

MASTER[®]

Precision Mounted Points

SOLUTIONS FOR INDUSTRY



Introduction

Master Abrasives

The **MASTER®** brand is known internationally as a high-quality brand of abrasives, tools and consumables by Master Abrasives, accredited to ISO 9001 standards. As an independent UK owned company with over 50 years' experience in the abrasives market, we supply industry with high performance mounted points.

We aim to provide solutions for industry through both our products and professional service. Master mounted points are manufactured with precision to provide high stock removal rates and long life. Our technical application team works with customers worldwide to find solutions for applications and help to achieve improved productivity with high quality, cost-effective products.

Our comprehensive range of point shapes, sizes and grades ensures we can offer products that meet the most demanding applications.



Applications

The range of applications and uses for mounted points is covered extensively with a variety of grain types, grits and hardnesses. The aircraft and foundry industries are typical users and applications include the grinding of:

- Unhardened steel
- Hardened steels, stainless steels
- Non-ferrous metals (aluminium, brass, copper, titanium)
- Cast iron
- Plastics and other materials



How to Order

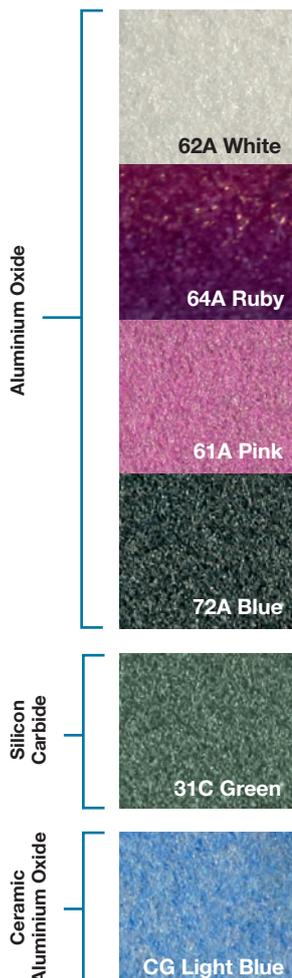


W162 3mm 61A 80 R 6 V



Technical information

Abrasives



Grit size

The size of the grit is indicated by a number ranging from coarse to fine:

Coarse	16	20	24	36	
Medium	46	60			
Fine	80	100	120	160	180
Very Fine	220	240			

Hardness

The hardness is a measure of the bond strength which retains the abrasive grain. It is expressed by letters and increases in alphabetical order. J-K soft, L-O medium, P-R hard, S-U very hard.

Structure

The structure is determined by the relation between the volume of pores, bond and grit. The structure is indicated by a number, e.g. 3 (dense), 5 (medium), 8 (open).

Bond

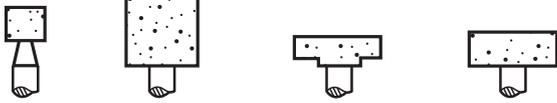
The bond is the matrix which holds together the abrasive grit:

Vitrified – V

Resin – B

Unitized, Rubber, Felt, Cotton bond and Nickel Electroplated mounted points are also available.

W Shapes



Shape	Dimensions mm Diameter x Length	Shank diameter	Maximum Operating Speed RPM
W144	3 x 6	3mm	105,000
W145	3 x 10	3mm	105,000
W146	3 x 13	3mm	105,000
W149	4 x 6	3mm	90,000
W153	5 x 10	3mm	80,000
W154	5 x 13	3mm	70,000
W160	6 x 6	3mm	81,000
W162	6 x 10	3mm	68,000
W163	6 x 13	3mm	60,000
W164	6 x 20	3mm	45,000
W171	8 x 20	3mm	107,000
W175	10 x 10	3mm	54,000
W176	10 x 13	3mm	45,000
W177	10 x 20	6mm	66,000
W178	10 x 25	6mm	55,000
W179	10 x 32	6mm	45,000
W182	13 x 3	3mm	73,000
W185	13 x 13	3mm	34,000
W185	13 x 13	6mm	61,000
W186	13 x 20	6mm	51,000
W187	13 x 25	6mm	40,000
W188	13 x 38	6mm	30,000

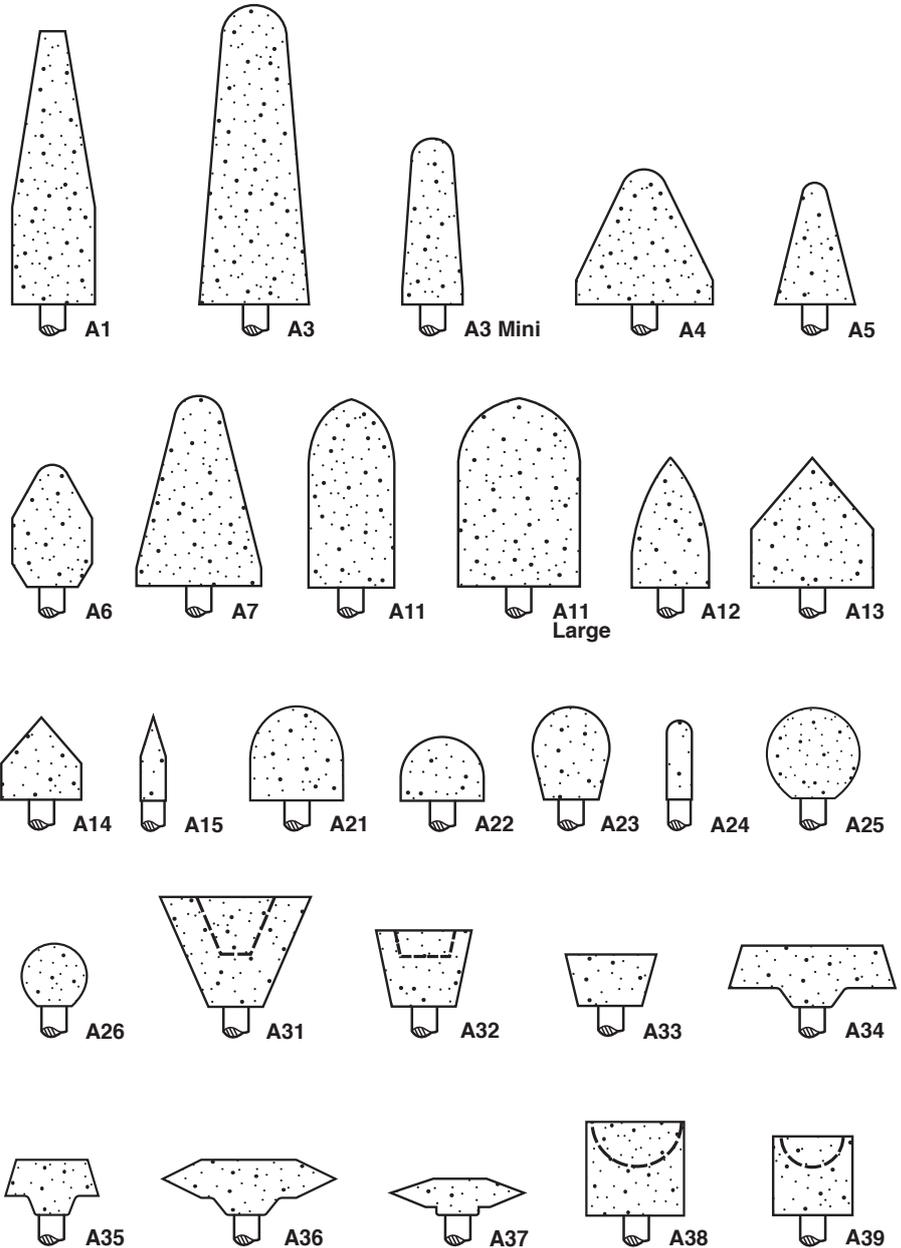
Shape	Dimensions mm Diameter x Length	Shank diameter	Maximum Operating Speed RPM
W194	16 x 13	6mm	56,000
W195	16 x 20	6mm	56,000
W196	16 x 25	6mm	35,000
W197	16 x 50	6mm	21,000
W200	20 x 3	3mm	47,000
W204	20 x 20	6mm	42,000
W205	20 x 25	6mm	34,000
W206	20 x 32	6mm	26,000
W207	20 x 40	6mm	24,000
W215	25 x 3	3mm	38,000
W220	25 x 25	6mm	25,000
W222	25 x 50	6mm	15,000
W225	32 x 6	6mm	29,000
W226	32 x 10	6mm	29,000
W228	32 x 20	6mm	27,000
W230	32 x 32	6mm	20,000
W232	32 x 50	6mm	14,000
W235	38 x 6	6mm	25,000
W236	38 x 13	6mm	25,000
W237	38 x 25	6mm	22,000
W238	38 x 38	6mm	15,000
W242	50 x 25	6mm	19,000

Shapes also available on 1/8" or 1/4" shank
Please contact us for further shapes.

The maximum safe operating speed RPM is stated at 13mm overhang, however if unsure please contact us.

A Shapes

Shape	Dimensions mm Diameter x Length	Maximum Operating Speed RPM
A1	22 x 63	19,000
A3	25 x 70	16,000
A3 Mini	16 x 45	17,000
A4	32 x 32	29,000
A5	20 x 28	45,000
A6	20 x 28	43,000
A7	30 x 50	15,000
A11	22 x 50	19,000
A11 Large	30 x 50	14,000
A12	20 x 32	48,000
A13	30 x 32	33,000
A14	20 x 22	53,000
A15*	6.5 x 27	72,000
A21	25 x 25	34,000
A22	20 x 16	50,000
A23	20 x 25	39,000
A24**	6.5 x 20	76,000
A25	∅25	35,000
A26	∅16	59,000
A31	35 x 27	27,000
A32	25 x 19	38,000
A33	25 x 13	38,000
A34	40 x 11	25,000
A35	25 x 11	38,000
A36	40 x 11	23,000
A37	30 x 7	29,000
A38	25 x 25	34,000
A39	20 x 20	47,000



The above shapes are all available on 6mm or 1/4" shanks. Shapes A15 & A24 are also available on 3mm or 1/8" shanks.

*A15 - 3mm - 39,000 RPM

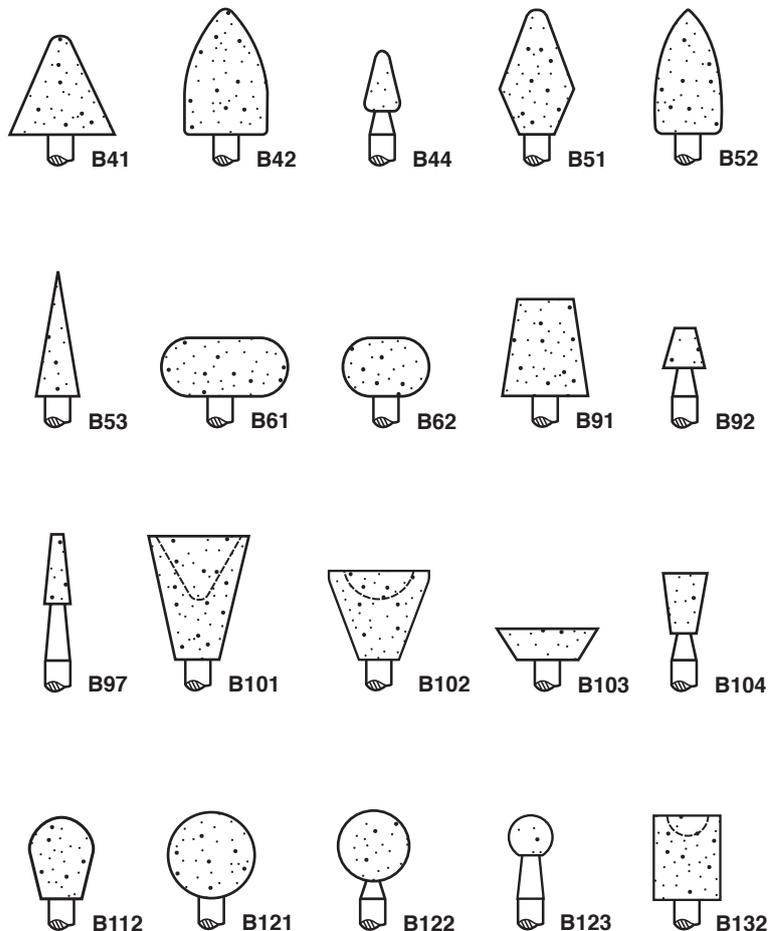
**A24 - 3mm - 52,000 RPM

Please contact us for further shapes.

The maximum safe operating speed RPM is stated at 13mm overhang, however if unsure please contact us.

B Shapes

Shape	Dimensions mm Diameter x Length	Maximum Operating Speed RPM
B41	16 x 16	33,000
B42	13 x 20	33,000
B44	6 x 10	68,000
B51	11 x 20	66,000
B52	10 x 20	45,000
B53	8 x 20	42,000
B61	20 x 10	43,000
B62	13 x 10	41,000
B91	13 x 16	34,000
B92	6 x 6	81,000
B97	4 x 10	105,000
B101	16 x 20	33,000
B102	16 x 14	45,000
B103	16 x 6	59,000
B104	8 x 10	68,000
B112	10 x 13	45,000
B121	∅13	45,000
B122	∅10	61,000
B123	∅5	104,000
B132	10 x 13	45,000



The above shapes are all available on 3mm or 1/8" shanks.
Please contact us for further shapes.

The maximum safe operating speed RPM is stated at 13mm overhang, however if unsure please contact us.

Mounted Point Kits

Master mounted point kits offer a selection of shapes for a variety of applications, including general purpose die work. These kits are extremely popular with toolmakers, maintenance engineers and are an ideal addition to any comprehensive tool kit.

6mm shank kit

12-piece set of 6mm shank mounted points in pink 60 grit

W176, W187, W195, W205, W207, W236, B121, B42, B52, A3 mini, A12 and A15.



Grade Selection Guide

The range of grades for Master mounted points have been developed, manufactured and tested to the highest standards for consistent quality. We can also offer application advice through our experienced technical staff.

Dark Grey = Best suitable **Light Grey** = Suitable

Reference / abrasive type	Steels and cast steels	Alloyed, tempered steels	Tool steels	Rust, acid and heat resistant steels and cast steels	Cast iron	Aluminium, magnesium and copper alloys	Titanium and nickel alloys	Plastics, wood and rubber	Glass, ceramics and carbides
61A Pink Aluminium Oxide	Best suitable								
62A White Aluminium Oxide			Suitable				Suitable		
64A Ruby Aluminium Oxide		Best suitable		Suitable					
72A Blue Aluminium Oxide					Suitable				
31C Green Silicon Carbide						Best suitable			Best suitable
CG Light Blue Ceramic Aluminium Oxide	Suitable	Suitable					Best suitable		
Aluminium Oxide Resin bond				Best suitable	Best suitable	Suitable			

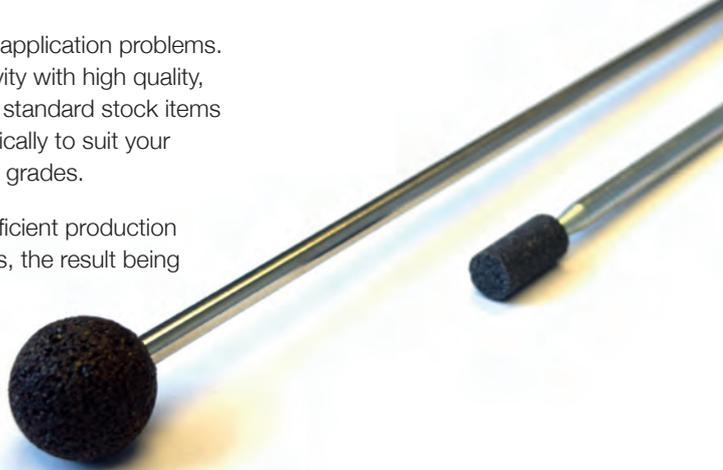
Specials

At Master Abrasives we offer to work with you to find the solution to your application problems. Our team of technical representatives work to achieve improved productivity with high quality, cost-effective products. This can be through the application of one of our standard stock items or when required our team will work at developing a special design specifically to suit your application, for example special mounted point shapes and non-standard grades.

Our manufacturing team then set to work on developing the most cost-efficient production method on our state of the art machinery to produce your mounted points, the result being the most productive and cost-efficient product for your application.

Long Shank Mounted Points

Within our extensive range we also offer a selection of Master mounted points with long shanks to allow access to hard-to-reach areas and solve long reach application problems.



Other bonds

In addition to Master mounted points in Vitrified and Resin bond, we offer a range of bonds for specific applications and benefits including the following:



Masterflex® - reinforced non-woven cotton fibre bond developed specifically for the grinding, polishing and blending of stainless steel, aluminium and other metals, steels and alloys. See our Masterflex catalogue for further information.



Rubber – rubber bonded conventional abrasives and superabrasives with a unique cushioned action for a smooth, free cut. Rubber points resist clogging or smearing and are ideal for applications where dimensional tolerances and control are vital.



Unitized – a combination of several layers of non-woven abrasive material compressed and impregnated with resin. Unitized points have excellent cutting and finishing properties and greatly reduce smearing on the workpiece.



Superabrasive Nickel Electroplated – a single layer of superabrasive crystals encapsulated by a layer of nickel plating onto a steel core. Electroplated products are very open and aggressive making them ideal for fast metal removal. See our superabrasives brochure for more information.



Felt – useful for polishing small components, recesses and detailed parts.

The right tool for the job

At Master Abrasives, we recommend that you use the right tool to get the most efficient use from your mounted points, reducing production costs and minimising risks from Hand Arm Vibration. As distributors for a range of high quality pneumatic and electric tool brands, we are happy to advise in the selection of the best tool for your application.



Pencil Grinder Miniature Precision Tool

ZPD212 Micro Air Die Grinder 0.12HP
Rear exhaust, 60,000 RPM high speed for fine deburring
For use with 3mm or 1/8" accessories



Right Angle Grinder

ZDG-236 Mini Air Angle Die Grinder 20,000 RPM for general purpose stock removal
ZP319..... Air Angle Die Grinder 18,000 RPM for general purpose stock removal
ZDG-302 Air Angle Die Grinder 18,000 RPM 0.9HP
ZDG-3226 Air Angle Die Grinder (115°)



Extension Grinder

ZP315..... 5" Extended Air Die Grinder 22,000 RPM
ZP314..... 3" Extended Air Die Grinder 22,000 RPM
ZDG-301AL.. 3 1/2" Extended Air Die Grinder 22,000 RPM 1HP
ZDG-301L 5 1/2" Extended Air Die Grinder 22,000 RPM 1HP



Inline Grinder

ZP313..... Air Die Grinder 22,000 RPM
ZDG-231 Mini Air Die Grinder 25,000 RPM
ZDG-301 Air Die Grinder 23,000 RPM 0.9HP
ZDG-S216.... Air Die Grinder 15,000 RPM
ZDG-376A.... Air Die Grinder 3,600 RPM

For information on our complete range of tools and tool services visit www.master-toolservices.co.uk.

Information

Operator

- The maximum operating speed for mounted points is 45 meters per second (m/s). This speed may be reduced by the following factors:
 - Shape and size of the mounted wheel
 - Size of mandrel
 - Overhang of mandrel
 - Wheel specifications
- Taking the first three factors noted above into consideration look up the maximum operating speed in this catalogue. The overhangs indicated are for unthreaded mandrels. Threaded mandrels will take the same as the 13mm overhang of the unthreaded mandrel.
- Pressure
 - Pressure between wheel and work should at no time be so heavy that any considerable springing of the mandrel results.
 - Ensure when mounting the wheel that the chuck or bearings of the tool are not worn.
 - Store, handle and use with care.

Safety

- Always wear ear, eye and face protection as well as protective safety gloves
- Follow the maximum operation speed stated
- Select the correct shape, size and grade for the job
- Use the appropriate tool and ensure that it is regularly maintained



Enquiry form

Company:

Address:

Contact name:

Contact info:

APPLICATION	
Application type	
Stock removal (light or heavy)	
Component type	
Component material	
PRODUCT	
Current product/brand	
Master product details	
Master product code	
POWER TOOL	
Tool brand and model	
Condition	
Date of last service	
Speed RPM	
Suitable power/air supply	
OPERATOR	
Name	
Experience	

Send us a copy of the above form completed to arrange your Master mounted point trial.



Aerospace

Tooling

Fabrication

Power
Generation

Medical

Heavy
Engineering

Automotive

Bearing

Oil & Gas

Woodwork

SOLUTIONS FOR INDUSTRY

For further information on Master products and services or technical applications support, please contact us

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