

Kemet

Precision Lapping | Polishing | Cleaning | Materialography

DIAMOND PRODUCTS



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Since 1938, Kemet has been at the forefront of precision polishing technology, producing diamond pastes, slurries and composite lapping/polishing materials in our purpose built facilities and strictly manufactured to ISO 9001:2015 quality standards.

Now a truly international organisation, Kemet's activities span the world, spearheaded by companies in nine countries, all sharing the same commitment to customer support. This, along with more than 85 years of experience, means Kemet are here to provide you with the technical support to overcome all your lapping, polishing and cleaning challenges.

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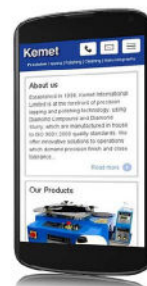
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We use only the best quality virgin Diamond Powder and the highest purity chemicals in Kemet Diamond Products

Diamond Products

Kemet offer a wide range of standard and special Diamond Products formulated and manufactured in our quality controlled laboratories. Each is a special blend of diamond powder with a specific grading and concentration in a chemical carrier to give the optimum:

- Stock removal and surface finish.
- Ease of cleaning.
- Temperature resistance.
- Lubricity to prevent drying out.

With ever changing technologies, new Kemet Diamond Products are continually being developed to meet specific requirements. These products may well incorporate different types of diamond to suit the application such as synthetic or natural, monocrystalline or polycrystalline powder, suspended in a wide range of chemical carriers.

Our laboratories can also help to develop formulations specific to your application.

| Micron | Grade |
|--------|----------|
| 0.1 | 140,000* |
| 0.25 | 25,000* |
| 1 | 14,000* |
| 3 | 8,000* |
| 6 | 3,000* |
| 8 | 1,800* |
| 14 | 1,200* |
| 25 | 600 |
| 45 | 300 |
| 60 | 230 |
| 90 | 170 |

**Estimated*

• Diamond Grading

The exceptionally close grading standards developed by Kemet exceed many international standards and guarantee that Kemet Diamond Products are manufactured to the closest tolerances.

• Quality Control

Microscopic and computer analysis of the diamond powder ensures that it is exactly the correct powder grading and shape to maximise cutting performance.

• Consistency of Performance

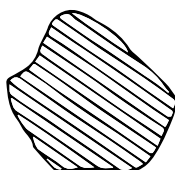
Strictly manufactured to ISO 9001:2015 quality assurance standards - our guarantee that the quality will be consistent.

• User Friendly

Manufactured from the highest purity chemicals - safe to use and friendly to the environment.

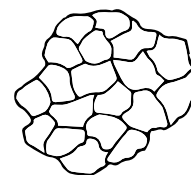
Monocrystalline:

This diamond has tough resilient crystal structure that gives sustained cutting power. It is the type of diamond used most commonly in Kemet Diamond Compounds and Slurries.



Polycrystalline:

Structure is 'raspberry-like', i.e. each particle is in fact a number of very small particles of microcrystallites bonded together. Stock removal and surface finish is better due to the many cutting points of the polycrystalline crystal.





Liquid Diamond



Our range of Kemet Liquid Diamond products are available as oil soluble, water soluble or as oil/water soluble emulsions. The chemical composition of the carrier fluids is carefully controlled to ensure that they are compatible both with the Kemet Lapping Plate and the components being lapped.

- Precision graded diamond particles in a fluid.
- Optimum viscosity and chemical composition of each Liquid Diamond Product gives fast stock removal with the ability to produce superfine surface finishes.
- Suitable for dispensing with the Kemet Electronic Dispensing System thus eliminating wastage and reducing lapping costs.
- Specially formulated Liquid Diamond Products enable parts to be easily cleaned.
- Alcohol based slurry also available.

TYPE K (Oil / water emulsion)

An excellent, low viscosity oil/water emulsion suitable for all general purpose lapping.

TYPE O (Oil based)

An excellent, general purpose, low viscosity oil based suspension suitable for heavy parts and high volumes.

| Micron | | TYPE K | | | | | | TYPE O | | | | | |
|--------|-----|----------|--------|--------------|----------|--------|--------------|----------|--------|--------------|----------|--------|--------------|
| | | 400g | | | 2000g | | | 400g | | | 2000g | | |
| | | Standard | Strong | Extra Strong | Standard | Strong | Extra Strong | Standard | Strong | Extra Strong | Standard | Strong | Extra Strong |
| A | 1 | 211004 | 211024 | - | 211084 | 211105 | - | 216004 | 216024 | - | 216085 | 216104 | - |
| | 2 | 211005 | 211025 | - | - | - | - | 216005 | 216025 | 216045 | 216081 | 216105 | 216136 |
| | 3 | 211006 | 211026 | 211046 | 211086 | 211106 | 211126 | 216006 | 216026 | 216046 | 216086 | 216106 | 216137 |
| | 4.5 | 211007 | 211027 | 211047 | 211087 | 211107 | 211127 | 216007 | 216027 | 216047 | 216087 | 216108 | 216138 |
| B | 6 | 211008 | 211028 | 211054 | 211088 | 211108 | 211128 | 216008 | 216028 | 216048 | 216088 | 216107 | 216139 |
| | 8 | 211009 | 211029 | - | 211089 | 211109 | 211129 | 216009 | 216029 | 216049 | 216089 | 216109 | 216140 |
| | 10 | 211010 | 211030 | 211050 | 211085 | 211110 | 211130 | 216016 | 216030 | 216050 | 216095 | 216110 | 216141 |
| | 14 | 211011 | 211031 | 211051 | 211091 | 211111 | 211131 | 216011 | 216031 | 216051 | 216092 | 216111 | 216142 |
| C | 25 | 211012 | 211032 | 211052 | 211092 | 211112 | 211133 | 216012 | 216032 | 216052 | 216090 | 216112 | 216143 |
| | 45 | 211013 | 211033 | 211053 | - | - | - | 216013 | 216033 | 216053 | 216094 | 216113 | 216144 |

A = Final Polishing B = Lapping & Pre-polishing C = Rapid Stock Removal

Other micron grades available on request



FastCut

FastCut offers a water based version that, in tests, has exceeded the performance of oil based products by as much as 25%.

- Excellent stock removal
- Easy to clean & non-foaming
- Lubricating Fluid Type W9 recommended with FastCut

OptiPol

Optipol is a water soluble, high concentration slurry using polycrystalline diamond powder. These slurries are excellent for silicon carbide, carbon and tungsten carbide "gas seals", where a mirror finish, with a 3 light band convex flatness is required without the need to touch-up with a polishing pad process.

| Micron | FastCut | |
|--------|---------|--------|
| | 400g | 2000g |
| 1 | 219416 | 219417 |
| 3 | 219418 | 219419 |
| 6 | 219420 | 219421 |
| 8 | 219422 | 219423 |
| 10 | 219435 | 219439 |
| 14 | 219424 | 219425 |
| 25 | 219426 | 219427 |

| Micron | OptiPol | |
|--------|---------|--------|
| | 400g | 2000g |
| 0.1 | 250650 | 250654 |
| 1 | 250651 | 250655 |
| 3 | 250652 | 250656 |

Diamond Suspension



Aquapol is the next generation of **water based** diamond suspensions for sample preparation. Available in monocrystalline (Aquapol-M) and polycrystalline (Aquapol-P). Aquapol is easy to clean and non-foaming.

Low viscosity, high concentration, **oil based** suspensions available in monocrystalline (Type OM) and polycrystalline (Type OP).

- Uniform suspension of diamond particles, no agitation required
- Suitable for dispensing by Kemet Electronic Dispenser or alternative systems
- **ZERO** Volatile Organic Compounds (VOC*)
- Colour coded for easy identification
- Supplied in 400g bottles with trigger spray. Other sizes available
- Lubricating Fluid Type W9 recommended with AquaPol



| Aquapol-M | | | Aquapol-P | | | TYPE OM | | TYPE OP | |
|--|--------|---------|-----------------------------|--------|---------|---------------------------|--------|---------------------------|--------|
| Water Based Monocrystalline | | | Water Based Polycrystalline | | | Oil Based Monocrystalline | | Oil Based Polycrystalline | |
| Micron | 400g | 1 Litre | Micron | 400g | 1 Litre | Micron | Code | Micron | Code |
| 1/10 | 219471 | 219490 | 1/10 | 219472 | 219484 | 1/10 | 216321 | 1/10 | 216341 |
| 1/4 | 219459 | 219491 | 1/4 | 219461 | 219485 | 1/4 | 216323 | 1/4 | 216342 |
| 1/2 | 219457 | 219492 | 1/2 | 219463 | 219486 | 1/2 | 216322 | 1/2 | 216343 |
| 1 | 219450 | 219493 | 1 | 219452 | 219487 | 1 | 216324 | 1 | 216344 |
| 3 | 219440 | 219494 | 3 | 219453 | 219488 | 3 | 216326 | 3 | 216346 |
| 6 | 219448 | 219495 | 6 | 219454 | 219482 | 6 | 216328 | 6 | 216347 |
| 9 | 219442 | 219496 | 9 | 219455 | 219483 | 9 | 216329 | 9 | 216349 |
| 15 | 219444 | 219497 | 15 | 219456 | 219489 | 15 | 216331 | 15 | 216350 |
| 25 | 219446 | 219498 | | | | 25 | 216332 | 25 | 216351 |
| Note to users of WM/WP water based suspensions - these are still available | | | | | | 45 | 216333 | | |

Type WFP

Specially developed to obtain the best results for polishing water-sensitive materials. Short preparation times due to high concentration polycrystalline diamond suspensions. Recommended use with WF Lubricating fluid.

- Oil and water-free
- Does not contain alcohol
- Non-Hazardous for shipping
- Environmentally friendly
- Miscible with alcohol

| Type WFP | |
|----------|--------|
| Micron | 400g |
| 1 | 250677 |
| 3 | 250676 |
| 6 | 250678 |

EasyPol - Diamond & Lubricant in a Single Application

Easypol is a diamond suspension and lubricant combination, resulting in faster and simpler metallographic sample preparation. These suspensions result in high stock removal, allowing preparation time to be reduced.

- Lower cost of consumables
- Reduction in preparation time
- Easy to use and clean
- Water based

| Micron | EasyPol (For routine metallographic sample preparation) | | | EasyPol+ (Special formula for reduced polishing times) | | |
|--------|--|------------|----------|---|------------|----------|
| | 500ml | 2.5 Litres | 5 Litres | 500ml | 2.5 Litres | 5 Litres |
| 1/4 | 250600 | - | - | - | - | - |
| 1 | 250601 | 250621 | 250619 | 250606 | 250628 | 250613 |
| 3 | 250602 | 250618 | 250622 | 250607 | 250629 | 250614 |
| 6 | 250603 | 250623 | 250624 | 250608 | 250630 | 250615 |
| 9 | 250604 | 250625 | 250617 | 250609 | 250631 | 250616 |
| 15 | 250605 | 250626 | 250627 | 250610 | 250632 | 250633 |



* **ZERO** Volatile Organic Compounds (VOC) - not classified as an atmospheric pollutant and offer health and safety benefits. VOCs are organic chemicals that have a high vapour pressure at ordinary room temperature, some of which can be dangerous to human health and/or cause harm to the environment.

Diamond Spray



Water soluble diamond spray manufactured from Monocrystalline or Polycrystalline Diamond Powder. Supplied in 100g Pump Spray Dispenser.

| Micron | Monocrystalline | Polycrystalline |
|--------|-----------------|-----------------|
| 1/10 | 116000 | - |
| 1/4 | 116001 | 116036 |
| 1/2 | 116002 | - |
| 1 | 116003 | 116037 |
| 3 | 116004 | 116038 |
| 6 | 116005 | 116039 |
| 9 | 116006 | 116040 |
| 15 | 116007 | 116041 |

Diamond Stick

Water soluble stick diamond compound, manufactured from Monocrystalline or Polycrystalline Diamond Powder.

- Eliminating the need for spatulas or manual application
- Allows easy application of Diamond Compound
- Supplied in 10g Applicator Stick



| Micron | Monocrystalline | Polycrystalline |
|--------|-----------------|-----------------|
| 1 | 113189 | 113201 |
| 3 | 113190 | 113202 |
| 6 | 113191 | 113203 |
| 8 | 113192 | 113204 |
| 14 | 113193 | 113205 |

Diamond Gel



Kemet Diamond Gel was developed to combine the best features of Kemet Diamond Paste and Kemet Liquid Diamond. Supplied in 30g bottle.

- Ready for use without addition of lubricating fluid
- Viscosity of gel is retained, even over long periods
- Diamond particles uniformly distributed
- Dispensing bottle makes for easy handling and economical dispensing
- Ideal for polishing large surfaces

| Micron | Colour | Code |
|--------|----------|--------|
| 1 | Blue | 150370 |
| 3 | Green | 150442 |
| 6 | Yellow | 150450 |
| 8 | Red | 150873 |
| 9 | Red | 150465 |
| 15 | Brown | 150467 |
| 25 | Mahogany | 150719 |
| 30 | Mahogany | 150635 |
| 45 | Purple | 150449 |

Lubricating Fluids

- Assists Kemet Diamond Products to cut and polish more effectively by absorbing frictional heat and diluting the lapping residue
- Manufactured from high purity chemicals
- Lubricant performance remains stable even when under high pressure



| Type |  | Description | Soluble in | Colour | 450ml Trigger spray | 2.5 Litres | 25 Litres |
|-------|---|--|------------|-------------|---------------------|------------|-----------|
| W | Yes | Recommended for use on all Kemet Polishing Cloths as it helps to extend their life | Water | Clear | 301201 | 301101 | 301151 |
| W9 | Yes | Recommended for use with FastCut Liquid Diamond & AquaPol | Water | Clear | - | 301527 | - |
| W2 | | Developed for use with Kemet Diamond Suspension, particularly when used with Kemet Lapping Plates. | Water | Clear | 301202 | 301102 | 301205 |
| GW2 | | | Water | Light green | 301514 | 301108 | - |
| WF | Yes | Recommended for use with WFP Diamond Suspension | Water | Clear | 301220 | 301221 | - |
| BLUE | | Improves cutting and polishing performance on cloths or plates | Water | Blue | 301200 | 301156 | - |
| LS | | Where components need to undergo a water based cleaning operation after lapping | Oil/Water | Blue | 301204 | 301104 | - |
| K | Yes | Assists smooth running of the lapping operation and helps to ensure a cleaner process | Oil | Clear | 301178 | 301124 | 301125 |
| R OS2 | | For use where water is not permitted | Oil | Red | 301513 | 301512 | - |
| OS | Yes | Recommended when polishing tooling, moulds and similar components | Oil | Blue | 301203 | 301103 | 301112 |

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Diamond Compounds

Type KD

Universal Diamond Compound for rapid stock removal and superfine surface finish. Soluble in both oil and water.

Type W

Recommended for precision engineering and electronic applications where water based products are preferred. Water Soluble Diamond Compound. Ideal for use on polishing cloths.

Type L

Oil Soluble Diamond Compound specially developed for use on hard materials such as Tungsten Carbide, hardened Steels and Ceramics. High thermal stability of the chemical carrier ensures that Kemet Diamond Compound resists frictional heat, remains stable, and keeps its suspension properties under operating conditions.

DiaVers

Oil-based carrier with superior lubricant qualities to improve the surface finish. Stable to 200°C which allows working on moulds in situ which have not yet cooled. Sharper diamond particles for superior cutting action. Better adhesion to laps such as felts or wooden laps. VOC Free*

SupaFinish

Oil based Polycrystalline Diamond Compound Developed for use in medical industry. Ideal for tough polishing applications where final surface finish is critical.

SupaFinish

| Micron | 10g Syringe |
|--------|-------------|
| 1 | 151400 |
| 3 | 151401 |
| 6 | 151402 |



| | Micron | Colour | Grade | Type KD | | | Type W | | | Type L | | | DiaVers | | |
|---------------------|--------|----------|-------|---------------|-------------|-------------|---------------|-------------|-------------|---------------|-------------|-------------|---------------|-------------|-------------|
| | | | | 5g AppliKator | 10g Syringe | 20g Syringe | 5g AppliKator | 10g Syringe | 20g Syringe | 5g AppliKator | 10g Syringe | 20g Syringe | 5g AppliKator | 10g Syringe | 20g Syringe |
| Final Polishing | 1/10 | Grey | C2 | 111002 | 111126 | 111095 | - | - | - | - | - | - | - | - | - |
| | 1/4 | Grey | C2 | 111004 | 111128 | 111097 | - | - | - | - | - | - | - | - | - |
| | 1 | Blue | C1 | 111005 | 111129 | 111098 | 113005 | 113129 | 113098 | 112001 | 112069 | 112052 | 115558 | 115541 | 115548 |
| | | | C2 | 111006 | 111130 | 111099 | 113006 | 113130 | 113100 | 112002 | 112070 | 112053 | | | |
| | | | C3 | 111007 | 111131 | 111100 | 113007 | 113131 | 113099 | - | - | - | | | |
| | 3 | Green | C1 | 111008 | 111132 | 111101 | 113008 | 113132 | 113101 | 112003 | 112071 | 112054 | 115507 | 115542 | 115549 |
| | | | C2 | 111009 | 111133 | 111102 | 113009 | 113133 | 113102 | 112004 | 112072 | 112055 | | | |
| | | | C3 | 111010 | 111134 | 111103 | 113010 | 113134 | 113103 | - | - | - | | | |
| | | | C4 | 111011 | 111135 | 111104 | 113011 | 113135 | 113104 | - | - | - | | | |
| | 6 | Yellow | C1 | 111012 | 111136 | 111105 | 113012 | 113136 | 113105 | 112005 | 112073 | 112143 | 115508 | 115543 | 115550 |
| | | | C2 | 111013 | 111137 | 111106 | 113013 | 113137 | 113106 | 112006 | 112074 | 112138 | | | |
| | | | C3 | 111014 | 111138 | 111107 | 113014 | 113138 | 113107 | - | - | - | | | |
| | 8 | Red | C1 | 111015 | 111139 | 111108 | 113015 | - | 113108 | 112007 | 112075 | 112058 | 115559 | 115544 | 115551 |
| | | | C2 | 111016 | 111140 | 111109 | 113016 | 113141 | 113109 | 112008 | 112076 | 112059 | | | |
| | | | C3 | 111017 | 111141 | 111110 | 113017 | - | 113110 | - | - | - | | | |
| | | | C4 | 111018 | 111142 | 111111 | 113018 | 113142 | 113111 | - | - | - | | | |
| Lapping & Polishing | 14 | Brown | C1 | 111019 | 111143 | 111112 | 113019 | 113143 | 113112 | 112009 | 112077 | 112060 | 115560 | 115545 | 115552 |
| | | | C2 | 111020 | 111144 | 111113 | 113020 | 113144 | 113113 | 112010 | 112078 | 112061 | | | |
| | | | C3 | 111021 | 111145 | 111114 | 113021 | 113145 | 113127 | - | - | - | | | |
| | 25 | Mahogany | C1 | 111022 | 111146 | 111115 | 113022 | 113146 | 113115 | 112011 | 112079 | 112062 | 115561 | 115546 | 115553 |
| | | | C2 | 111023 | 111147 | 111116 | 113023 | 113147 | 113116 | 112012 | 112080 | 112063 | | | |
| | | | C3 | 111024 | 111148 | 111117 | 113024 | 113148 | 113166 | - | - | - | | | |
| Rapid Stock Removal | 45 | Purple | C1 | 111025 | 111149 | 111118 | 113025 | 113149 | 113118 | 112013 | 112081 | 112064 | 115562 | 115557 | 115555 |
| | | | C2 | 111026 | 111150 | 111119 | 113026 | - | 113119 | 112014 | 112082 | 112065 | | | |
| | | | C3 | 111027 | 111151 | 111120 | 113027 | 113151 | 113120 | 112015 | 112086 | 112066 | | | |
| | 60 | Orange | C1 | 111028 | 111152 | 111121 | 113028 | 113152 | 113121 | 112016 | 112085 | 112067 | 115563 | 115547 | 115554 |
| | | | C2 | 111029 | 111153 | 111122 | 113029 | 113154 | 113122 | - | - | - | | | |
| | 90 | Cream | C1 | 111030 | 111154 | 111123 | - | - | 113123 | 112017 | 112084 | 112068 | - | - | - |
| | | | C2 | 111031 | 111155 | 111124 | 113031 | 113153 | 113124 | - | - | - | | | |

Colourless

Each micron size is available in a range of concentrations:- (C1 lowest concentration; C4 highest concentration).

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Kemet



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