

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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DRESSING PROCEDURES

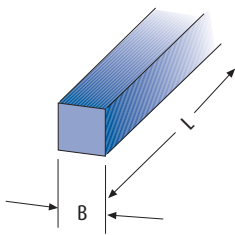
Dressing of abrasive products usually consists of two stages:

- 1. TRUEING** Where the grinding face of the product is brought back into truth.
 - 2. DRESSING** Where the grinding face of the product is left with sharp, protruding grain particles, which results in a free-cutting abrasive surface and optimum grinding performance.
- Dressing can be done offhand with abrasive dressing sticks, Boron Carbide dressing sticks, Huntington dressers or hand-held diamond dressers. Huntington Dressers are normally used on bench or floorstand machines. Precision dressing is normally done with single point or multipoint diamond dressers.

SPECIFICATIONS

ABRASIVE DRESSING STICK

Shape A - Square

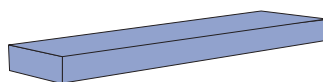


STANDARD SPECIFICATION	WIDTH	LENGTH
6C24 R5V55	25	150

ORDERING DATA:

Width x Length - Specification

BORON CARBIDE DRESSING STICK



SIZE	DESCRIPTION
76 x 13 x 8mm	Boron Carbide Dressing Stick

ORDERING DATA:

Size - Description

This hand held dressing stick is used to dress abrasive products. It will bring a worn grinding wheel back into truth, leaving an open wheel face ready to remove stock. It is particularly effective when used to dress special shapes onto grinding wheels for profile grinding, or to "back off" cup grinding wheels or internal grinding wheels when grinding with the wheel face.

All dimensions in millimetres.

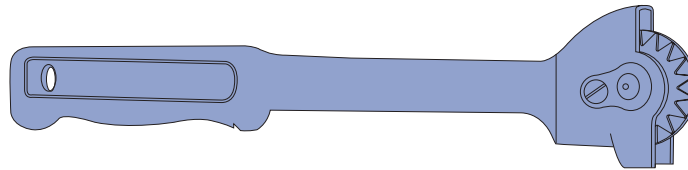
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SPECIFICATIONS

HUNTINGTON GRINDING WHEEL DRESSERS

Huntington grinding wheel dressers consist of star cutters made of heat treated carbon steel. These cutters spin when applied against a moving grinding wheel to re-true and clean its surface. Huntington dressers are an excellent tool to restore a grinding wheel to its original condition. When properly used, a Huntington dresser will extend the life and dramatically increase the efficiency of a grinding wheel.

COMPLETE DRESSERS



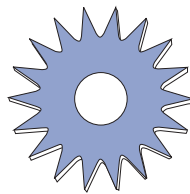
SIZE	LENGTH	WEIGHT Kg	GRINDING WHEEL DIA.	GRINDING WHEEL FACE	DRESSING FACE
No. 0	290	0,680	up to 250	50	13
No. 1	300	0,900	250 - 400	75	13
No. 2	380	2,270	400 - 900	100	25

ORDERING DATA:

Dresser size – Huntington Dresser

All dimensions in millimetres.

SPARE CUTTERS



CUTTER SET	DIMENSIONS	PACK QTY.
No. 0	32 x 2,4 x 6,35	10 sets
No. 1	38 x 2,4 x 12,7	10 sets
No. 2	60 x 3,2 x 15,1	1 set

ORDERING DATA:

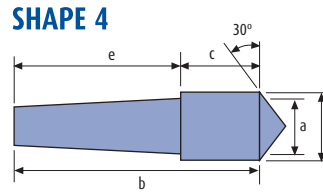
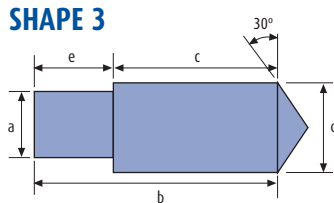
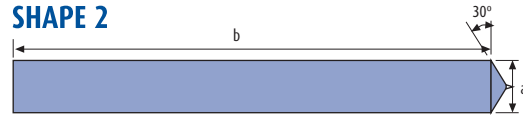
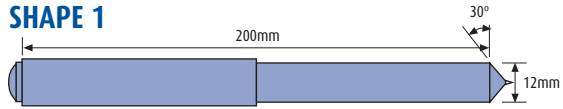
Size – Spare Cutter

All dimensions in millimetres.

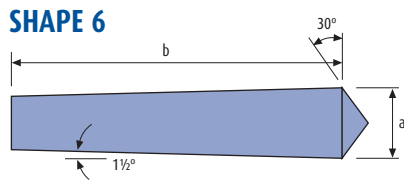
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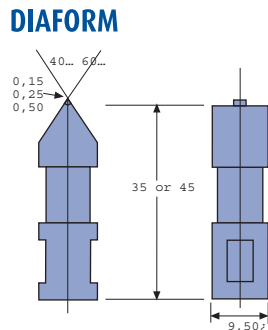
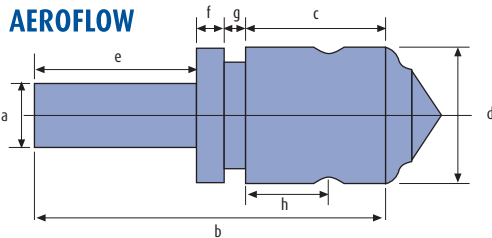
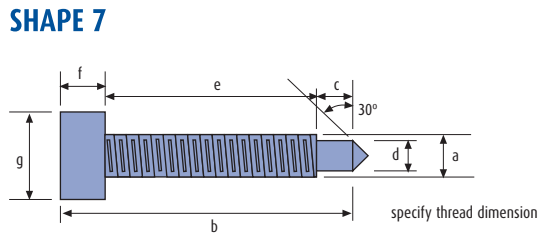
SINGLE POINT DIAMOND DRESSERS



(No. 0 or No. 1 Morse Taper)



(No. 0 or No. 1 Morse Taper)



DRESSER POINT SIZES

0,25 Carat Hand Dresser

0,50 Carat Hand Dresser

0,75 Carat Hand Dresser

1,00 Carat Hand Dresser

ORDERING DATA:

Caratage - Shape - Dimensions (a, b, c etc) as required.

The standard tools supplied with each Diaform are:

Model 5/1 Pantograph ratio x 10	Models 5/2 and 5/4 Pantograph ratio x 5
Tool Sizes	Tool Sizes
Rougher 60°/020" (.500mm) approximately	Rougher 60°/020" (.500mm) approximately
Finisher 40°/005" (.125mm)	Finisher 40°/010" (.250mm)
Finisher 60°/010" (.250mm)	Finisher 60°/010" (.250mm)
Overall Tool Lengths	Model 5/1 and 5/2, 1 3/4", (44,5mm) Model 5/4, 2 1/4", (57mm)

Note: Model 5/4 may have been supplied to special order with 1 3/4" (44,5mm) length tools.

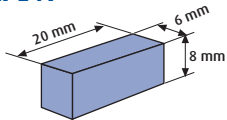
All dimensions in millimetres.

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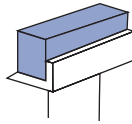
SPECIFICATIONS

MULTIPOINT (IMPREGNATED) DIAMOND DRESSERS

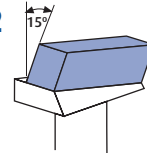
NIB SHAPE A



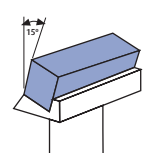
A1



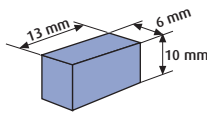
A2



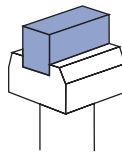
A3



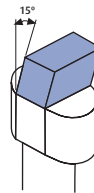
NIB SHAPE B



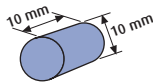
B1



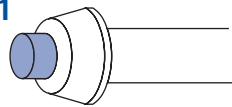
B2



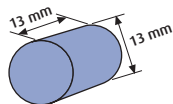
NIB SHAPE C



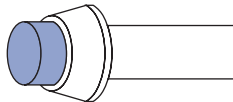
C1



NIB SHAPE D



D1



SHAPE	DESCRIPTION
A1	Standard Multipoint Diamond Dresser
A1	Gold Multipoint Diamond Dresser
B1	Standard Multipoint Diamond Dresser
C1	Standard Multipoint Diamond Dresser
D1	Standard Multipoint Diamond Dresser

ORDERING DATA:

Shape - Description

In many instances, Multipoints have replaced the traditional Single Point diamond dressers for trueing and dressing, except where intricate forms and profiles for extremely fine finishes are required. Multipoints often prove to give greater effective service life than Single Point tools. See application table on page 63 for recommended starting points or minimum requirements for use on wheels grit 46 and finer.

APPLICATION TABLE

FIELD OF APPLICATION	SPECIFICATIONS		
	Wheel diameter	Multipoint	Single Point
Surface Grinding	0 - 180mm	C1	0,25 Carat
	200 - 250mm	B1/C1	0,50 Carat
	300 - 350mm	B1/C1	0,50 Carat
	400 - 450mm	A1/C1	0,75 Carat
	500mm+	A1/D1	1,00 Carat
Centreless Grinding	up to 400mm	A1/D1	1,00 Carat
	450 - 500mm	A1/D1	1,50 Carat
	500mm+	A1/D1	2,00 Carat
Cylindrical Grinding	up to 400mm	A1/D1	1,00 Carat
	450 - 500mm	A1/D1	1,50 Carat
	500mm+	A1/D1	2,00 Carat
Bench Grinder	0 - 300mm (offhand in holder)	C2	0,50 Carat

OPERATING PARAMETERS

INFEEED

SINGLE POINT

Roughing

0,037 - 0,05mm
(1½ - 2 thou)

Finishing

0,012 - 0,025mm
(½ - 1 thou)

Normal

0,012mm (½ thou)

MULTIPOINT

Normal

0,0254mm (1 thou)
Can increase infeed up to
0,051mm (2 thou)

Note:

Initially, do (4-5) passes at 0,127mm
(5 thou) to open face and ensure
full contact

TRAVERSE RATE

SINGLE POINT

3,4 - 4,2mm/sec
0,05 - 0,15mm/rev

MULTIPOINT

5,1 - 10,2mm/sec
0,05 - 0,5mm/rev
Can increase traverse rate up to
17mm/sec for rapid stock removal

Slower traverse rates "close" the face of the wheel, resulting in less stock removal and improved workpiece finish. Faster traverse rates "open" the face of the wheel, resulting in greater stock removal and a rougher workpiece finish.

WORKING POSITIONS

SINGLE POINT

The tool should be presented to the wheel with a drag angle of between 5° - 15°, with the point of contact just below centre line of wheel.

MULTIPOINT

Multipoints should be presented to the wheel with full face contact.

COOLANT

A full flood of coolant should be used whilst dressing. Coolant should be switched on before any dressing is done.

INDEXING

Single point dressers should be indexed at regular intervals to maintain a sharp point and to increase working life. The dresser should be rotated approx. 60° around its own axis.

A blunt single point diamond dresser is of no use as a dressing tool. All that it will do is true a grinding wheel; the blunt diamond will crush the abrasive grain back into the wheel face. A closed wheel face will not remove stock, and will often result in burning the workpiece.

All dimensions in millimetres.

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