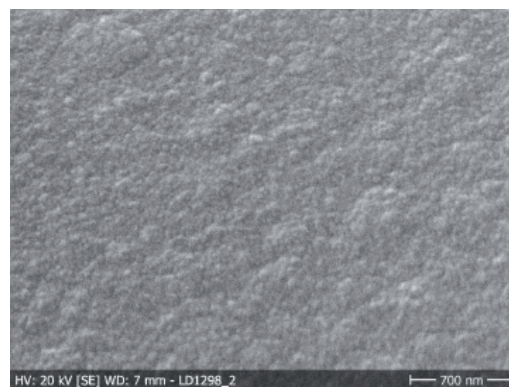
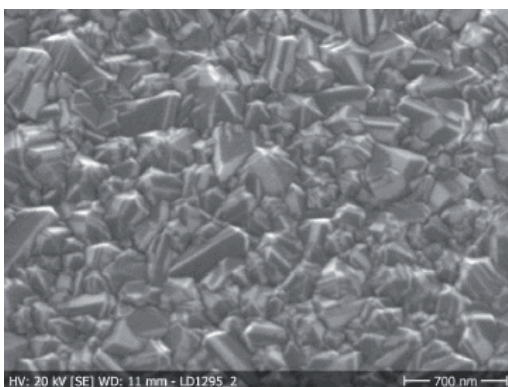


Properties of neoDiam® diamond films

Properties	Microcrystalline	Nanocrystalline
Diamond purity (%)	higher than 99%	higher than 90%
Grain size	40 nm at 100 nm film thickness and 500 nm at 3µm	30-50 nm (independent on film thickness)
Roughness (Ra)	20 nm at 100 nm film thickness and 80 nm at 3µm	10-30 nm (independent on film thickness)
Hardness (GPa)	100-110	80-85
Biaxial Young Modulus (GPa)	1250	600-800
Poisson ratio	0.2	-
Residual stress (MPa) on Si substrate	-300	-100
Density (g/cm ³)	3.45	3.30
Thermal conductivity at 300K (W/m ⁻¹ .K ⁻¹)	>1200 at 20µm	50
Resistivity for highly doped film (8'000ppm of boron) in mΩ.cm	3	higher than 30



SEM images (x30000) of diamond microstructure: Left = Microcrystalline, Right = Nanocrystalline