

# Grinding Techniques (Pty) Ltd.

ON THE CUTTING EDGE OF TECHNOLOGY



  
ISO 9001:2000





Founded in 1981, Grinding Techniques (Pty) Ltd. is the largest privately owned abrasive manufacturer in Africa, operating under the principal business ethos of developing mutually beneficial business partnerships with our valued customers.



A wide spectrum of quality Bonded Abrasives are manufactured to ISO 9001:2000 standards; the company also converts Coated Abrasives, and markets Tungsten Carbide Burrs, diamond products and other ancillary items. In addition, Grinding Techniques (Pty) Ltd. is the Southern African agent for Tyrolit abrasives. The company distributes through a network of branches in South Africa, and exports extremely successfully on a worldwide basis.



Grinding Techniques (Pty) Ltd. is an equal opportunity employer, committed to environmental protection and constant product improvement through ongoing research.



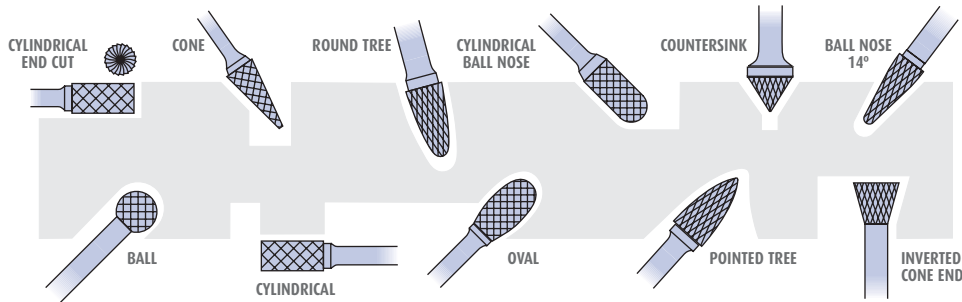
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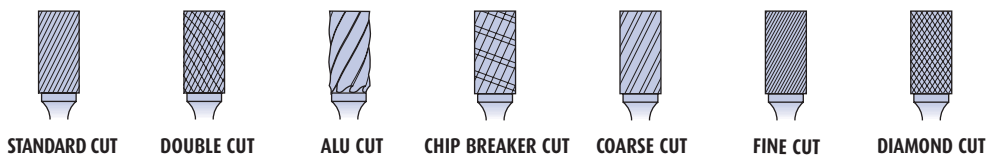
### BURR SHAPE SELECTION

Select the shape which conforms to your workpiece. Maximize the area of contact between the tool and material. Having more of the cutting edge engaged in the material will improve the part finish.



### CUTTING STYLE SELECTION

The choice of flute cut style is dependent on the type of material being machined, the amount of stock removal, and the finish required. In general, the harder the material being machined, the finer the cut should be.




It is also essential that adequate power and operating speed of the drive is used to ensure optimum performance and tool life; machine collets must be absolutely concentric to avoid chipping, and any tool runout will result in chatter and premature wear. Suitable lubricants (grease, paraffin, chalk, etc.) can be used to ease loading problems when machining soft materials.


The Double Cut fluting style can be used almost universally, and allows for rapid stock removal when machining the harder materials. This chisel tooth pattern not only minimizes tool chatter, but also reduces the chip to a granular shape in most materials, thereby reducing or eliminating the sharp sliver chips that are normally experienced. This chip reduction also helps to eliminate loading of the flutes. An improvement in tool control will be realized as the Double Cut tends to reduce the pulling action of the main flute pattern; operator fatigue is also lessened. Although some finish reduction may be experienced, improvement in material removal (and, therefore, increased production) will be realized.

For these reasons, Grinding Techniques (Pty) Ltd. stocks mainly Double Cut style burrs, although some sizes are also stocked in Standard Cut and Alu Cut; other flute styles are available ex-manufacture.


## SPECIFICATIONS



BALL				
REFERENCE	CUTTER DIA	LENGTH OF CUT	SHANK DIA	OVERALL LENGTH
CB 030303	3	2.4	3	38
CB 030306	3	2.4	6	50
CB 060603	6	5.5	3	43
CB 060606	6	5.5	6	50
CB 080806	8	6	6	50
CB 101006	10	9	6	53
CB 121206	12	10	6	54
CB 161606	16	14	6	58
CB 191906	19	17	6	62



CYLINDRICAL BALL NOSE				
REFERENCE	CUTTER DIA	LENGTH OF CUT	SHANK DIA	OVERALL LENGTH
CR 020603	2	6	3	38
CR 031203	3	12	3	38
CR 061203	6	12	3	50
CR 061606	6	16	6	50
CR 062006	6	20	6	50
CR 082006	8	20	6	64
CR 102006	10	20	6	64
CR 122506	12	25	6	69
CR 162506	16	25	6	69



CYLINDRICAL END CUT				
REFERENCE	CUTTER DIA	LENGTH OF CUT	SHANK DIA	OVERALL LENGTH
CE 031203	3	12	3	38
CE 031218	3,2	12	3.2	38
CE 062006	6	20	6	50
CE 082006	8	20	6	64
CE 102006	10	20	6	64
CE 122506	12	25	6	69
CE 162506	16	25	6	69

All dimensions in millimetres.

The specifications in this catalogue are recommendations only. For further information or special application specifications, please contact Grinding Techniques Technical Department (011) 271 6400 or email: [info@grindtech.com](mailto:info@grindtech.com)

## SPECIFICATIONS



### OVAL

REFERENCE	CUTTER DIA	LENGTH OF CUT	SHANK DIA	OVERALL LENGTH
OV 030503	3	5	3	38
OV 061006	6	10	6	50
OV 101606	10	16	6	60
OV 122006	12	20	6	66
OV 162506	16	25	6	69
OV 162508	16	25	8	69



### CONE

REFERENCE	CUTTER DIA	LENGTH OF CUT	SHANK DIA	OVERALL LENGTH
CO 031203	3	12	3	38
CO 031603	3	16	3	38
CO 061203	6	12	3	50
CO 062506	6	25	6	50
CO 102006	10	20	6	64
CO 122506	12	25	6	69
CO 162506	16	25	6	69



### CYLINDRICAL

REFERENCE	CUTTER DIA	LENGTH OF CUT	SHANK DIA	OVERALL LENGTH
CP 031203	3	12	3	38
CP 062006	6	20	6	50
CP 082006	8	20	6	64
CP 102006	10	20	6	64
CP 122506	12	25	6	69
CP 162506	16	25	6	69
CP 162508	16	25	8	69



### ROUND TREE

REFERENCE	CUTTER DIA	LENGTH OF CUT	SHANK DIA	OVERALL LENGTH
TR 031203	3	12	3	38
TR 061203	6	12	3	50
TR 062006	6	20	6	50
TR 102006	10	20	6	63
TR 122506	12	25	6	69
TR 162506	16	25	6	69



### POINTED TREE

REFERENCE	CUTTER DIA	LENGTH OF CUT	SHANK DIA	OVERALL LENGTH
TP 031203	3	12	3	38
TP 061203	6	12	3	50
TP 062006	6	20	6	50
TP 082006	8	20	6	63
TP 102006	10	20	6	64
TP 122506	12	25	6	69
TP 202506	20	25	6	69



### BALL NOSE 14° included angle

REFERENCE	CUTTER DIA	LENGTH OF CUT	SHANK DIA	OVERALL LENGTH
T 031203	3	12	3	38
T 061606	6	16	6	50
T 103006	10	30	6	71
T 123006	12	30	6	74
T 163006	16	30	6	74



### COUNTERSINK

REFERENCE	CUTTER DIA	LENGTH OF CUT	SHANK DIA	OVERALL LENGTH
CO 120606-90°	12	6	6	53
CO 160806-90°	16	8	6	56
CO 121006-60°	12	10	6	58
CO 161306-60°	16	13	6	61



### INVERTED CONE END

REFERENCE	CUTTER DIA	LENGTH OF CUT	SHANK DIA	OVERALL LENGTH
IC 060603	6	6	3	44
IC 101006	10	10	6	53
IC 121206	12	12	6	56

## RECOMMENDED CUTTING SPEEDS:



### ALU CUT STYLE BURRS

**SOFT NON-FERROUS METALS:**  
(Brass, Copper, Zinc, Aluminium Alloys)  
Coarse machining (High stock removal)  
Fine machining (Deburring etc)

**PLASTICS:**  
(Fibre Reinforced Plastics, Thermoplastics, Hard Rubber)  
Coarse machining (High stock removal)  
Fine machining (deburring etc)

600 - 900 m/min  
800 - 900 m/min



### DOUBLE CUT STYLE BURRS

**STEEL & STEEL CASTINGS:**  
Non-hardened, non-heat treated steels up to 35 HRC 450 - 600 m/min  
Hardened, heat treated steels over 35 HRC 250 - 350 m/min  
**STAINLESS STEELS** 250 - 350 m/min

**HARDENED NON-FERROUS METALS:**  
(Bronze, Titanium, Hard Aluminium)  
Coarse machining (High stock removal) 250 - 350 m/min  
Fine machining (Deburring etc) 350 - 450 m/min  
**NICKEL BASED ALLOYS** 300 - 450 m/min  
**CAST IRON** 450 - 600 m/min

## CONVERSION CHART - meters per minute (m/min) to revolutions per minute (RPM)

Burr dia.	2	3	4	6	8	10	12	16	20
<b>m/min</b>	<b>R P M</b>								
250	39773	26515	19886	13258	9943	7955	6629	4972	3977
300	47727	31818	23864	15909	11932	9545	7955	5966	4773
350	55682	37121	27841	18561	13920	11136	9280	6960	5568
450	71591	47727	35795	23864	17898	14318	11932	8949	7159
500	79545	53030	39773	26515	19886	15909	13258	9943	7955
600	95455	63636	47727	31818	23864	19091	15909	11932	9545
900	143182	95455	71591	47727	35795	28636	23864	17898	14318

All dimensions in millimetres.

## ORDERING DATA:

Specification - Cutting Style