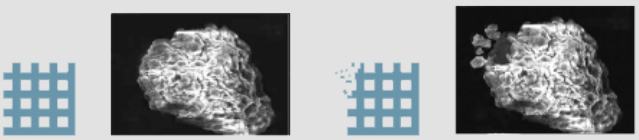
VANMOPPES

SSO | SSX | SYR | SYV | SYX | PM | SYS | SYG | SYP | SYT

SUPERSYNDIA® POLYCRYSTALLINE MICRON DIAMOND POWDERS

Typical fracturing mode of a polycrystalline SUPERSYNDIA® particle.



SUPERSYNDIA® polycrystalline diamond is synthesized by explosion in approx. 100 microseconds, under an enormous pressure of 500 Kbar and a temperature of 1200 °C. The graphite is converted into diamond and each particle consists of countless nano-crystals, approx. 20 nanometres in size.

SUPERSYNDIA® SSX | PREMIUM

SSX is supplied in precision graded distributions, with a relatively compact particle shape, to fulfil the most demanding production requirements, such as lapping and polishing monocrystalline ceramics (sapphire, ruby) or sintered ceramics (zirconium, aluminium oxide) at high working pressures, i.e. faster without any loss in surface finish.

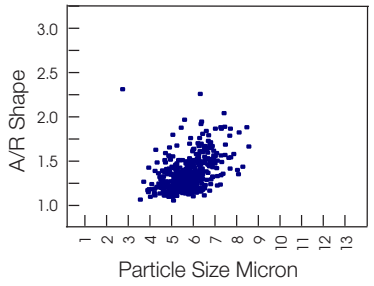
Supersyndia® offers excellent performance in polishing applications on gem stones and industrial diamonds. It allows fast cutting with perfect surface quality, even on some difficult to polish diamonds.

SUPERSYNDIA® SSO | STANDARD

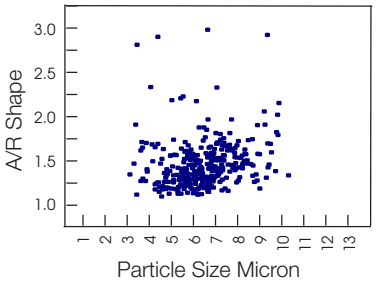
SSO has a somewhat wider and more aggressive distribution than SSX, which favours the material removal rate. It is suitable for roughing and semi-finishing operations, when high removal rates are preferred. SSO is also suitable for some 'long cycle' applications (without continuous abrasive supply) or with soft polishing substrates.

SSO also finds applications in bonded polishing wheels, when a superior surface finish needs to be achieved.

SSX 4.5-7 scatter graph

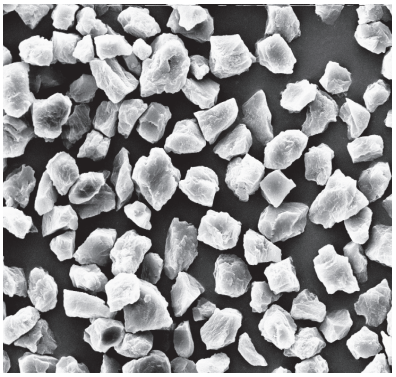


SSO 4-8 scatter graph

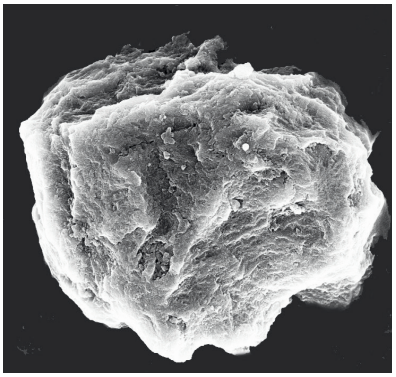


SSX 4.5-7 1500X

SSO 4-8 1500X



SSX 0.75-1.25 50000X



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D50 - MEDIAN SIZE	SSX	D50 - MEDIAN SIZE	SSO
14.00	SSX 10-20	32.00	SSO 20-40
11.50	SSX 10-15	17.50	SSO 12-22
9.50	SSX 8-12	13.00	SSO 8-16
8.00	SSX 6-10	10.00	SSO 6-12
6.80	SSX 5.5-8	6.30	SSO 4-8
5.70	SSX 4.5-7	5.30	SSO 3-7
4.80	SSX 4-6	4.20	SSO 2-6
4.00	SSX 3-5	3.20	SSO 2-4
3.30	SSX 2.5-4	2.10	SSO 1-3
2.80	SSX 2.25-3.5	1.60	SSO 0.5-3
2.38	SSX 2-3	1.10	SSO 0-2
2.00	SSX 1.5-2.5	0.55	SSO 0-1
1.68	SSX 1.25-2.25	0.30	SSO 0-0.5
1.41	SSX 1-2		
1.19	SSX 1-1.5		
1.00	SSX 0.75-1.25		
0.710	SSX 0.5-1		
0.500	SSX 0.25-0.75		
0.350	SSX 0.25-0.5		
0.210	SSX 0-0.5		
0.125	SSX 0-0.25		
0.090	SSX 0-0.2		
0.075	SSX 0-0.15		
0.050	SSX 0-0.1		
0.025	SSX 0-0.05		
0.018	SSX 0-0.03		

PROPERTIES	SSX	SSO
GRADING	precision	normal
SYNTHESIS	explosion	explosion
CRYSTAL STRUCTURE	polycrystalline	polycrystalline
PARTICLE SHAPE	blocky	blocky to irregular
FRACTURING MODE	nano-fracture	nano-fracture
SURFACE STRUCTURE	rough	rough
IMPACT RESISTANCE	low	low
PURITY	> 99.5%	> 99.5%
BONDING SYSTEMS	PH, PO	PH, PO
DENSITY	3.52 g/cm3	3.52 g/cm3