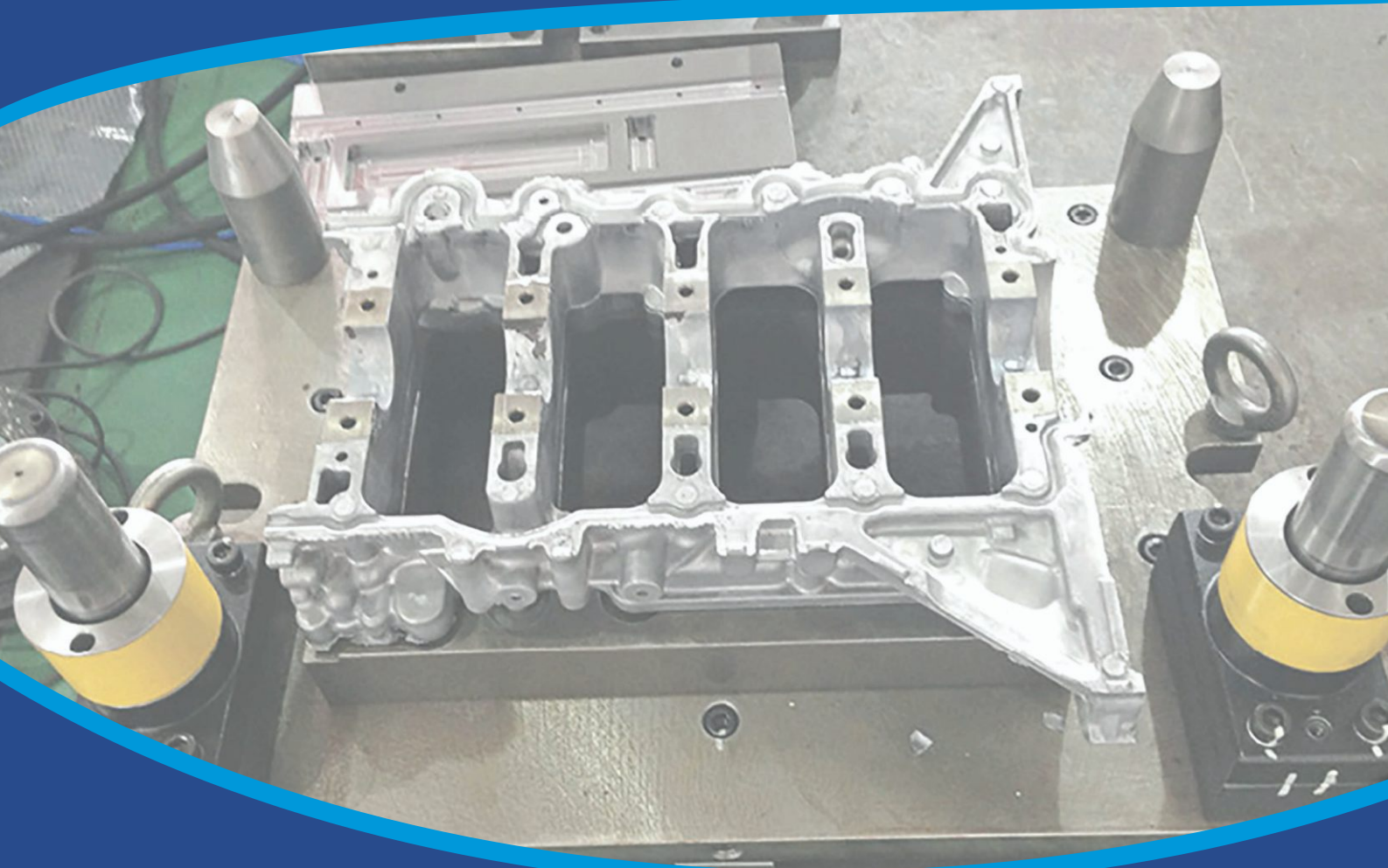




HARDLine

For Milling 50 HRC & 62 HRC



+91 73977 23119



TruCut Precision Tools Pvt. Ltd.

DP-19, Sidco Industrial Estate - WIP, Katoor,
Thirumullaivoyal, Chennai - 600 062, Tamil Nadu, India

+91 44 2635 0520 / 73977 71855

sales@trucut-tool.com

www.trucut-tool.com



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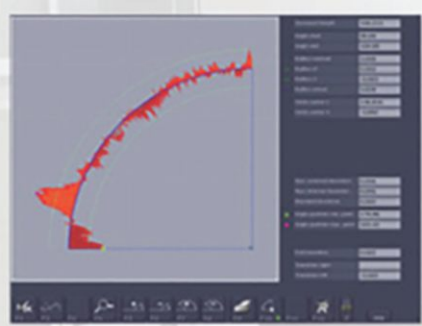
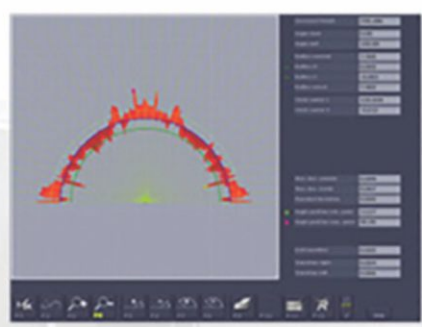


TruCut - Ensures Highest Quality Level Has Its Own In-House Design & Development Facility Utilizing latest Software This Provides Clear Vision of the Finished Products.

TruCut manufacturing Facility Includes 5 Axis / 4 Axis CNC Grinding Machines and Full Range of Manual Grinding Shop For Blanks Preparation, along Side the Expert Team to Ensure Quality at Every Level.

New Updated CNC Grinders with Advance Software Allow us to Design, Develop & Produce - Tools to Machine Exotic & Super Alloys Materials Like – Hi Tensile Alloy Steel, High Hardened Steel, Titanium, In-conel, Stainless Steel Etc.

All Tools are Inspected on Zoller CNC Tool Inspection Machine which Optimize & Control Quality to Precision Level for Longer Tool Life.



Ghasing

Helical Ball Ghasing for better Strength & Shearing Action

Rigid Flute

Appropriate Designed Rack Angle Determines the Size & Shape of Chip as well Pressure and Temperature on Tool for Advance Hi speed Productivity

TiSiN Coat

New TiSiN Coating Now has Higher Hardness Properties Combined with Improved Toughness and smooth chip flow for low Friction with Hardened Material upto 62 HRC

Premium Carbide

Untrafine Substract material used for its Properties of Wear Resistance & Toughness

Industry Recognitions

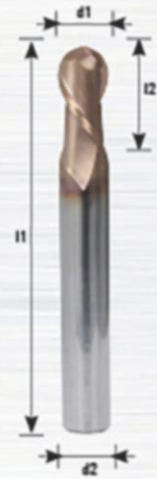


Series : 122SB 50 HRC
Ball End Mill - Standard Length



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Radius	No of Flute	Item Code
1	4	2	50	0.5	2	122SB-0100-M
1.5	4	4	50	0.75	2	122SB-0150-M
2	4	5	50	1	2	122SB-0200-M
2.5	4	6	50	1.25	2	122SB-0250-M
3	3	6	50	1.5	2	122SB-0300
4	4	8	50	2	2	122SB-0400
5	5	13	50	2.5	2	122SB-0500
6	6	12	50	3	2	122SB-0600
8	8	16	60	4	2	122SB-0800
10	10	20	75	5	2	122SB-1000
12	12	24	75	6	2	122SB-1200
14	14	32	100	7	2	122SB-1400
16	16	32	100	8	2	122SB-1600
18	18	32	100	9	2	122SB-1800
20	20	32	100	10	2	122SB-2000
25	25	32	100	12.5	2	122SB-2500

Series : 122LB / 122 ELB 50 HRC
Ball End Mill - Long & Extra Long



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Radius	No of Flute	Item Code
3	3	6	75	1.5	2	122LB-0300
4	4	8	75	2	2	122LB-0400
5	5	10	75	2.5	2	122LB-0500
6	6	12	75	3	2	122LB-0600
8	8	16	75	4	2	122LB-0800
3	3	6	100	1.5	2	122ELB-0300
4	4	8	100	2	2	122ELB-0400
5	5	10	100	2.5	2	122ELB-0500
6	6	12	100	3	2	122ELB-0600
8	8	16	100	4	2	122ELB-0800
10	10	20	100	5	2	122ELB-1000
12	12	24	100	6	2	122ELB-1200

Series : 122XLB 50 HRC
Ball End Mill - Extended Length



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Radius	No of Flute	Item Code
6	6	12	150	3	2	122XLB-0600
8	8	16	150	5	2	122XLB-0800
10	10	20	150	5	2	122XLB-1000
12	12	24	150	6	2	122XLB-1200

Series : 124SB 50 HRC
Ball End Mill - Standard Length



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Radius	No of Flute	Item Code
3	3	6	50	1.5	4	124SB-0300
4	4	8	50	2	4	124SB-0400
5	5	13	50	2.5	4	124SB-0500
6	6	12	50	3	4	124SB-0600
8	8	16	60	4	4	124SB-0800
10	10	20	75	5	4	124SB-1000
12	12	24	75	6	4	124SB-1200
14	14	32	100	7	4	124SB-1400
16	16	32	100	8	4	124SB-1600
18	18	32	100	9	4	124SB-1800
20	20	32	100	10	4	124SB-2000
25	25	32	100	12.5	4	124SB-2500

Series : 124LB / 124ELB 50 HRC
Ball End Mill - Long & Extra Long



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Radius	No of Flute	Item Code
3	3	6	75	1.5	4	124LB-0300
4	4	8	75	2	4	124LB-0400
5	5	10	75	2.5	4	124LB-0500
6	6	12	75	3	4	124LB-0600
8	8	16	75	4	4	124LB-0800
3	3	6	100	1.5	4	124ELB-0300
4	4	8	100	2	4	124ELB-0400
5	5	10	100	2.5	4	124ELB-0500
6	6	12	100	3	4	124ELB-0600
8	8	16	100	4	4	124ELB-0800
10	10	20	100	5	4	124ELB-1000
12	12	24	100	6	4	124ELB-1200

Series : 124XLB 50 HRC
Ball End Mill - Extended Length



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Radius	No of Flute	Item Code
6	6	12	150	3	4	124XLB-0600
8	8	18	150	4	4	124XLB-0800
10	10	20	150	5	4	124XLB-1000
12	12	24	150	6	4	124XLB-1200

Series : 124CRS 50 HRC Corner Radius End Mill - Std Length



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Radius	No of Flute	Item Code
3	3	8	50	0.5	4	124CRS-0305
3	3	8	50	1.0	4	124CRS-0310
4	4	11	50	0.5	4	124CRS-0405
4	4	11	50	1.0	4	124CRS-0410
5	5	13	50	0.5	4	124CRS-0505
5	5	13	50	1.0	4	124CRS-0510
6	6	16	50	0.5	4	124CRS-0605
6	6	16	50	1.0	4	124CRS-0610
8	8	20	75	1.0	4	124CRS-0810
10	10	25	75	1.0	4	124CRS-1010
12	12	30	75	1.0	4	124CRS-1210
12	12	30	75	2.0	4	124CRS-1220

Series: 124CRL/124CREL 50 HRC Corner Radius End Mill - Long & Extra Long



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Radius	No of Flute	Item Code
3	3	8	75	1.0	4	124CRL-0310
4	4	11	75	1.0	4	124CRL-0410
5	5	12	75	1.0	4	124CRL-0510
6	6	16	75	1.0	4	124CRL-0610
3	3	8	100	1.0	4	124CREL-0310
4	4	11	100	1.0	4	124CREL-0410
5	5	12	100	1.0	4	124CREL-0510
6	6	16	100	1.0	4	124CREL-0610
8	8	20	100	1.0	4	124CREL-0810
10	10	25	100	1.0	4	124CREL-1010
12	12	30	100	1.0	4	124CREL-1210
12	12	30	100	2.0	4	124CREL-1220
16	16	32	100	1.0	4	124CREL-1610
16	16	32	100	2.0	4	124CREL-1620

Series: 124CRXL 50 HRC Corner Radius End Mill - Extended Length



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Radius	No of Flute	Item Code
6	6	16	150	1.0	4	124CRXL-0610
8	8	20	150	1.0	4	124CRXL-0810
10	10	25	150	1.0	4	124CRXL-1010
12	12	30	150	1.0	4	124CRXL-1210
12	12	30	150	2.0	4	124CRXL-1220
16	16	32	150	1.0	4	124CRXL-1610
16	16	32	150	2.0	4	124CRXL-1620

Series : 124SF 50 HRC Flat End Mill - Std Length



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Radius	No of Flute	Item Code
1	4	2	50	-	4	124SF-0100-M
1.5	4	4	50	-	4	124SF-0150-M
2	4	5	50	-	4	124SF-0200-M
2.5	4	6	50	-	4	124SF-0250-M
3	3	8	50	-	4	124SF-0300
4	4	11	50	-	4	124SF-0400
5	5	13	50	-	4	124SF-0500
6	6	16	50	-	4	124SF-0600
8	8	20	60	-	4	124SF-0800
10	10	25	75	-	4	124SF-1000
12	12	30	75	-	4	124SF-1200
14	14	40	100	-	4	124SF-1400
16	16	40	100	-	4	124SF-1600
18	18	40	100	-	4	124SF-1800
20	20	40	100	-	4	124SF-2000
25	25	40	100	-	4	124SF-2500

Series : 124LF & ELF 50 HRC Flat End Mill - Long & Extra Long



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Radius	No of Flute	Item Code
3	3	8	75	-	4	124LF-0300
4	4	11	75	-	4	124LF-0400
5	5	12	75	-	4	124LF-0500
6	6	16	75	-	4	124LF-0600
8	8	20	75	-	4	124LF-0800
3	3	8	100	-	4	124ELF-0300
4	4	11	100	-	4	124ELF-0400
5	5	16	100	-	4	124ELF-0500
6	6	16	100	-	4	124ELF-0600
8	8	20	100	-	4	124ELF-0800
10	10	25	100	-	4	124ELF-1000
12	12	30	100	-	4	124ELF-1200

Series : 124XLF 50 HRC Flat End Mill - Extended Length



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Radius	No of Flute	Item Code
6	6	16	150	-	4	124XLF-0600
8	8	20	150	-	4	124XLF-0800
10	10	25	150	-	4	124XLF-1000
12	12	30	150	-	4	124XLF-1200

Series : 112SF 62 HRC Flat End Mill - Micro



	d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Radius	No of Flute	Item Code
NEW	0.2	4.0	0.40	50.0	0.10	2	112SF-0020
NEW	0.3	4.0	0.60	50.0	0.15	2	112SF-0030
NEW	0.4	4.0	0.80	50.0	0.20	2	112SF-0040
NEW	0.5	4.0	1.00	50.0	0.25	2	112SF-0050
NEW	0.6	4.0	1.20	50.0	0.30	2	112SF-0060
NEW	0.7	4.0	1.40	50.0	0.35	2	112SF-0070
NEW	0.8	4.0	1.60	50.0	0.40	2	112SF-0080
NEW	0.9	4.0	1.80	50.0	0.45	2	112SF-0090

Series : 112SB 62 HRC Ball End Mill - Micro



	d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Radius	No of Flute	Item Code
NEW	0.2	4.0	0.40	50.0	0.10	2	112SB-0020
NEW	0.3	4.0	0.60	50.0	0.15	2	112SB-0030
NEW	0.4	4.0	0.80	50.0	0.20	2	112SB-0040
NEW	0.5	4.0	1.00	50.0	0.25	2	112SB-0050
NEW	0.6	4.0	1.20	50.0	0.30	2	112SB-0060
NEW	0.7	4.0	1.40	50.0	0.35	2	112SB-0070
NEW	0.8	4.0	1.60	50.0	0.40	2	112SB-0080
NEW	0.9	4.0	1.80	50.0	0.45	2	112SB-0090

Series : 112SB 62 HRC Ball End Mill - Standard Length



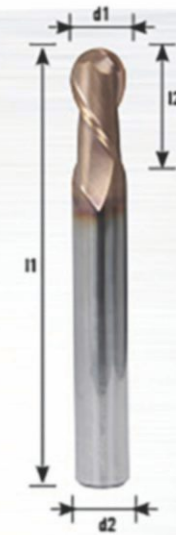
	d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Radius	No of Flute	Item Code
	1.0	4.0	2	50.0	0.50	2	112SB-0100
	1.5	4.0	3	50.0	0.75	2	112SB-0150
	2.0	4.0	4	50.0	1.00	2	112SB-0200
	2.5	4.0	5	50.0	1.25	2	112SB-0250
	3.0	4.0	6	50.0	1.50	2	112SB-0300
	4.0	4.0	8	50.0	2.00	2	112SB-0400
	5.0	6.0	10	50.0	2.50	2	112SB-0500
	6.0	6.0	12	50.0	3.00	2	112SB-0600
	8.0	8.0	16	60.0	4.00	2	112SB-0800
	10.0	10.0	20	75.0	5.00	2	112SB-1000
	12.0	12.0	24	75.0	6.00	2	112SB-1200
	18.0	16.0	32	100.0	8.00	2	112SB-1600

Application :

- Hi-Tensile Steel upto 62 HRC
- Hi-Speed Machining
- Specially Designed for Die and Mould Machining



Series : 112LB 62 HRC Ball End Mill - Long Length



	d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Radius	No of Flute	Item Code
	1.0	4.0	2	75.0	0.50	2	112LB-0100
	1.5	4.0	3	75.0	0.75	2	112LB-0150
	2.0	4.0	4	75.0	1.00	2	112LB-0200
	2.5	4.0	5	75.0	1.25	2	112LB-0250
	3.0	4.0	6	75.0	1.50	2	112LB-0300
	4.0	4.0	8	75.0	2.00	2	112LB-0400
	5.0	6.0	10	75.0	2.50	2	112LB-0500
	6.0	6.0	12	75.0	3.00	2	112LB-0600

Series : 112ELB 62 HRC Ball End Mill - Extra Long



	d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Radius	No of Flute	Item Code
	2.0	4.0	4	100.0	1.00	2	112ELB-0200
	3.0	4.0	6	100.0	1.50	2	112ELB-0300
	4.0	4.0	8	100.0	2.00	2	112ELB-0400
	5.0	6.0	10	100.0	2.50	2	112ELB-0500
	6.0	6.0	12	100.0	3.00	2	112ELB-0600
	8.0	8.0	16	100.0	4.00	2	112ELB-0800
	10.0	10.0	20	100.0	4.00	2	112ELB-1000
	12.0	12.0	24	100.0	6.00	2	112ELB-1200

Series : 112XLB 62 HRC Ball End Mill - Extended Length



	d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Radius	No of Flute	Item Code
	6.0	6.0	12	150.0	3.00	2	112XLB-0600
	8.0	8.0	16	150.0	4.00	2	112XLB-0800
	10.0	10.0	20	150.0	5.00	2	112XLB-1000
	12.0	12.0	24	150.0	6.00	2	112XLB-1200

Application :

- Hi-Tensile Steel upto 62 HRC
- Hi-Speed Machining
- Specially Designed for Die and Mould Machining



Series : 112CRS 62 HRC Corner Radius - Standard Length



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Radius	No of Flute	Item Code
3.0	3.0	6	50	0.5	2	112CRS-0305
3.0	3.0	6	50	1.0	2	112CRS-0310
4.0	4.0	8	50	0.5	2	112CRS-0405
4.0	4.0	8	50	1.0	2	112CRS-0410
5.0	6.0	10	50	0.5	2	112CRS-0505
5.0	6.0	10	50	1.0	2	112CRS-0510
6.0	6.0	12	50	0.5	2	112CRS-0605
6.0	6.0	12	50	1.0	2	112CRS-0610
6.0	6.0	12	50	1.5	2	112CRS-0615
8.0	8.0	16	60	0.5	2	112CRS-0805
8.0	8.0	16	60	1.0	2	112CRS-0810
8.0	8.0	16	60	1.5	2	112CRS-0815
10.0	10.0	20	75	1.0	2	112CRS-1010
10.0	10.0	20	75	1.5	2	112CRS-1015
10.0	10.0	20	75	2.0	2	112CRS-1020
12.0	12.0	24	75	1.0	2	112CRS-1210
12.0	12.0	24	75	1.5	2	112CRS-1215
12.0	12.0	24	75	2.0	2	112CRS-1220

Application :

- Hi-Tensile Steel upto 62 HRC
- Hi-Speed Machining
- Specially Designed for Die and Mould Machining

Series : 114LF\114ELF\114XLF 62 HRC Flat End Mill - Long & Extra Long

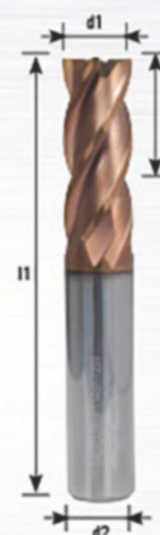


d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Radius	No of Flute	Item Code
3	4	8	75	-	4	114LF-0300
4	4	11	75	-	4	114LF-0400
5	6	13	75	-	4	114LF-0500
6	6	16	75	-	4	114LF-0600
8	8	20	75	-	4	114LF-0800
3	4	8	100	-	4	114ELF-0300
4	4	11	100	-	4	114ELF-0400
5	6	13	100	-	4	114ELF-0500
6	6	16	100	-	4	114ELF-0600
8	8	20	100	-	4	114ELF-0800
10	10	25	100	-	4	114ELF-1000
12	12	30	100	-	4	114ELF-1200
6	6	16	150	-	4	114XLF-0600
8	8	20	150	-	4	114XLF-0800
10	10	25	150	-	4	114XLF-1000
12	12	30	150	-	4	114XLF-1200

Application :

- Hi-Tensile Steel upto 62 HRC
- Hi-Speed Machining
- Specially Designed for Die and Mould Machining

Series : 114SF 62 HRC Flat End Mill - Standard Length



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Radius	No of Flute	Item Code
1	4	3	50	-	4	114SF-0100
2	4	4	50	-	4	114SF-0150
2	4	6	50	-	4	114SF-0200
3	4	8	50	-	4	114SF-0250
3	4	8	50	-	4	114SF-0300
4	4	11	50	-	4	114SF-0400
5	6	13	50	-	4	114SF-0500
6	6	16	50	-	4	114SF-0600
8	8	20	60	-	4	114SF-0800
10	10	25	75	-	4	114SF-1000
12	12	30	75	-	4	114SF-1200
14	14	40	100	-	14	114SF-1400
16	16	40	100	-	4	114SF-1600
18	18	45	100	-	4	114SF-1800
20	20	45	100	-	4	114SF-2000

Series : 114CRS 62 HRC Corner Radius - Standard Length



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Radius	No of Flute	Item Code
3.0	3.0	6	50	0.5	2	114CRS-0305
3.0	3.0	6	50	1.0	2	114CRS-0310
4.0	4.0	8	50	0.5	2	114CRS-0405
4.0	4.0	8	50	1.0	2	114CRS-0410
5.0	6.0	10	50	0.5	2	114CRS-0505
5.0	6.0	10	50	1.0	2	114CRS-0510
6.0	6.0	12	50	0.5	2	114CRS-0605
6.0	6.0	12	50	1.0	2	114CRS-0610
6.0	6.0	12	50	1.5	2	114CRS-0615
8.0	8.0	16	60	0.5	2	114CRS-0805
8.0	8.0	16	60	1.0	2	114CRS-0810
8.0	8.0	16	60	1.5	2	114CRS-0815
10.0	10.0	20	75	1.0	2	114CRS-1010
10.0	10.0	20	75	1.5	2	114CRS-1015
10.0	10.0	20	75	2.0	2	114CRS-1020
12.0	12.0	24	75	1.0	2	114CRS-1210
12.0	12.0	24	75	1.5	2	114CRS-1215
12.0	12.0	24	75	2.0	2	114CRS-1220

Application :

- Hi-Tensile Steel upto 62 HRC
- Hi-Speed Machining
- Specially Designed for Die and Mould Machining

Series : 116SF & 116LF **62 HRC**
 Corner Radius - Std & Long Length



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Radius	No of Flute	Item Code
6.0	6.0	16	50.0	6	2	116SF-0600
8.0	8.0	20	60.0	6	2	116SF-0800
10.0	10.0	25	75.0	6	2	116SF-1000
12.0	12.0	30	75.0	6	2	116SF-1200
16.0	16.0	40	100.0	6	2	116SF-1600
6.0	6.0	25	65.0	6	2	116LF-0600
8.0	8.0	30	70.0	6	2	116LF-0800
10.0	10.0	35	75.0	6	2	116LF-1000
12.0	12.0	50	100.0	6	2	116LF-1200
16.0	16.0	60	100.0	6	2	116LF-1600

Application :

- Hi-Tensile Steel upto 62 HRC
- Hi-Speed Machining
- Specially Designed for Die and Mould Machining

Series : 112FRN **62 HRC**
 Flat - Long Neck Cutter



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	l3 Neck Length	No of Flute	Item Code
NEW 0.4	4.0	0.8	50	2	2	112FRN-0042
NEW 0.4	4.0	0.8	50	4	2	112FRN-0044
NEW 0.5	4.0	1	50	2	2	112FRN-0052
NEW 0.5	4.0	1	50	4	2	112FRN-0054
NEW 0.6	4.0	1.2	50	4	2	112FRN-0064
NEW 0.6	4.0	1.2	50	6	2	112FRN-0066
NEW 0.8	4.0	1.6	50	4	2	112FRN-0084
NEW 0.8	4.0	1.6	50	6	2	112FRN-0086
NEW 0.9	4.0	1.8	50	6	2	112FRN-0096
NEW 0.9	4.0	1.8	50	8	2	112FRN-0098
1.0	4.0	1.5	50	6	2	112FRN-0106
1.0	4.0	1.5	50	8	2	112FRN-0108
1.0	4.0	1.5	50	10	2	112FRN-0110
1.5	4.0	2.0	50	8	2	112FRN-1508
1.5	4.0	2.0	50	12	2	112FRN-1512
1.5	4.0	2.0	50	16	2	112FRN-1516
2.0	4.0	3.0	50	6	2	112FRN-0206
2.0	4.0	3.0	50	8	2	112FRN-0208
2.0	4.0	3.0	50	10	2	112FRN-0210
2.0	4.0	3.0	50	12	2	112FRN-0212
2.0	4.0	3.0	50	16	2	112FRN-0216
2.0	4.0	3.0	50	20	2	112FRN-0220
2.5	4.0	4.0	50	8	2	112FRN-2508
2.5	4.0	4.0	50	12	2	112FRN-2512
2.5	4.0	4.0	50	16	2	112FRN-2516
2.5	4.0	4.0	50	20	2	112FRN-2520
3.0	6.0	4.5	60	10	2	112FRN-0310
3.0	6.0	4.5	60	16	2	112FRN-0316
3.0	6.0	4.5	60	20	2	112FRN-0320
4.0	6.0	6.0	60	10	2	112FRN-0410
4.0	6.0	6.0	60	16	2	112FRN-0416
4.0	6.0	6.0	60	20	2	112FRN-0420
5.0	6.0	8.0	60	16	2	112FRN-0516
5.0	6.0	8.0	60	25	2	112FRN-0525

Application :

- Hi-Tensile Steel upto 62 HRC
- Hi-Speed Machining
- Specially Designed for Die and Mould Machining

Series : 112BRN 62 HRC Ball - Long Neck Cutter



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	l3 Neck Length	No of Flute	Item Code
NEW 0.4	4.0	0.8	50	2	2	112BRN-0042
NEW 0.4	4.0	0.8	50	4	2	112BRN-0044
NEW 0.5	4.0	1	50	2	2	112BRN-0052
NEW 0.5	4.0	1	50	4	2	112BRN-0054
NEW 0.6	4.0	1.2	50	4	2	112BRN-0064
NEW 0.6	4.0	1.2	50	6	2	112BRN-0066
NEW 0.8	4.0	1.6	50	4	2	112BRN-0084
NEW 0.8	4.0	1.6	50	6	2	112BRN-0086
NEW 0.9	4.0	1.8	50	6	2	112BRN-0096
NEW 0.9	4.0	1.8	50	8	2	112BRN-0098
1.0	4.0	1.5	50	6	2	112BRN-0106
1.0	4.0	1.5	50	8	2	112BRN-0108
1.0	4.0	1.5	50	10	2	112BRN-0110
1.5	4.0	2.0	50	8	2	112BRN-1508
1.5	4.0	2.0	50	12	2	112BRN-1512
1.5	4.0	2.0	50	16	2	112BRN-1516
2.0	4.0	3.0	50	6	2	112BRN-0206
2.0	4.0	3.0	50	8	2	112BRN-0208
2.0	4.0	3.0	50	10	2	112BRN-0210
2.0	4.0	3.0	50	12	2	112BRN-0212
2.0	4.0	3.0	50	16	2	112BRN-0216
2.0	4.0	3.0	50	20	2	112BRN-0220
2.5	4.0	4.0	50	8	2	112BRN-2508
2.5	4.0	4.0	50	12	2	112BRN-2512
2.5	4.0	4.0	50	16	2	112BRN-2516
2.5	4.0	4.0	50	20	2	112BRN-2520
3.0	6.0	4.5	60	10	2	112BRN-0310
3.0	6.0	4.5	60	16	2	112BRN-0316
3.0	6.0	4.5	60	20	2	112BRN-0320
4.0	6.0	6.0	60	10	2	112BRN-0410
4.0	6.0	6.0	60	16	2	112BRN-0416
4.0	6.0	6.0	60	20	2	112BRN-0420
5.0	6.0	8.0	60	16	2	112BRN-0516

Application :

- Hi-Tensile Steel upto 62 HRC
- Hi-Speed Machining
- Specially Designed for Die and Mould Machining

Series : 132SB 62 HRC Ball Taper Neck



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Radius	No of Flute	Item Code
3.0	6.0	6	70.0	1.50	3.0	132SB-0330
3.0	6.0	6	90.0	1.50	1.3	132SB-0313
4.0	6.0	8	70.0	2.00	3.0	132SB-0430
4.0	6.0	8	90.0	2.00	1.3	132SB-0413
5.0	8.0	10	90.0	2.50	3.0	132SB-0530
5.0	8.0	10	110.0	2.50	1.3	132SB-0513
6.0	8.0	12	90.0	3.00	3.0	132SB-0630
6.0	8.0	12	110.0	3.00	1.3	132SB-0613
8.0	10.0	14	100.0	4.00	3.0	132SB-0830
8.0	10.0	14	120.0	4.00	1.3	132SB-0813
10.0	12.0	18	110.0	5.00	3.0	132SB-1030
10.0	12.0	18	130.0	5.00	1.3	132SB-1013
12.0	16.0	22	140.0	6.00	3.0	132SB-1230
12.0	16.0	22	160.0	6.00	1.3	132SB-1213

Application :

- Hi-Tensile Steel upto 62 HRC
- Hi-Speed Machining
- Specially Designed for Die and Mould Machining

Series : 132CR 62 HRC Corner Radius - Taper Neck



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Radius	No of Flute	Item Code
3.0	6.0	6	70.0	0.30	3.0	132CR-0330
3.0	6.0	6	90.0	0.30	1.3	132CR-0313
4.0	6.0	8	70.0	0.30	3.0	132CR-0430
4.0	6.0	8	90.0	0.30	1.3	132CR-0413
5.0	8.0	10	90.0	0.50	3.0	132CR-0530
5.0	8.0	10	110.0	0.50	1.3	132CR-0513
6.0	8.0	12	90.0	0.50	3.0	132CR-0630
6.0	8.0	12	110.0	0.50	1.3	132CR-0613
8.0	10.0	14	100.0	0.50	3.0	132CR-0830
8.0	10.0	14	120.0	0.50	1.3	132CR-0813
10.0	12.0	18	110.0	0.50	3.0	132CR-1030
10.0	12.0	18	130.0	1.00	1.3	132CR-1013
12.0	16.0	22	140.0	1.00	3.0	132CR-1230
12.0	16.0	22	160.0	1.00	1.3	132CR-1213

Application :

- Hi-Tensile Steel upto 62 HRC
- Hi-Speed Machining
- Specially Designed for Die and Mould Machining

Series : 122TEM Taper End Mills



Application :

- Designed for Aluminium Extrusion Die Machining

d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Taper Angle	No of Flute	Item Code
2.0	6.0	40	78.0	1°30'	2	122TEM-0206-1.3
3.0	6.0	40	78.0	1°30'	2	122TEM-0306-1.3
4.0	8.0	40	78.0	1°30'	2	122TEM-0408-1.3
5.0	8.0	40	78.0	1°30'	2	122TEM-0508-1.3
2.5	8.0	40	78.0	2°	2	122TEM-2508-2
3.0	8.0	40	78.0	2°	2	122TEM-0308-2
3.5	8.0	40	78.0	2°	2	122TEM-3508-2
2.0	8.0	40	78.0	3°	2	122TEM-0208-3
2.5	8.0	40	92.0	3°	2	122TEM-2508-3
3.0	8.0	40	78.0	3°	2	122TEM-0308-3
3.0	10.0	50	92.0	3°	2	122TEM-0310-3
3.5	8.0	40	92.0	3°	2	122TEM-3508-3
3.5	10.0	50	92.0	3°	2	122TEM-3510-3
4.0	10.0	50	83.0	3°	2	122TEM-0410-3
4.5	10.0	50	78.0	3°	2	122TEM-4510-3
2.0	8.0	40	83.0	5°	2	122TEM-0210-5
2.5	8.0	30	83.0	5°	2	122TEM-2508-5
2.5	10.0	40	92.0	5°	2	122TEM-2510-5
3.0	10.0	40	92.0	5°	2	122TEM-0310-5
3.0	12.0	50	83.0	5°	2	122TEM-0312-5
3.5	12.0	40	92.0	5°	2	122TEM-3512-5
4.0	10.0	30	83.0	5°	2	122TEM-0410-5
4.0	12.0	40	92.0	5°	2	122TEM-0412-5
4.0	14.0	50	104.0	5°	2	122TEM-0414-5
5.0	12.0	40	92.0	5°	2	122TEM-0512-5
5.0	14.0	50	104.0	5°	2	122TEM-0514-5
5.0	16.0	60	130.0	5°	2	122TEM-0516-5
6.0	14.0	40	104.0	5°	2	122TEM-0614-5
6.0	18.0	60	130.0	5°	2	122TEM-0618-5

Series: 114SF/124SF

Cutter Diameter	Steels 30 HRc		Steels 50 HRc		Steels 50 HRc	
	RPM	Feed/Tooth	RPM	Feed/Tooth	RPM	Feed/Tooth
1.0	11040-13800	0.006-0.008	8540-10675	0.006-0.008	6451-8064	0.006-0.009
1.5	10368-12960	0.008-0.011	7920-9900	0.008-0.011	6144-7680	0.008-0.011
2.0	9093-11366	0.008-0.012	7864-9830	0.008-0.011	5530-6912	0.010-0.013
3.0	7373-9216	0.013-0.018	6864-8580	0.012-0.016	4792-5990	0.011-0.016
4.0	6672-8340	0.017-0.024	6096-7620	0.016-0.022	4301-5376	0.014-0.020
5.0	6144-7680	0.019-0.028	5616-7020	0.018-0.025	4138-5172	0.015-0.021
6.0	5952-7440	0.021-0.030	5664-7080	0.019-0.027	3744-4680	0.017-0.025
8.0	5400-4320	0.037-0.052	2765-3456	0.049-0.069	1744-2220	0.044-0.064
10.0	2784-3480	0.084-0.121	1440-1800	0.088-0.125	1056-1320	0.060-0.086
12.0	2352-2940	0.071-0.102	979-1224	0.072-0.103	758-948	0.047-0.066
16.0	1344-1680	0.075-0.107	643-804	0.078-0.120	470-588	0.061-0.086
20.0	883-1104	0.105-0.149	422-528	0.084-0.119	298-372	0.068-0.096
25.0	749-936	0.090-0.128	365-456	0.076-0.108	269-336	0.075-0.107

Series: 114LF & 124ELF / 124LF & 124ELF

Cutter Diameter	Steels 30 HRc		Steels 30 - 35 HRc		Steels 35 - 40 HRc		Steels 40 - 45 HRc		Steels 45 - 65 HRc	
	RPM	Feed/Tooth	RPM	Feed/Tooth	RPM	Feed/Tooth	RPM	Feed/Tooth	RPM	Feed/Tooth
6.0	4000-5000	0.035-0.050	3600-4500	0.032-0.045	3280-4100	0.026-0.036	3040-3800	0.022-0.031	2000-2500	0.019-0.027
8.0	2600-3250	0.068-0.084	2400-3000	0.067-0.083	1800-2250	0.067-0.083	1600-2000	0.060-0.075	1000-1250	0.052-0.065
10.0	1520-1900	0.100-0.125	1200-1500	0.100-0.125	1000-1250	0.088-0.110	800-1000	0.090-0.113	640-800	0.063-0.078
12.0	1280-1600	0.113-0.145	1080-1350	0.111-0.138	1000-1250	0.096-0.120	800-1000	0.100-0.125	480-600	0.075-0.094

Series: 114CRS / 124CRS / 124CRL & 124CREL

Cutter Diameter	Steels 30 HRc		Steels 50 HRc		Steels 60 HRc	
	RPM	Feed/Tooth	RPM	Feed/Tooth	RPM	Feed/Tooth
0605	5152-6440	0.046-0.065	3942-4928	0.040-0.057	2061-2576	0.029-0.041
0610	5925-7406	0.046-0.065	4534-5667	0.040-0.057	2370-2962	0.029-0.041
0615	6182-7728	0.046-0.065	4731-5914	0.040-0.057	2473-3091	0.029-0.041
0805	3875-4844	0.069-0.098	2397-2996	0.056-0.079	1725-2156	0.037-0.053
0810	4457-5571	0.069-0.098	2757-3446	0.056-0.079	1984-2480	0.037-0.053
0815	4650-5813	0.069-0.098	2876-3595	0.056-0.079	2070-2587	0.037-0.053
1010	2833-3541	0.089-0.127	1613-2016	0.060-0.086	850-1063	0.062-0.088
1015	2957-3696	0.089-0.127	1720-2150	0.060-0.086	887-1109	0.062-0.088
1020	3203-4004	0.089-0.127	1864-2330	0.060-0.086	961-1201	0.062-0.088
1210	2396-2995	0.109-0.156	1134-1417	0.076-0.108	670-837	0.071-0.102
1215	2500-3125	0.109-0.156	1182-1478	0.076-0.108	699-874	0.071-0.102
1220	2708-3385	0.109-0.156	1282-1602	0.076-0.108	757-946	0.071-0.102

Series: 112BRN & 112FRN

Cutter Diameter	Steels 45-52 HRc		Steels 52-62 HRc	
	RPM	Feed/Tooth	RPM	Feed/Tooth
1.0	7040-8800	0.010-0.014	6336-7920	0.010-0.014
1.5	5520-6900	0.010-0.013	3960-4950	0.012-0.017
2.0	4480-5600	0.026-0.037	4032-5040	0.026-0.037
2.5	3840-4800	0.031-0.044	3456-4320	0.031-0.043
3.0	5760-7200	0.018-0.026	5184-6480	0.018-0.026
4.0	5760-7200	0.018-0.026	5184-6480	0.018-0.026
5.0	7987-9984	0.045-0.064	5632-7040	0.038-0.054

Series: 132SB & 132CR

Cutter Diameter	Steels 45-52 HRc		Steels 52-62 HRc	
	RPM	Feed/Tooth	RPM	Feed/Tooth
3.0	5760-7200	0.018-0.026	5184-6480	0.018-0.026
4.0	5760-7200	0.018-0.026	5184-6480	0.018-0.026
5.0	7987-9984	0.045-0.064	5632-7040	0.038-0.054
6.0	7782-9728	0.043-0.062	5120-6400	0.039-0.055
8.0	4096-5120	0.105-0.150	2560-3200	0.091-0.130
10.0	2048-2560	0.158-0.225	1638-2048	0.109-0.156
12.0	1800-2250	0.175-0.250	1584-1980	0.119-0.170

Formula for Feed Rate Calculation: Feed/mm/Min = RPM x No. of Tooth x Feed/Tooth

Series: 112CRS

Cutter Diameter	Steels 30 HRc		Steels 50 HRc		Steels 60 HRc	
	RPM	Feed/Tooth	RPM	Feed/Tooth	RPM	Feed/Tooth
0302	5096-6370	0.049-0.069	3842-4802	0.043-0.061	2940-3675	0.023-0.033
0305	5096-6370	0.054-0.077	3842-4802	0.054-0.076	2940-3675	0.023-0.033
0402	4900-6125	0.056-0.080	3646-4557	0.040-0.056	2666-3332	0.026-0.037
0405	4900-6125	0.056-0.080	3646-4557	0.040-0.057	2666-3332	0.026-0.037
0605	4508-5635	0.091-0.130	3450-4312	0.080-0.114	1803-2254	0.057-0.082
0610	5184-6480	0.091-0.130	3967-4959	0.080-0.114	2074-2592	0.057-0.082
0615	5410-6762	0.091-0.130	4139-5174	0.080-0.114	2164-2705	0.057-0.082
0805	3391-4239	0.138-0.197	2098-2622	0.111-0.159	1510-1887	0.075-0.107
0810	3900-4875	0.138-0.197	2412-3015	0.111-0.159	1736-2170	0.075-0.106
0815	4069-5086	0.138-0.197	2517-3146	0.111-0.159	1811-2264	0.075-0.106
1010	2479-3099	0.177-0.252	1442-1803	0.120-0.172	744-930	0.123-0.176
1015	2587-3234	0.178-0.254	1506-1882	0.120-0.172	776-970	0.123-0.176
1020	2803-3504	0.178-0.254	1630-2038	0.120-0.172	841-1051	0.123-0.176
1210	2097-2621	0.218-0.311	992-1240	0.197-0.281	586-733	0.143-0.204
1215	2187-2734	0.218-0.311	1035-1294	0.151-0.216	611-764	0.143-0.204
1220	2370-2962	0.218-0.311	1121-1401	0.151-0.216	662-828	0.143-0.204

Series: 112SB & 112LB / 124SB & 124LB

Cutter Diameter	Steels 30-40 HRc		Steels 40-50 HRc		Steels 50-60 HRc	
	RPM	Feed/Tooth	RPM	Feed/Tooth	RPM	Feed/Tooth
1.0	20000-40000	0.020-0.024	20000-40000	0.016-0.020	20000-40000	0.012-0.016
1.5	20000-40000	0.030-0.036	20000-40000	0.024-0.030	20000-38600	0.018-0.024
2.0	20000-38100	0.040-0.048	20000-38100	0.032-0.040	19400-28900	0.024-0.032
3.0	16100-25400	0.060-0.072	19300-25400	0.048-0.060	12900-19300	0.036-0.048
4.0	12100-19100	0.080-0.096	14500-19100	0.064-0.080	9700-14500	0.048-0.064
5.0	9600-15300	0.100-0.120	11600-15300	0.080-0.100	7800-11600	0.060-0.080
6.0	8000-12700	0.120-0.144	9700-12700	0.096-0.120	6500-9600	0.072-0.096
8.0	6000-9500	0.160-0.192	7200-9500	0.128-0.160	4900-7200	0.096-0.128
10.0	4800-7600	0.200-0.240	5800-7600	0.160-0.200	3900-5800	0.120-0.160
12.0	4000-6400	0.240-0.288	4800-6400	0.192-0.240	3200-4800	0.144-0.192
16.0	3500-5700	0.280-0.300	3500-5700	0.220-0.260	3000-4200	0.160-0.220

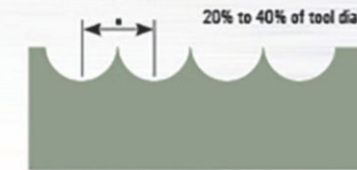
Series: 112ELB & 112XLB / 124ELB & 124XLB

Cutter Diameter	Steels 30HRc		Steels 50HRc		Steels 50-60HRc	
	RPM	Feed/Tooth	RPM	Feed/Tooth	RPM	Feed/Tooth
1.0	20000-40000	0.020-0.024	20000-40000	0.016-0.020	20000-40000	0.012-0.016
1.5	20000-40000	0.030-0.036	20000-40000	0.024-0.030	20000-38600	0.018-0.024
2.0	20000-38100	0.040-0.048	20000-38100	0.032-0.040	19400-28900	0.024-0.032
3.0	16100-25400	0.060-0.072	19300-25400	0.048-0.060	12900-19300	0.036-0.048
4.0	12100-19100	0.080-0.096	14500-19100	0.064-0.080	9700-14500	0.048-0.064
5.0	9600-15300	0.100-0.120	11600-15300	0.080-0.100	7800-11600	0.060-0.080
6.0	8000-12700	0.120-0.144	9700-12700	0.096-0.120	6500-9600	0.072-0.096
8.0	6000-9500	0.160-0.192	7200-9500	0.128-0.160	4900-7200	0.096-0.128
10.0	4800-7600	0.200-0.240	5800-7600	0.160-0.200	3900-5800	0.120-0.160
12.0	4000-6400	0.240-0.288	4800-6400	0.192-0.240	3200-4800	0.144-0.192
16.0	3500-5700	0.280-0.300	3500-5700	0.220-0.260	3000-4200	0.160-0.220

Formula for Feed Rate Calculation: Feed/mm/Min = RPM x No. of Tooth x Feed/Tooth

Cutting Conditions:

Radial Step Over

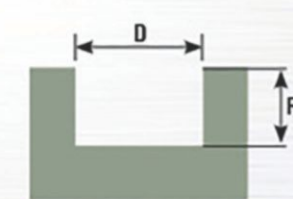


30-40 HRc Axial depth = 10% of tool diameter.
 40-50 HRc Axial depth = 5% of tool diameter.
 50-60 HRc Axial depth = 4% of tool diameter.

Axial Depth

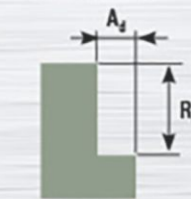


SLOTTING



R_d = Ø6mm to 12mm - 1.00
 R_d = Ø16mm to 20mm - 1.20

SIDE MILLING



A_d = 0.3D
 R_d = 1.5D

Formula for Feed Rate Calculation: Feed/mm/ Min = Rpm X No.of Tooth X Feed/Tooth