Advanced metalworking with 3M Innovation

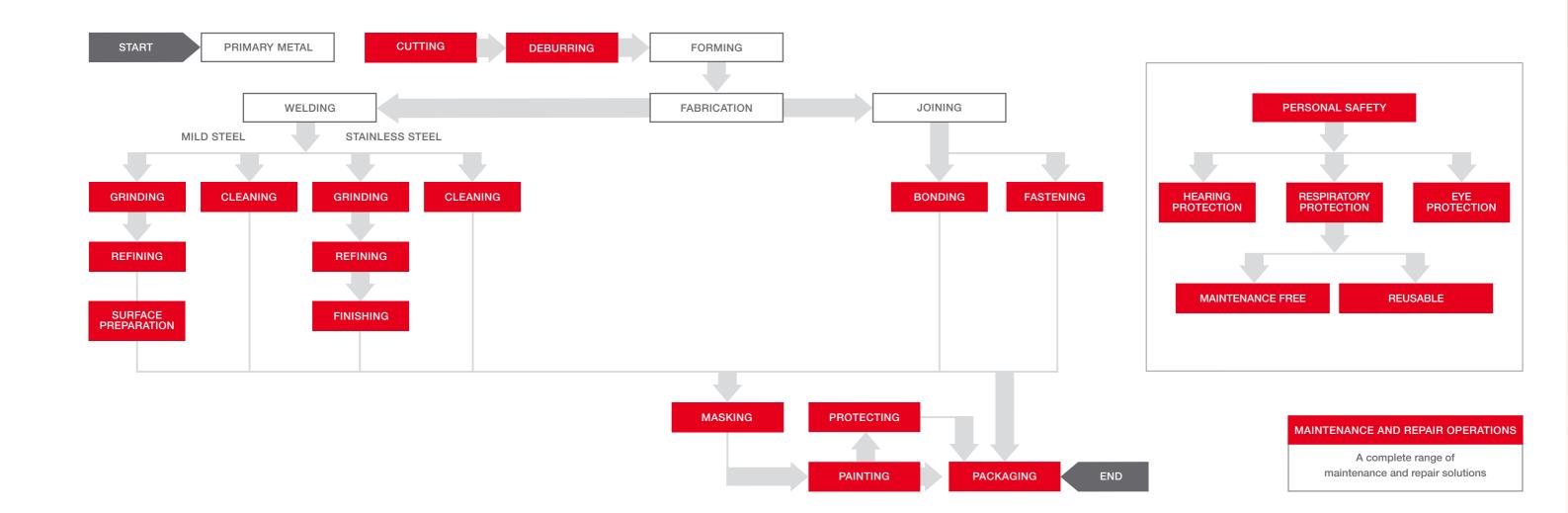


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Advanced metalworking with 3M Abrasive Systems

We have solutions in each of these areas 3M



Advanced metalworking with 3M innovation

Industries that work with metal face many different demands but they all share the same needs – to raise quality levels and reduce production times and costs, whilst achieving exacting standards. At 3M, our unique technologies, global expertise, commitment to our customers and knowledge network give us the edge to provide you with a continually evolving range of world-class abrasive solutions.

Our comprehensive range of proprietary technologies and solutions has been carefully engineered to do more than improve the cut and the finish on metal surfaces. With their tough, durable abrasive properties and advanced synthetic formulation, they give you even greater scope to improve your productivity, operational efficiency and workforce welfare. In short, our abrasive solutions make it possible for you to do the job quicker, more cost-effectively and safely, enabling you to achieve advanced metalworking results.

Designed for cross-over compatibility with every type of application, the technologies incorporated into all our discs, brushes, wheels and belts are designed for all types of metals. So at every stage of the metalworking process you can rely on 3M abrasive technology to deliver the same stronger, longer lasting and faster cutting properties you'd expect from the world's leading innovator.

Inside this guide you'll find out more about our range of advanced abrasive technologies and discover how much further we go to provide you with the expert knowledge and comprehensive support you need to stay one step ahead of your competition.

If we can help in any way, please do not hesitate to call us. After all, it's your ideas that inspire us to help you achieve greater success.

Smarter performance with 3M technology





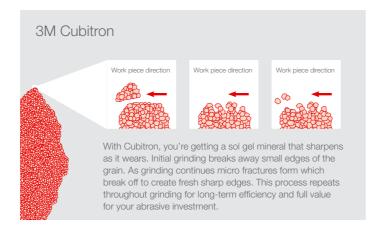
Setting new standards for grinding, refining and finishing metal components, 3M™ Cubitron™ Abrasive Grain and 3M™ Trizact™ Structured Abrasives are leading the way in abrasive performance, delivering the competitive edge you need to be more productive each and every day.

3M[™] Cubitron[™] Abrasive Grain

3M Cubitron grains are chemically engineered minerals individually designed and manufactured to precise physical characteristics, allowing you to match them to specific grinding conditions to achieve the same high quality and consistent performance every time.

With its unique "stay sharp" microscopic crystalline structure that continually reveals fresh cutting edges to give you a sustained cut, you can be confident of a more durable, cost-effective abrasive solution that delivers real productivity benefits across your operation without the premature dulling associated with traditional abrasives.

- Formulated for strength
- Engineered to stay sharp
- Designed for thermal stability
- Manufactured to last longer



3M[™] Trizact[™] Structured Abrasives

3M Trizact Structured Abrasives represent our newest proprietary technology for the ultimate in precision finishing work. Core to this technology are the microreplicated coatings of precisely positioned structures – perfect for superior refining and finishing. The continual exposure of mineral ensures a consistent, even wear, ideal for when you need a pristine finish on delicate or intricate components. And because the abrasive surface lasts several times longer than conventional abrasives you'll enjoy a range of cost-saving benefits:

- Fewer operations in the finishing process
- Reduced downtime from fewer belt changes
- Smaller number of rejects
- Less pressure required leading to reduced operator fatigue
- Time saved on subsequent polishing, cleaning and plating operations

3M Trizact





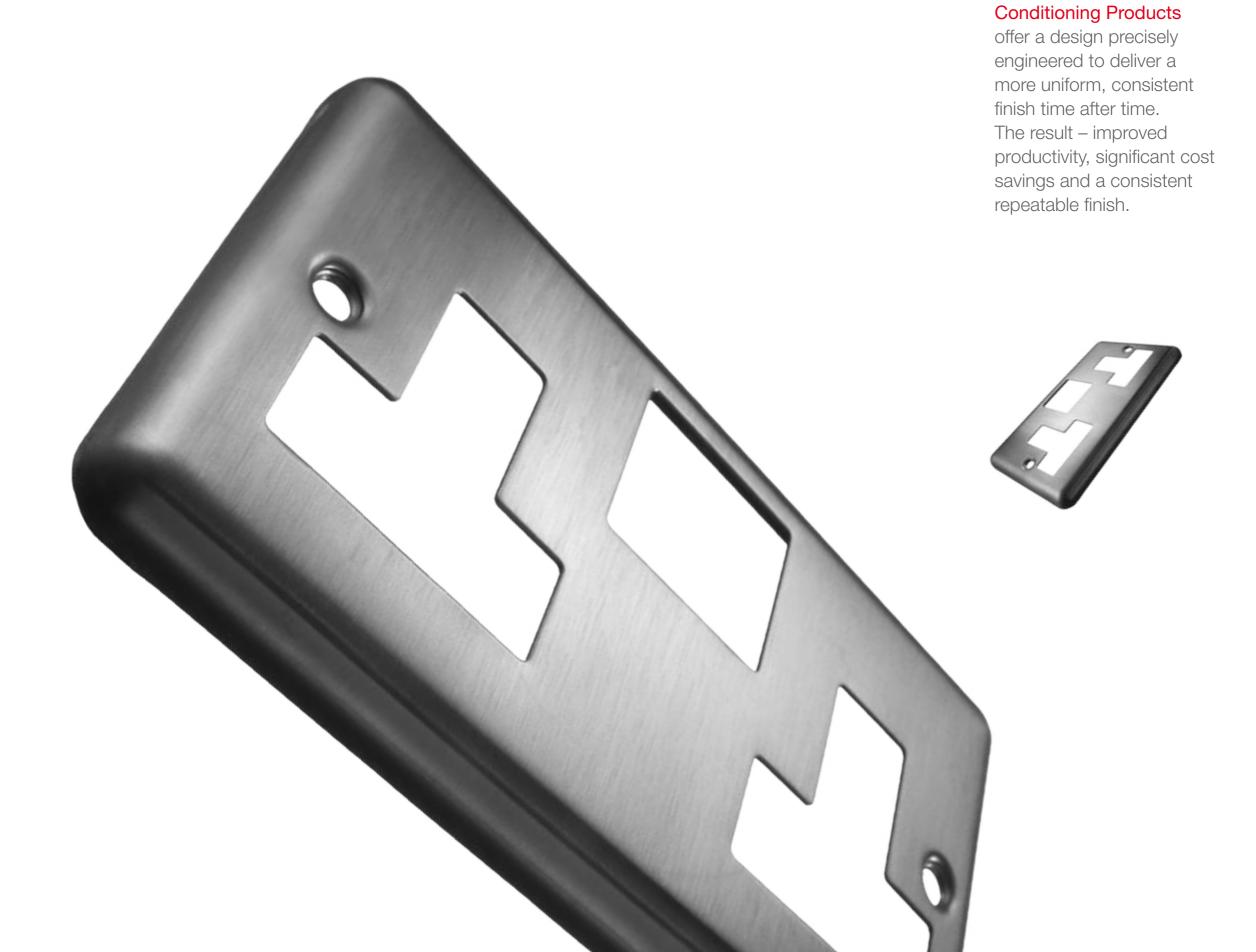


3M Trizact Abrasives' unique 3-D structures contain multiple layers of abrasive which expose fresh mineral as they wear down. This delivers: consistent, predictable finishes, high even cut rates, longer belt life and reduced process steps



Scotch-Brite[™] Surface

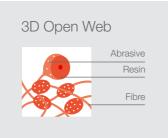
Scotch-Brite[™] Surface Conditioning Products



Superior finish with 3M expertise

With its non woven web, the proprietary technology behind our range of Scotch-Brite Surface Conditioning Products binds together synthetic fibres and abrasive particles to create a conformable, three-dimensional material. This open structure reduces the risk of warping or discolouring the part and resists loading which helps to improve the finishing action and prolong the abrasive life.

The web is also engineered so that fresh abrasive is continually exposed to the work surface, producing a consistent, superior finish right to the very end of the product life. And thanks to the spring-like web, there's less risk of over-working the part and disturbing critical tolerances, avoiding costly rework or worse, unnecessary rejects.







More ways to achieve higher productivity

As with all 3M abrasive technologies, Scotch-Brite Surface Conditioning Products offer you more than a higher quality, more consistent finish than conventional abrasives. You can use our wide range of surface finishing systems to generate more efficient ways of working and cut costs throughout your operations:

- Eliminate production steps and save time and labour costs
- Cut traditional belt and wheel replacement costs and downtime
- Reduce the chance of warping and discolouration
- Less rework time and expense from fewer rejects
- Operator ease of use





Better productivity through 3M ingenuity

Weld grinding
Blending grindlines
Refining
Surface Preparation
Cleaning

It's a bold promise, but one that we can deliver. Technologies such as 3M[™] Cubitron[™] Mineral used in our grinding and refining products offer you clear performance advantages over conventional abrasives on the market. You can work them harder, deliver a much higher rate of cut and use their unique, durable construction to generate a more reliable, consistent performance over a longer period of time.

The flexible construction of our 3M[™] GreenCorps[™] Flexible Grinding Discs delivers less vibration than conventional grinding discs, making them easier to use and considerably reducing operator fatigue. The result is that powered grinding machinery can be used over a much longer period of time, ensuring better safety conformance and higher operator productivity.

3M[™] Green Corps[™] Flexible Grinding Disc





The high performance 3M™ Cubitron™ Mineral in our Green Corps Flexible Grinding Disc works harder than regular minerals, giving a much higher rate of cut and improved finish when compared to standard grinding discs.

- Flexible construction and durability enables consistent performance over a longer period of time.
- Produces minimal levels of noise and vibration, making it easier to use whilst significantly reducing operator fatigue.

3M 581C Fibre Disc





The 3M 581C Fibre Disc is a 'fit for purpose' fibre disc for heavy, medium and light grinding operations.

- Good performance and a consistent result at an economical price.
- High performance alumina zirconia mineral is bonded to a vulcanized fibre backing, and discs are thermoformed to improve fit to the backing pad.

When it comes to finishing sheet metal, our extensive range of Scotch-Brite[™] Surface Conditioning Products are engineered to be quick and efficient without damaging the part – perfect for leaving a smooth, even finish on flat and edged surfaces. The precise open web formulation also means they resist loading, so you can work faster and use them for longer, saving you time and money on your abrasive operations.

With our wide range of graded belts and discs and the UK's biggest distribution and support network you know you can rely on 3M to get you the stock when you need it. The end result is a more cost-effective sheet metal operation with visibly smoother results.

3M Machine Deals & Systems





3M works with recognised machine builders such as Dynabrade to bring you a range of machine deals.

- A cost effective way to improve a sanding operation at a discounted price.
- Deals comprise the latest 3M Abrasive Systems technology and a top quality machine.

Scotch-Brite™ Surface Conditioning Discs





A range of surface conditioning discs manufactured from 3M's proprietary Scotch-Brite™ Web.

- Available in a variety of grades from coarse to very fine.
- Discs can be used in all blending operations and are particularly good for refining grinding marks.

Solutions for stainless steel fabrication





Surface finishing plays a critical role in manufacturing products such as catering and pharmaceutical equipment. Our experience of working in partnership with a wide range of industries has enabled us to appreciate, understand and develop a comprehensive range of abrasive solutions that are designed to deal with the particular challenges you can face working with stainless steel.

Exacting standards with 3M know-how

Weld grinding
Weld cleaning
Refining
Finishing

Whether you are involved in grinding or premium surface finishing, success depends on your ability to deliver the precise quality and finish demanded by your customers.

3M technologies such as Cubitron, Trizact and Scotch-Brite are proven to help you achieve superior surface finishes in a cost effective and efficient manner.

Whether you need to apply high or low pressure abrasive action, you can be confident there is a 3M solution that will conform to the surface you are working on and follow contours accurately, eliminating the risk of undercutting and surface leveling.

3M offers a match and finish system that combines our advanced abrasive technology with a comprehensive range of compatible belts and brushes, capable of delivering a wide variety of surface finishes for stainless steel from high pressure grinding to blending, cleaning and graining.

And with our team of technical specialists and distributors always on hand to help you choose the most appropriate abrasive technology for each step of your process, we can equip you with the 3M solution that matches the results you need quickly and easily from start to finish.

3M 985C Fibre Disc





3M's premium blended Cubitron™ Mineral fibre disc gives superior performance in all metal grinding operations.

- For high pressure applications, it has a more aggressive cut and longer life than standard discs.
- Features a grinding aid for cooler cutting.

Scotch-Brite[™] Bristle Disc





An alternative to wire brushes, chemicals and compounds, this product helps organisations meet demanding safety standards and improve the workplace environment.

- High speed Bristle Discs are ideal for removing stains, weld discolouration and surface contaminants quickly and easily, and can also be used for light deburring.
- Minimal pressure required from the operator.

3M Match & Finish System





A single solution for blending, cleaning and graining, this system is especially useful for the stainless steel fabricator.

- Coated abrasive belts give a consistent cut and uniform finish, with grinding aids for cool stock removal.
- Trizact™ Abrasive Belts create a consistent surface finish, with exceptional long life.
- Scotch-Brite[™] Surface Conditioning Belts remove scratches whilst leaving a fine finish.
- Scotch-Brite Mini Flap Brushes are ideal for deburring, cleaning, finishing and graining.

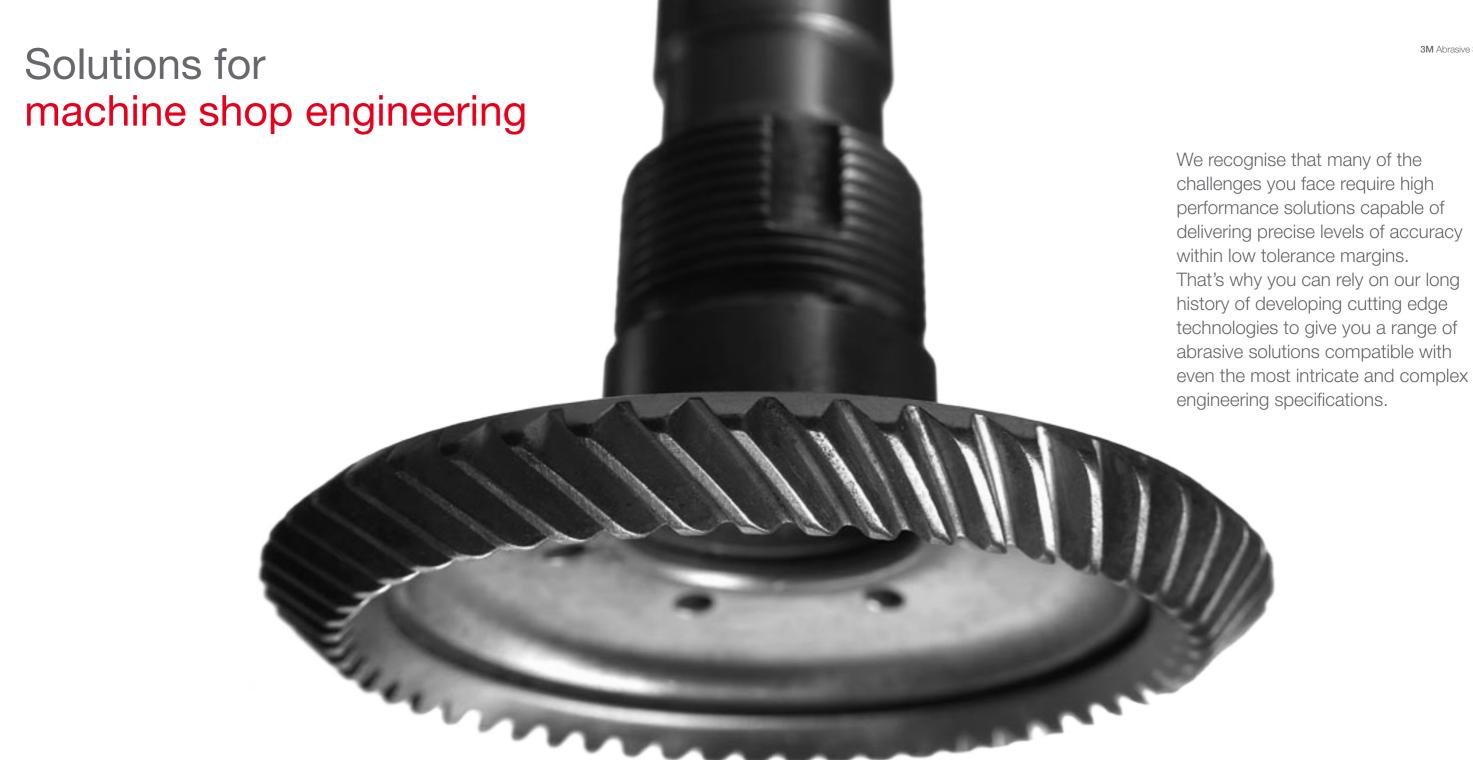
Scotch-Brite[™] Purple Pre-Cut Handpads





A superior line of Scotch-Brite Handpads offering higher cut, longer life and a more consistent finish over standard pads.

- These cost-effective, hand-sized pads are packaged in pre-cut sheets on a roll for ease of use.
- Designed to reduce product wastage.





Precision engineering with 3M support

Refining machine lines
Surface cleaning
Light deburring
Heavy deburring
Machine mismatch
refinement

Whether you are using a portable hand tool or employing the latest CNC technology, you need to know you can rely on ultra precision tools to achieve the right result. Our range of deburring, refining and finishing products deliver the highest level of conformability, precision and accuracy paramount to your success.

Incorporating our proprietary technologies $3M^{\mathsf{T}}$ Cubitron Mineral and Scotch-Brite Web, our wide range of discs, wheels and brushes are designed to provide a more even, consistent, higher quality finish compared to conventional abrasives. Plus, they last much longer too – good news if you want to avoid the costs of frequent changeovers and improve productivity in your automated processes.

Where extra precision is required, the flexible properties of Scotch-Brite Products have been specifically engineered to penetrate and conform to irregular surfaces without damaging the workpiece. This makes it easier for you to achieve the critical tolerances required on even highly intricate metal components.

Scotch-Brite[™] Deburring Wheels





3M offers a complete range of metalworking wheels to deburr, finish and remove defects from metal parts.

- Superior performance leaves a bur-free finish resulting in improved feel, appearance and precision.
- Controlled action leads to shorter production times and lower costs.

Scotch-Brite[™] Unitised Wheels





Scotch-Brite Unitised Wheels are produced by adhesively bonding and compressing Scotch-Brite Web to form a slab, from which wheels are cut.

- Smaller wheels allow intricate burrs to be removed quickly, consistently and safely.
- Generate cost savings against traditional detailing operations as a result of less rework, faster processing and longer life.

Scotch-Brite[™] Radial Bristle Brush





Scotch-Brite Bristle Brushes are highly flexible and will penetrate and conform to hard to reach or irregular surfaces, giving a consistent finish on even the most complex parts.

- Available in a range of small sizes (14, 19, 25, 50, 75mm) for polishing detailed parts or small areas, bristle disc brushes can also be used in-line on CNC machines.
- 150mm bristle disc brushes can be used on a bench motor for cleaning, finishing, polishing and light deburring.

Scotch-Brite[™] Handpads





A wide range of hand pads for cleaning and finishing applications.

- Designed for use when only light stock removal is required, when scuffing surfaces by hand.
- Highly conformable, flexible and economical.
- Hand pad holders also available.

3M™ Industrial Adhesives and Tapes 3M have pioneered expertise in the field of bonding technology for 50 years and offer a range of high tech solutions formulated to give you greater design flexibility, more efficient production and improved end product quality than traditional fastening methods.

Intelligent ideas with 3M insight



Adhesive Solutions

Our range of adhesives and tapes are chemically formulated to offer you a technically superior alternative to many forms of traditional fixings such as welds, rivets and screws.

Our knowledge of metal properties and the types of stress they can withstand have led to proprietary technologies such as $3M^{\text{\tiny TM}}$ Scotch-Weld Structural Adhesives that provide the advanced bonding properties you require for stronger, durable and more cost effective methods of metal component assembly.



Bonding Tapes

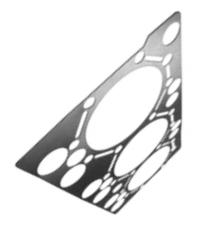
Whether you're involved in metal product design or production, our range of 3MTM VHBTM Tapes present you with new opportunities to improve product quality and cut your production costs. The high shear strength and resistance to extreme temperatures make them highly durable and allow you to bond before a powder coat process. They also allow easier and faster component assembly and eliminate many finishing costs such as weld grinding.



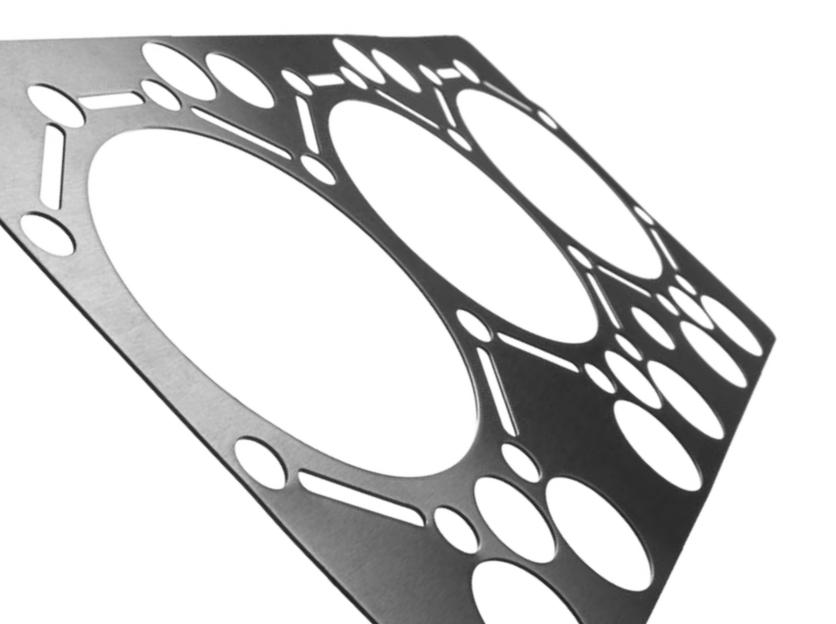
Single Sided Tapes

No matter what application you are working on, you can always find the right 3M[™] Scotch[™] Masking Tape[™] to match your exact needs. You can also be confident that with its high holding power, easy, clean removal and high durability – even under extreme operating environments – you will get the job done right, first time every time with no need for costly cleaning or reworking.

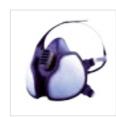
3M[™] Personal Protective Equipment



We don't take safety for granted. And we don't underestimate your needs. That's why we set no limits on ensuring that we help you to create a working environment that is safe and sound, making it our goal to ensure we offer exceptional protection, comfort, confidence, expertise and support.



Safety first with 3M support



Respiratory Protection

For the last 30 years 3M has worked in partnership with health and safety practitioners from around the world to set new industry standards for respiratory protective equipment. Today we remain no less committed to innovation in this field. New technologies such as our incredibly soft Face Seal Material, 3M[™] Cool Flow valve and 3M[™] Advanced Electret Filter material take respiratory protection into a new dimension delivering unsurpassed comfort, safety and durability − synonymous with increased productivity in the workplace.



Hearing Protection

3M has particular expertise in developing solutions for a wide range of applications and offers a comprehensive range of hearing protective products from disposable earplugs to hi-tech electronic ear muffs. All our hearing products are designed to provide protection, comfort and ease of use. The patented sliding tension adjustment system on most of the 3M headband ear muffs is an excellent example. This feature allows different users to adjust the ear muffs for their head size without compromising on safety.



Eye Protection

As with all protective equipment developed by 3M the design principles for safety eyewear focus on total protection, compatibility and comfort. All our safety spectacles are constructed from the highest optical class polycarbonate lenses for strong impact protection. As you would expect from 3M, all spectacles come with durable Anti-Scratch, Anti-Fog coatings and UV protection as standard. For added security and comfort our safety spectacles are also designed to be compatible with a large choice of 3M respirators. With durable and lightweight frames, the Comfort and Premium Lines are adjustable to fit all shapes and sizes of face. This makes our range of safety spectacles one of the most comfortable on the market.

To find out more about our complete range of health and safety systems please call the 3M Health and Safety Helpline 0870 60 800 60 or visit www.3m.com/uk/safety

Application guide

Weld Grinding	Stainless Steel	Mild Steel	Aluminium
Depressed Centre disc angle grinder	GCFGD P36	GCFGD P36	GCFGD P36
	3M 947D Flap disc	3M 947D Flap disc	3M 947D Flap disc
	3M 556D Flap disc	3M 556D Flap disc	3M 556D Flap disc
Fibre disc angle grinder	3M 985C 3M 501C	3M 985C 3M 581C	3M 501C 3M 581C SLD Super Duty
Right angle die grinder / mini grinder system	3M 785C Roloc 3M 777F Roloc	3M 983C Roloc 3M 361F Roloc	3M 983C Roloc 3M 361F Roloc SLD Super Duty Roloc
Hand belt grinder /	3M 947D	3M 947D	3M 947D
File belt machine	3M 777F	3M 577F	3M 577F
Stroke Sander	3M 947D	3M 964F	3M 974F
	3M 577F	3M 577F	3M 577F
Backstand / Linisher	3M 977F	3M 964F	3M 974F
	3M 577F	3M 577F	3M 577F
Straight Grinder, Inflatable drum	3M 947D	_	-

Refining Setting the grain – blending grindlines

Depressed Centre disc angle grinder	GCFGD P80 3M 947D Flap disc CP-UD 7AMED	GCFGD P80 3M 947D Flap disc 3M 556D Flap disc	GCFGD P80 3M 947D Flap disc 3M 556D Flap disc
Fibre disc angle grinder	3M 785C SLD Super Duty SCD	3M 581C SLD Super Duty SCD	3M 581C SLD Heavy Duty SCD
Right angle die grinder / mini grinder system	3M 777F Roloc SLD Super Duty Roloc SCD Roloc	3M 361F Roloc SLD Super Duty Roloc SCD Roloc	3M 361F Roloc SLD Heavy Duty Roloc SCD Roloc
Hand belt grinder / File belt machine	3M 947D CF01A Trizact	3M 577F CF01A Trizact	3M 577F CF01A Trizact
Stroke Sander	3M 947D CF01A Trizact	3M 777F 3M 577F	3M 577F
Backstand / Linisher	3M 947D CF01A Trizact	3M 777F 3M 577F	3M 577F
Tube Finisher	3M 947D CF01A Trizact	-	-
Straight Grinder, Inflatable drum	CF01A Trizact	-	-
Match & Finish System (In-line sanding)	3M 947D CF01A Trizact	_	-

Finishing & Surface Conditioning Surface refinement - painting preparation

Hand belt grinder / File belt machine	CF01A Trizact SC-BS	CF01A Trizact SC-BS	CF01A Trizact SC-BS
Stroke Sander	CF01A Trizact, 3M 217EA SC-BF	CF01A Trizact, 3M 217EA SC-BF	CF01A Trizact, 3M 217EA SC-BF
Backstand / Linisher	CF01A Trizact, 3M 217EA SC-BL	CF01A Trizact, 3M 217EA SC-BL	CF01A Trizact, 3M 217EA SC-BL
Tube Finisher	CF01A Trizact, 3M 217EA SC-BL	_	_
Random Orbital Sander	CF01A Trizact 3M 255P	CF01A Trizact 3M 255P	CF01A Trizact 3M 255P
Straight Grinder, Inflatable drum	SC-BL	_	_
Bench motor / Floor lathe	FS-WL Lap Mop Scotch-Brite Flap Brush	_	-
Match & Finish System (In-line sanding)	SC-BF Mini Flap Brush	_	_

Final Blending	Stainless Steel	Mild Steel	Aluminium
By hand / Handpad Holder	7446 handpad CF-SR Pre-cut Purple handpad 7447 Handpad	_	_
Polish by hand	3M Stainless Steel Cleaner & Polish High Performance Wipe	_	_

Cleaning Weld cleaning – scale / rust / paint removal

Depressed Centre disc angle grinder	XT-RD Purple Clean & Strip	XT-RD Purple Clean & Strip	XT-RD Purple Clean & Strip
	CG-RD Blue Clean & Strip	CG-RD Blue Clean & Strip	CG-RD Blue Clean & Strip
	XL-UD 8 A CRS	XL-UD 8 A CRS	XL-UD 8 A CRS
Fibre disc angle grinder	XT-DB Purple Clean & Strip	XT-DB Purple Clean & Strip	XT-DB Purple Clean & Strip
	CG-DB Blue Clean & Strip	CG-DB Blue Clean & Strip	CG-DB Blue Clean & Strip
	BD-ZB 115mm x M14 Bristle	BD-ZB 115mm x M14 Bristle	BD-ZB 115mm x M14 Bristle
Right angle die grinder / mini grinder system	CR-DR XCRS Roloc RD-ZB Roloc XL-DR 2 S FN Roloc	CR-DR XCRS Roloc RD-ZB Roloc XL-DR 2 S FN Roloc	CR-DR XCRS Roloc RD-ZB Roloc XL-DR 2 S FN Roloc
Backstand /	SE-BL A CRS	SE-BL A CRS	SE-BL A CRS
Linisher Stroke Sander	SC-BL A CRS	SC-BL A CRS	SC-BL A CRS
Hand belt grinder / File belt machine	SE-BS A CRS SC-BS A CRS SC-BS A MED	SE-BS A CRS SC-BS A CRS SC-BS A MED	SE-BS A CRS SC-BS A CRS SC-BS A MED
Straight Die Grinder (weld blueing removal system)	75mm RB-ZB Type C Bristle	75mm BB-ZB Type C Bristle	75mm BB-ZB Type C Bristle
Straight Grinder	XT-DC Purple Clean & Strip	XT-DC Purple Clean & Strip	XT-DC Purple Clean & Strip
	CG-DC Blue Clean & Strip	CG-DC Blue Clean & Strip	CG-DC Blue Clean & Strip
	RB-ZB	RB-ZB	RB-ZB

Cutting

Pneumatic Cut-Off Tool Green Corps Cut Off Disc	
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Deburring Edge chamfering – edge radiusing

Depressed Centre disc angle grinder	XL-UD 8 A CRS	XL-UD 8 A CRS	XL-UD 8 A CRS
	CP-UD 7 A MED	CP-UD 7 A MED	CP-UD 7 A MED
	XL-UD 2 S FN	XL-UD 2 S FN	XL-UD 2 S FN
Fibre disc angle grinder	3M 785C 3M 581C SL-DH SD A CRS	3M 581C SL-DH SD A CRS	3M 581C SL-DH SD A CRS
Right angle die grinder / mini grinder system	3M 785C Roloc XL-DR 6 A MED XL-DR 2 S FN	3M 983C Roloc XL-DR 6 A MED XL-DR 2 S FN	XL-DR 6 A MED XL-DR 2 A MED XL-DR 2 S FN
Hand belt grinder /	3M 777F	3M 777F	3M 777F
File belt machine	SC-BS A VFN	SC-BS A VFN	SC-BS A VFN
Backstand / Linisher	3M 777F	3M 361F	3M 361F
	SE-BL A CRS	SE-BL A CRS	SE-BL A CRS
Straight Grinder	XL-UW 8 A MED	XL-UW 8 A MED	XL-UW 8 A MED
	XL-UW 2 A MED	XL-UW 2 A MED	XL-UW 2 A MED
	XL-UW 2 S FN	XL-UW 2 S FN	XL-UW 2 S FN
Bench motor / Floor lathe	X3-WL	X3-WL	X3-WL
	DB-WL	DB-WL	DB-WL
	BB-ZB Bristle – Type C	BB-ZB Bristle – Type C	BB-ZB Bristle – Type C

Experience unrivalled support for advanced metalworking results

When you choose 3M for your abrasive solutions, you are buying more than unrivalled product innovation. Of course, all 3M abrasive technologies are designed to deliver precisely the standard of finish you and your customers demand in a highly cost-effective, efficient and safe manner – you'd expect nothing less from the UK's leading abrasives supplier. But it's our passion and commitment to delivering a supply chain and support network second to none that provides the extra value to your business.

That's why 3M abrasive knowledge, expertise and technical know-how are ingrained in all the people that make up our comprehensive network of sales teams and distributors that cover the whole of the UK and Ireland.

So whatever your needs, you can have complete confidence in the 3M service and support so vital to keep your business running smoothly. Whether you need to replace stock quickly, gain a fresh insight into improving the efficiency of your abrasive operations or simply enlist our expert help in choosing the precise type and grade of abrasive to match the job at hand, our highly trained team of technical specialists are ready to add value to your business in any way they can.

And if you'd like to keep up to date with the latest 3M technologies and how they can help your business achieve greater success, you can visit our website at www.3m.com/uk

You can also call our dedicated 3M Customer Information Team with any technical queries, to order product-specific literature, or find your nearest distributor, on 0870 60 800 90.



3M Abrasive Systems UK Customer Test Centre

Whatever your role in the metal industry, 3M can arrange a visit to our Customer Test Centre. Located in the Midlands, it offers a broad range of innovative, specialised technical support and abrasive development services that will give you a chance to see some of our work in progress.

3M technical experts at the centre work on a wide range of projects in conjunction with our industry partners, including:

- process engineering
- customer visits
- · research and development
- sales training
- machinery evaluations
- specialist projects

If you wish to learn more or find out how we could help you or your company, please contact the 3M Customer Information Team on 0870 60 800 90.

our products or services please let us know by completing the form below:
Product area of interest
Enquiry
Name
Position
Name of company
Nature of business
Company Address
Postcode
Company email
Company telephone number

If you would like to know more about

Please post, alternatively call **0870 60 800 90** or email **abrasives.uk@mmm.com**

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