, complete	21
13	Corner-rounding cutter	22
13.1	General	22
13.2	Necessary properties	23
13.3	Geometry of the non-cutting part inclusive of the connection	23
13.4	Geometry of the cutting part	23
13.5	Corner-rounding cutter, complete	23
14	Angular milling cutter	24
14.1	General	24
14.2	Necessary properties	24
14.3	Geometry of the non-cutting part inclusive of the connection	25
14.4	Geometry of the cutting part	25
14.5	Angular milling cutter, complete	25
15	Angularprofilemillingcutter	26
15.1	General	26
15.2	Necessary properties	26
15.3	Geometry of the non-cutting part inclusive of the connection	27
15.4	Geometry of the cutting part	27
15.5	Angular profile milling cutter, complete	27
16	Sawing blade	27
16.1	General	27
16.2	Necessary properties	28
16.3	Geometry of the non-cutting part inclusive of the connection	28
16.4	Geometry of the cutting part	28
16.5	Sawing blade, complete	28
17	Design of details	29
17.1	Basics for modelling	29
17.2	Contact surfaces, driving features -- Orientation	29
18	Attributes of surfaces -- Visualization of the model features	29
19	Structure of the design elements (tree of model)	29
20	Data exchange model	30

Annex A (informative) Information about nominal dimensions32
Bibliography33