ABRASIVE PRODUCTS CATALOGUE

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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SPECIFICATIONS

CHOICE OF CONCENTRATION		
High concentration:	125	5,5 carats
	100	4,4 carats
Normal concentration:	75	3,3 carats
	50	2,2 carats
Low concentration:	25	1,1 carats

CHOICE OF GRAIN/GRIT SIZES	
Rough grinding	251 – 126 grit
Finish grinding	107 – 76 grit
Fine & precision grinding	46 – 35 grit
	30 – 15 µm
	10 – 2 µm
Polishing	10 – 2 µm

CORE MATERIAL

Core Material	Damping Property	Heat Dissipation	Static Strength	Designation
Aluminium	Poor	Very good	Very good	AL
Aluminium/ resinoid compound	Medium	Adequate	Good	BA
Filled synthetic resin	Very good	Adequate	Adequate	BK
Wear-away core	Very good	Adequate	Adequate	BG
Steel	Poor	Very good	Excellent	ST

ECONOMICAL OPERATING SPEEDS (m/s)

	Diamond				CBN			
	Resin		Metal		Resin		Metal	
	WET	DRY	WET	DRY	WET	DRY	WET	DRY
Surface grinding	20-30		15-25		22-35		20-25	
Internal grinding	15-25	15-20	15-20	10-15	20-30	18-25	15-25	15-20
External cylindrical grinding	20-35		15-25		22-35		20-25	
Tool grinding	18-35	15-25	15-20	10-15	20-30	18-25	15-25	15-20

ORDERING DATA:

Shape	Core Dimensions Diam x Width x Bore	Coating Dimensions Diam x Width x Height	Grain Type	Grain Size	Concentr.	Bond	Core Material
4A2	150 x 22 x 32	150 x 10 x 2	D Diamond	126	C50	B	52
14A1	400 x 30 x 127	400 x 10 x 4	B CBN	151	C75	B	54

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

RECOMMENDATIONS FOR BOND SELECTION	
METAL BOND	Produces finer surface finishes, but lower stock removal rates than Resin Bond. Used where a very rigid bonding is required, such as in offhand operations, for ceramics, glass and certain profile grinding.
RESIN BOND	Most popular bond, giving high stock removal rates and very cool grinding; used on carbides, welded alloys, alloyed structural and tool steels.
HARD BOND	Narrow abrasive coatings, long working life, long profile life required, wet grinding.
SOFT BOND	Wide abrasive coatings, workpieces sensitive to heat, dry grinding.

DIAMOND GRINDING WHEELS

Grinding Process	Softer	Standard	Harder	Wet	Dry
Surface Grinding	B65	B52	B53	X	X
External Cylindrical Grinding		B52	B53	X	X
Internal Cylindrical Grinding	B78	B52	B53	X	X
Tool Grinding - DRY:					
Diamond width up to 3mm	B52	B73			X
Diamond width over 3mm		B52	B73		X
Tool Grinding - WET:					
Diamond width up to 3mm	B52	B74		X	
Diamond width over 3mm		B52	B74	X	
Creep-feed Grinding - Carbide Metal Tools					
Fluting operations		B42	B41	X	
Grinding open spaces		B74		X	
Relief grinding		B74	B42	X	
Sharpening of Tungsten Carbide Tipped Saws					
Face grinding		B74		X	
Clearance angle grinding (concentration)	B68/B68 100/75	B63/B65 100/75	B68/B68 120/90	X	
Tooth-flank grinding		B53	B42	X	
Groove with saw sharpening points		B41		X	
Polish grinding with fine grits		B61	B64	X	

CBN GRINDING WHEELS

Grinding Process	Softer	Standard	Harder	Wet	Dry
Surface Grinding	B65	B54	B53	X	X
External Cylindrical Grinding		B54	B53	X	X
Internal Cylindrical Grinding	B65	B78	B54	X	X
Tool Grinding - DRY:					
CBN width up to 3mm		B85	B75		X
CBN width over 3mm		B54	B73		X
Tool Grinding - WET:					
CBN width up to 3mm		B74		X	
CBN width over 3mm		B54	B74	X	
Creep-feed Grinding - Carbide Metal Tools					
Fluting operations		B42	B41	X	
Grinding open spaces		B74		X	
Relief grinding		B74	B42	X	
Grinding Stellited saws		B74		X	
Polish grinding		B61	B64	X	

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