

ISO/TS 13399-202:2015-08 (E)

Cutting tool data representation and exchange - Part 202: Creation and exchange of 3D models - Irregular inserts

Contents

Page

Foreword	iv
Introduction	vi
1 Scope	1
2 Normative references	1
3 Starting elements, coordinate systems, planes	1
3.1 General	1
3.2 Reference system	2
3.3 Coordinate system	2
3.3.1 General	2
3.3.2 Coordinate system for insert location	2
3.3.3 Coordinate system for insert mounting	3
3.4 Planes	4
4 Design of the model	4
5 Geometrical determination of the insert	4
5.1 Basic shapes of the cutting profile	4
5.2 Necessary properties	7
5.2.1 Necessary properties for the design of the cutting profile	7
5.2.2 Necessary properties for the design of the insert body	8
5.3 Design of the cutting profile	9
6 Inserts for grooving and parting	10
6.1 Necessary properties for the profile of grooving and parting inserts	10
6.2 Insert, one cutting edge for grooving, screw mounting	11
6.3 Insert, one cutting edge for grooving and parting, self-clamping	14
6.4 Insert, two cutting edges for grooving and parting, self-clamping	15
6.5 Insert, two cutting edges for parting, self-clamping	17
6.6 Insert, two cutting edges for profiling and partial threading	19
6.7 Insert, two cutting edges for profiling	21
6.8 Insert, multiple cutting edges for grooving and parting	23
7 Inserts for threading	25
7.1 Necessary properties for the profile of threading inserts	25
7.2 Lay-down threading insert, triangle shape, three cutting edges, one tooth	26
7.3 Lay-down threading insert, triangle shape, three cutting edges, three teeth	28
7.4 Threading insert with two cutting edges	31
7.5 Thread chaser	32
8 Fixing hole geometry of the inserts	34
8.1 General	34
8.2 Fixing hole styles	36
8.3 Fixing hole model	36
9 Attributes of surfaces -- Visualization of the model features	37
10 Structure of the design elements (tree of model)	37

10.1	General	37
11	Data exchange model	38
	Bibliography	39