



Highlights

- Regular surface quality thanks to blocky particle shape
- High lot-to-lot consistency thanks to precision grading and tight tolerances
- High reproducibility in the application

Monocrystalline diamond powder, standard size range

Microdiamant MONO-ECO

MONO-ECO diamond is a low-cost, monocrystalline metal-bond type diamond. The product is used in cost-sensitive applications, where the diamond cost has a major impact on the overall process cost. MONO-ECO micron diamond is available as diamond powder or as ready-to-use diamond suspension.

Particle strength

Monocrystalline diamond particles fracture along the parallel cleavage planes running through the particle. For diamond tools, the particle fracture provides a self-sharpening mechanism and thus increases tool life.

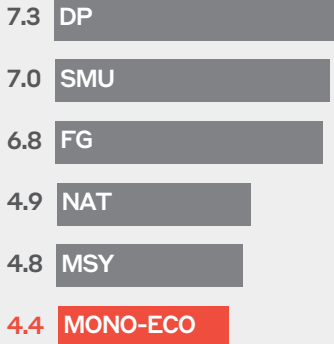
Standard size range

The standard size range makes this product suitable for applications that focus primarily on cost. The controlled upper size limit ensures a uniform surface quality.

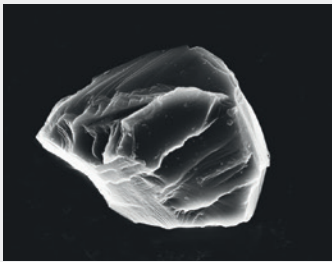
Cost-effectiveness

Thanks to its low cost, MONO-ECO diamond is a good choice for price-sensitive applications. MONO-ECO diamond is often used to replace conventional abrasives.

Performance index



Particle structure of monocrystalline diamond



Monocrystalline diamond grit



Pureon offers a wide range of customized solutions. More information can be found on www.pureon.com/products/overview

Order information

Order code MONO-ECO 1 – 3 micron
 Packing 100, 1'000 or 5'000 carats. Unless specified, orders will be sent in bulk packing units.
 Units Carat [ct], 1 ct = 0.2 grams
 Micrometer [µm, Micron]
 1 micrometer = 0.001 millimeter

Synthesis

MONO-ECO diamond is a monocrystalline metal-bond diamond produced by HPHT (high-pressure, high-temperature) synthesis. The diamond particles feature an oriented crystal structure with parallel-running cleavage planes, similar to natural diamond. Depending on diamond size, MONO-ECO diamond varies in appearance from light gray to pale yellow.

Application recommendations

MONO-ECO diamond is typically used for lapping of ceramics, metals and diamond wire dies. Examples of bonded applications include the use of MONO-ECO for wear-resistant surface coatings, for thermal conduction and for grinding tools.

Precision size range

Grit size micron	Median (D50) micron	Upper limit (D99) micron
MONO-ECO 0 – 0.25	0.15	0.5
MONO-ECO 0 – 0.5	0.25	0.8
MONO-ECO 0 – 1	0.55	1.3
MONO-ECO 0.5 – 1	0.71	1.5
MONO-ECO 0 – 2	1.10	2.7
MONO-ECO 0.5 – 3	1.40	3.3
MONO-ECO 1 – 3	1.90	3.8
MONO-ECO 2 – 4	3.20	5.5
MONO-ECO 3 – 6	4.20	7.5
MONO-ECO 4 – 8	6.30	10.5
MONO-ECO 6 – 12	9.00	15.0
MONO-ECO 8 – 15	11.40	19.1
MONO-ECO 10 – 20	15.00	25.0
MONO-ECO 15 – 30	22.50	36.0
MONO-ECO 20 – 40	30.00	48.0
MONO-ECO 40 – 60	47.00	70.5

Other diamond types / sizes available.

Contact

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