



**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
- Graduated micro-grain sizes allow precise adjustment to your specification

Monocrystalline diamond powder, precision size range

**Microdiamant MSY**

MSY diamond micron powder delivers first-class results in terms of quality and reproducibility. The narrow, precise grading ensures a performance index around 10 % higher than monocrystalline diamond in standard market grading.

**Blocky particle shape**

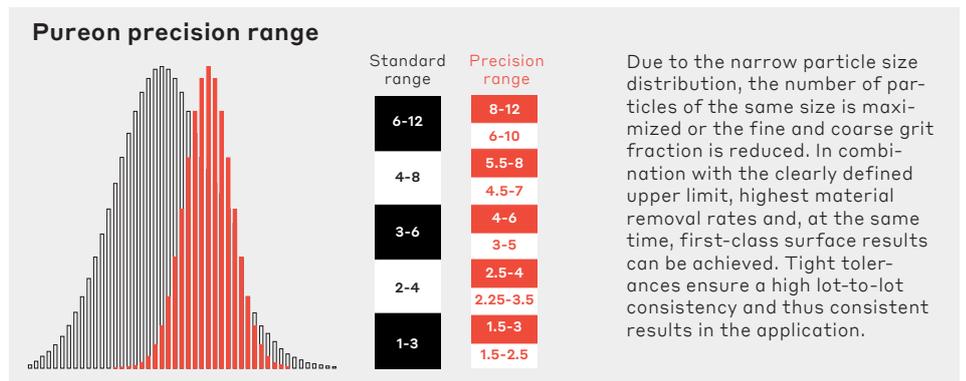
Specific grinding processes guarantee a regular, blocky particle shape. This is an important prerequisite for high stock removal and regular surface quality.

**Re-sharpening**

The cleavage planes running through the diamond particles give way under a certain pressure, the grain breaks. Bound in tools, the grain breakage causes continuous resharping of the tool in use.

**Typical application**

As loose particles in lapping and polishing processes, bonded in grinding tools and wear-resistant surfaces.



**Performance index**



Particle structure of monocrystalline diamond



Monocrystalline diamond grain



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**Synthesis MSY**

MSY diamond micrograins are produced from monocrystalline “metal-bond” diamond powder from HPHT (high-pressure, high-temperature) synthesis. The diamond particles have an oriented crystal structure with parallel cleavage planes, similar to natural diamond. MSY diamond appears light gray to slightly yellowish, depending on the grit size.

**Order information**

Order code ..... MSY 1.5 – 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

**Application recommendations**

The monocrystalline synthetic diamond powder is relatively inexpensive to produce and is therefore widely used in grinding, lapping, and polishing applications. Typical loose particle applications include lapping and polishing of ceramics, metals, wire drawing stones, PCD blanks, and jewelry stones. Examples of bonded applications include grinding tools, diamond pellets, wear-resistant surfaces, and PCD manufacturing.

**Precision size range**

Grit size micron	Median (D50) micron	Median tolerance micron	Upper limit (D99) micron
MSY 0 – 0.03	0.018	0.014 – 0.022	0.06
MSY 0 – 0.05	0.025	0.020 – 0.030	0.09
MSY 0 – 0.1	0.050	0.040 – 0.060	0.15
MSY 0 – 0.15	0.075	0.060 – 0.090	0.20
MSY 0 – 0.2	0.090	0.070 – 0.110	0.25
MSY 0 – 0.25	0.125	0.105 – 0.145	0.33
MSY 0 – 0.35	0.18	0.155 – 0.205	0.42
MSY 0 – 0.5	0.23	0.197 – 0.263	0.53
MSY 0.25 – 0.5	0.35	0.31 – 0.39	0.70
MSY 0.25 – 0.75	0.50	0.45 – 0.55	0.90
MSY 0.5 – 1	0.71	0.65 – 0.77	1.28
MSY 0.75 – 1.25	1.00	0.95 – 1.05	1.70
MSY 1 – 1.5	1.19	1.13 – 1.25	2.02
MSY 1 – 2	1.42	1.35 – 1.49	2.27
MSY 1.25 – 2.25	1.69	1.61 – 1.77	2.62
MSY 1.5 – 2.5	2.00	1.90 – 2.10	3.00
MSY 1.5 – 3	2.39	2.27 – 2.51	3.47
MSY 2.25 – 3.5	2.84	2.70 – 2.98	4.12
MSY 2.5 – 4	3.37	3.20 – 3.54	4.89
MSY 3 – 5	4.02	3.82 – 4.22	5.83
MSY 4 – 6	4.87	4.63 – 5.11	6.82
MSY 4.5 – 7	5.70	5.42 – 5.98	7.87
MSY 5.5 – 8	6.80	6.46 – 7.14	9.18
MSY 6 – 10	8.10	7.70 – 8.50	10.94
MSY 8 – 12	9.60	9.12 – 10.08	12.86
MSY 10 – 16	12.50	11.90 – 13.10	17.88
MSY 10 – 20	15.00	14.20 – 15.80	21.45
MSY 15 – 25	20.00	19.00 – 21.00	26.50
MSY 20 – 30	25.00	23.70 – 26.30	32.50
MSY 20 – 40	30.00	28.50 – 31.50	41.52
MSY 30 – 40	35.00	33.20 – 36.80	46.03
MSY 35 – 45	40.00	38.00 – 42.00	51.00
MSY 40 – 60	47.00	44.60 – 49.40	62.04
MSY 50 – 70	57.00	54.10 – 59.90	72.05
MSY 60 – 80	66.00	62.70 – 69.30	82.04

Other diamond types / sizes available.

**Contact**

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