3M™ Superabrasive & Microfinishing
Product Application Guide

Superabrasive and Microfinishing products are designed to meet the fine finishing needs of customers in multiple market segments and general engineering applications.

This product application guide is a reference tool to assist product selection in a variety of applications.

Details for each product include:
- Common Conversions
- Source of Supply
- Product Description
- Applications
- Machine Systems

3M™ Film & Paper Discs
- 3M Microfinishing Film
- 3M Wetordry™ Polishing Paper
- 3M Trizact™ Film

3M™ Film & Paper Rolls & Sheets
- 3M Microfinishing Film
- 3M Wetordry Polishing Paper
- 3M Lapping Film
- 3M Diamond Lapping Film

3M™ Flexible Diamond Products
- 3M Flexible Diamond Belts
- 3M Flexible Diamond Discs
- 3M Flexible Diamond Files
- 3M Flexible Diamond Hand Laps
- 3M Flexible Diamond Whetstones

Mineral Grading Comparison
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<td>Components</td>
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3M™ Microfinishing Film

3M 266L Hookit™ Discs

Common Conversions: 125mm & 150mm
Source of Supply: UK
Grades Available: 9, 15, 30, 60 & 100 micron
Description: Micron graded aluminium oxide resin bonded to a 3ml backing. Closed coat abrasive surface is coated with a dry lubricant to resist loading. Discs have loop backing for attachment to hook faced back-up pads. Easy to re-use.
Applications: Acrylic window frames and panes, GRP, solid surface finishing, paint and lacquer, aluminium.

3M 268L Stikit™ Finesse-It™ Discs

Common Conversions: 3” x 7/8” centre hole, 1 7/16”
Source of Supply: UK
Grades Available: 9, 15, 30, 60 & 100 micron
Description: Fast cutting abrasive for precise, uniform close tolerance finishes. High strength polyester film backing resin bonded for durability. Discs have PSA backing.
Applications: Metal, plastic, paint spot repair, lacquers.
Machine Systems: For use on 3” and 1” spot repair machines.

3M 268L Stikit™ Discs

Common Conversions: 127mm
Source of Supply: UK
Grades Available: 9, 15, 30, 60 & 100 micron
Description: Micron graded aluminium oxide resin bonded to a 3ml backing. Discs have PSA backing. Use wet or dry for finishing a wide assortment of work pieces.
Applications: Paints, lacquers, plastics, CD/DVD repair.
Machine Systems: Compatible with all random orbital sanding machines utilising Stikit type back-up pads.

Micron graded minerals are electrostatically oriented on a high strength polyester film backing. This fast cutting abrasive provides precise, consistent, close tolerance finishes. For use on metal, fibreglass, plastic, wood and solid surface composites.
A range of silicon carbide and aluminium oxide non-woven backed disc products, providing superior flexibility for finishing and polishing highly contoured surfaces of softer materials. Best used when wet but can also be used dry.

3M™ Wetordry™ Polishing Paper

3M 286Q Discs

**Common Conversions:** 5” discs

**Source of Supply:** US

**Grades Available:** 9, 3, 2 & 1 micron

**Description:** Micron graded aluminium oxide mineral, slurry coated for extra fine finishing. Discs have PSA backing.

**Applications:** Plastic, polyurethane, solid surface composites, CD/DVD repair, fibreglass, wood, aluminium, precious metals. Further refinement of 3M 268L and 3M 266L processes.

**Machine Systems:** Compatible with all random orbital sanding machines utilising 125mm Stikit™ face back-up pads.

3M 486Q Discs

**Common Conversions:** 5” discs

**Source of Supply:** US

**Grades Available:** 30 & 15 micron

**Description:** Micron graded silicon carbide mineral, slurry coated for extra fine finishing. Discs have PSA backing.

**Applications:** Plastic, polyurethane, solid surface composites, CD/DVD repair, fibreglass, wood, aluminium, precious metals. Further refinement of 3M 268L and 3M 266L processes.

**Machine Systems:** Compatible with all random orbital sanding machines utilising 125mm Stikit™ face back-up pads.
Produced with 3M's microreplication technology, this film backed abrasive ensures a fast, consistent cut rate through the long life of the abrasive. Fantastic results on solid surface composites, plastics and glass defect repair. To be used wet.

3M™ Trizact™ Film

3M 268XA PSA Discs
- **Common Conversions:** 5” x 5/8” centre hole
- **Source of Supply:** US
- **Grades Available:** A35 (green), A20 (pink), A10 (blue) & A5 (orange).
- **Description:** Micro-structured aluminium oxide on a waterproof backing.
- **Applications:** Glass repair system.
- **Machine Systems:** For use on variable speed, rotary centre water feed machines. Use with 125mm Stikit™ back-up pad with centre water feed hole.

3M 268XA Hookit™ II Discs
- **Common Conversion:** 6”
- **Source of Supply:** US
- **Grades Available:** A35 (green), A20 (pink), A10 (blue) & A5 (orange).
- **Description:** Micro-structured aluminium oxide on a waterproof backing. Utilises 3M’s proprietary hook and loop system.
- **Applications:** Ideal for damp finishing solid surface and acrylic materials. A35 grade provides an excellent finish on aluminium.
- **Machine Systems:** Compatible with all random orbital sanding machines utilising Hookit II back-up pads.

3M 568XA PSA Discs
- **Common Conversions:** 5” x 5/8” centre hole
- **Source of Supply:** US
- **Grades Available:** Cerium Oxide (white).
- **Description:** Micro-structured cerium oxide on a flexible, waterproof backing.
- **Applications:** Glass repair system.
- **Machine Systems:** For use on variable speed, rotary centre water feed machines. Use with 125mm Stikit back-up pad with centre water feed hole.

3M 568XA Hookit™ II Discs
- **Common Conversion:** 6”
- **Source of Supply:** US
- **Grades Available:** Cerium Oxide (white).
- **Description:** Micro-structured cerium oxide on a flexible, waterproof backing. Utilises 3M’s proprietary hook and loop system.
- **Applications:** Provides an excellent high gloss finish on solid surface materials following A35, A10 & A5 process.
- **Machine Systems:** Compatible with all random orbital sanding machines utilising Hookit II back-up pads.
3M™ Lapping Film
Micron graded aluminium oxide mineral particles coated on a polyester film backing to provide precision finishes. To be used wet.

3M 662XW Discs

Common Conversions: 4.25” & 5” discs

Source of Supply: US

Grades Available: 9, 6, 3, 1 & 0.5 micron

Description: Slurry coated for extra fine finishing.

Applications: Polishing fibre optic connectors.


3M™ Diamond Lapping Film
Micron graded diamond particles resin bonded to a polyester backing, offers a cleaner, more consistent alternative to diamond compounds or slurries. To be used wet.

3M 261X, 3M 262X & 3M 263X Discs

Common Conversions: 4.25” & 5” discs

Source of Supply: US

Grades Available: 30, 12, 9, 5, 3, 2, 1, 0.5, 0.3 & 0.05 micron

Description: Slurry coated for polishing rather than cutting action.

Applications: Polishing fibre-optic connectors.


3M 662XW Discs

Common Conversions: 4.25” & 5” discs

Source of Supply: US

Grades Available: 9, 6, 3, 1 & 0.5 micron

Description: Slurry coated for extra fine finishing.

Applications: Polishing fibre optic connectors.

3M™ Microfinishing Film

3M 262L & 3M 272L Sheets

**Common Conversions:** 230mm x 280mm

**Source of Supply:** UK

**Grades Available:** 80, 60, 40, 30, 20, 15 & 9 micron

**Description:** Micron graded aluminium oxide resin bonded to a 3ml or 5ml polyester film backing. Closed coat abrasive surface is coated with a dry lubricant to resist loading.

**Applications:** Metallurgical & flat lapping applications.

3M 262L = 3ml (75 microns)
3M 272L = 5ml (125 microns)

3M 262L & 3M 272L Rolls

**Common Conversions:** 50mm, 100mm & 200mm x 50m

**Source of Supply:** UK

**Grades Available:** 80, 60, 40, 30, 20, 15 & 9 micron

**Description:** Micron graded aluminium oxide resin bonded to a 3ml or 5ml polyester film backing. Closed coat abrasive surface is coated with a dry lubricant to resist loading.

**Applications:** Used primarily for industrial cylinder / roll finishing and cam & crank shaft microfinishing.

**Machine Systems:** Primarily used in conjunction with a dedicated microfinishing unit. In AOEM plants, can be used with a variety of roll widths or a Lathe Superfinisher (typically with 75mm cores).

3M 972L Cubitron rolls also available in 40 and 30 micron.
3M™ Wetordry™ Polishing Paper

3M 281Q Sheets

**Common Conversions:** 8.5” x 11”

**Source of Supply:** US

**Grades Available:** 9, 3, 2 & 1 micron

**Description:** Micron graded aluminium oxide mineral, slurry coated for extra fine finishing.

**Applications:** Plastic, polyurethane, solid surface composites, CD/DVD repair, fibreglass, wood, aluminium and precious metals.

3M 481Q Sheets

**Common Conversions:** 8.5” x 11”

**Source of Supply:** US

**Grades Available:** 30 & 15 micron

**Description:** Micron graded silicon carbide mineral, slurry coated for extra fine finishing.

**Applications:** Plastic, polyurethane, solid surface composites, CD/DVD repair, fibreglass, wood, aluminium and precious metals.

A range of silicon carbide and aluminium oxide non-woven backed sheets providing superior flexibility for extra fine finishing and surface refinement on contoured surfaces. Best used wet but can be used dry.
3M™ Lapping Film

Micron graded aluminium oxide mineral particles coated on a polyester film backing to provide precision finishes. To be used wet.

3M 661X, 3M 662XW & 3M 663X Sheets & Rolls

**Common Conversions:** 9” x 11” sheets and 4” x 50’ rolls

**Source of Supply:** US

**Grades Available:** 45, 30, 15, 9, 6, 3, 1 & 0.5 micron

**Description:** Slurry coated for extra fine finishing.

**Applications:** Roll superfinishing to polish hard to grind materials such as ceramics, hardened metals and composites. Flat lapping applications.

**Machine Systems:** Rolls are used in conjunction with a dedicated lathe microfinishing unit Superfinisher (typically with 75mm cores).

3M™ Diamond Lapping Film

Micron graded diamond particles resin bonded to a polyester backing, offer a cleaner, more consistent alternative to diamond compounds or slurries. To be used wet.

3M 261X, 3M 262X & 3M 263X Sheets & Rolls

**Common Conversions:** 8.5” x 11” sheets and 2” & 4” x 150’ rolls

**Source of Supply:** US

**Grades Available:** 30, 12, 9, 5, 3, 2, 1, 0.5, 0.3 & 0.05 micron

**Description:** Slurry coated for polishing rather than cutting action.

**Applications:** Roll superfinishing and flat lapping applications.

**Machine Systems:** Rolls are used in conjunction with a dedicated lathe microfinishing unit Superfinisher (typically with 75mm cores).
### 3M™ Flexible Diamond Belts

Accurately graded diamond abrasive particles, electroplated nickel or resin construction. Offering either high cut rate and long life or milder abrasive action for finishing and polishing.

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Flexibility 1 (High) - 5 (Low)</th>
<th>Diamond Abrasive Pattern</th>
<th>Backing Colour</th>
<th>Grades Available</th>
<th>Length (Min/Max)</th>
<th>Characteristics</th>
<th>Application/Market</th>
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<tbody>
<tr>
<td>3M 6400J</td>
<td>3</td>
<td>Dot</td>
<td>Light Green</td>
<td>R2, R10, R30, N10, N20, N40, N50, N74, N125 &amp; N250</td>
<td>0.31/6.00 metres</td>
<td>Durable 2-ply cotton/polyester backing. Weldloc splice</td>
<td>Heavy duty multipurpose belt. Typical applications - roll grinding &amp; glass seaming</td>
</tr>
<tr>
<td>3M 6405J</td>
<td>3</td>
<td>Chevron</td>
<td>Light Green</td>
<td>N20, N40, N74, N125 &amp; N250</td>
<td>0.31/6.00 metres</td>
<td>Durable 2-ply cotton/polyester backing. Weldloc splice</td>
<td>Heavy duty multipurpose belt. Typical applications - glass seaming.</td>
</tr>
<tr>
<td>3M 6430J</td>
<td>3</td>
<td>Dot</td>
<td>Brown</td>
<td>R2, R10, R30, N10, N20, N40, N74, N125 &amp; N250</td>
<td>0.16/6.00 metres</td>
<td>1-ply strong woven Y weight backing. Excellent water resistance. Angled butt splice.</td>
<td>Ideal belt for expanding drums for use in wet applications.</td>
</tr>
<tr>
<td>3M 6440J</td>
<td>2</td>
<td>Dot</td>
<td>Green</td>
<td>R2, R10, R30, N10, N20, N40, N74, N125 &amp; N250</td>
<td>0.31/6.00 metres</td>
<td>1-ply thin, flexible backing. Welded splice.</td>
<td>Medium duty multipurpose belt. Ideal for use on file belt machines.</td>
</tr>
<tr>
<td>3M 6480J</td>
<td>1</td>
<td>Dot</td>
<td>Grey</td>
<td>R2, R10, R30, N10, N20, N40, N75 &amp; N125</td>
<td>0.31/6.00 metres</td>
<td>1-ply thin and flexible backing. Reinforced welded splice.</td>
<td>Light duty belt. Typical applications - chinaware / crystal glass deburring.</td>
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<tr>
<td>3M 6465J</td>
<td>5</td>
<td>Chevron</td>
<td>White</td>
<td>N20, N40, N74, N125 &amp; N250</td>
<td>0.80/6.00 metres</td>
<td>Durable 2-ply cotton/polyester backing. Strong welded splice</td>
<td>Heavy duty multipurpose belt. Typical applications - glass seaming.</td>
</tr>
<tr>
<td>3M 6466J</td>
<td>5</td>
<td>Chevron</td>
<td>White</td>
<td>N20, N40, N74, N125 &amp; N250</td>
<td>0.80/6.00 metres</td>
<td>Durable 2-ply cotton/polyester backing. Strong welded splice.</td>
<td>Heavy duty multipurpose belt. Typical applications - roll grinding due to superior heat resistance.</td>
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</tbody>
</table>

Source of Supply: UK
Max Length with Single Splice: 1.18 metres
3M™ Flexible Diamond Discs

3M 6000J (canvas backed), 6002J (QRS backed) & 6008J (PSA backed) Discs

Common Conversions: 100mm and 200mm

Source of Supply: UK

Grades Available: 250, 125, 74, 40, 20 micron metal (nickel) bond and 30, 10, 2 micron resin bond

Applications: Edge work on glass, stone, ceramic and hard metals.

Machine Systems: Central water-feed angle grinders (100mm) and flat lapping machines (200mm).

3M 6234J Roloc™ Discs

Common Conversions: 75mm, 50mm and 25mm discs

Source of Supply: UK

Grades Available: 250, 125, 74, 40, 20 micron metal (nickel) bond and 30, 10, 2 micron resin bond

Applications: Edge work on glass, stone ceramic and hard metals.


Micron graded diamond abrasive, in metal or resin bond matrices in an open dot pattern. Excellent for a wide range of industrial uses including grinding and finishing non-ferrous metals, glass and ceramic materials.
Micron graded diamond abrasive, anchored to a rigid plastic file, in metal or resin bond matrices, in an open dot pattern. Excellent for deburring and finishing non-ferrous metals, stone, glass and ceramic materials.

3M™ Flexible Diamond Files

3M 6210J Files

Common Conversion: 44mm x 12mm

Source of Supply: UK

Grades Available: N125, N74, N40 & N20

Applications: General deburring of hard metals and for restoring the cutting edges of hand tools, router blades etc.
**3M™ Flexible Diamond Hand Laps**

Micron graded diamond abrasive, anchored to a firm foam handblock, in metal or resin bond matrices, in an open dot pattern. Excellent for deburring and finishing non-ferrous metals, stone, glass and ceramic materials.

**3M 6200J Hand Laps**

**Common Conversion:** 90mm x 55mm

**Source of Supply:** UK

**Grades Available:** N250, N125, N74, N40, N20, R30 & R10

**Applications:** Dressing the edge of flat glass, trimming and finishing composite materials as well as general industrial deburring applications on hard materials.

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**3M™ Flexible Diamond Whetstones**

Micron graded diamond abrasive, metal bonded on a steel printed circuit board.

**3M 6223J Professional Whetstone**

**Common Conversions:** 150mm x 50mm

**Source of Supply:** UK

**Grades Available:** N74, N40 & N20

**Applications:** Sharpening all types of edge tools, for example chisels and knives.
## Mineral Grading Comparison

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<tr>
<th>FEPA</th>
<th>Micron Grade</th>
<th>3M Flexible Diamond</th>
<th>3M Trizact</th>
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<tbody>
<tr>
<td></td>
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<td>Nickel Bonded</td>
<td>Resin Bonded</td>
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<tr>
<td>P14000</td>
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<td>R2*</td>
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<td>P9000</td>
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<td>P3800</td>
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*Resin Bonded grades will give reduced cut and finer surface finish than Nickel Bonded equivalent grades.*