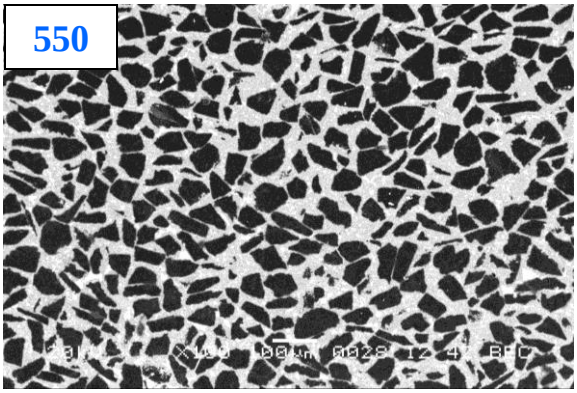
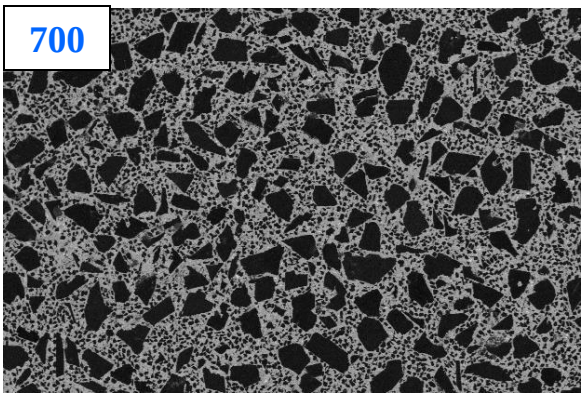
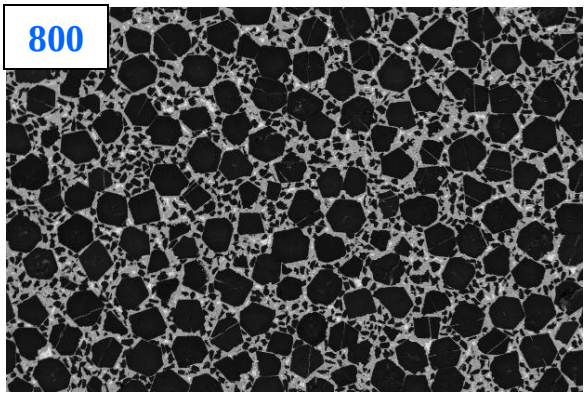
Diamond-SiC-Si Composites

THERMADITE™

Grades 550, 700 and 800

Material Property	Test Temperature	550	700	800 (preliminary)
Nominal Diamond Content (vol. %)	-	55	60	65
Nominal Diamond Grain Size (micron)	-	65	65	65
Density (g/cc)	20°C	3.34	3.38	3.40
Young's Modulus (GPa)	20°C	750	800	820
Poisson's Ratio	20°C	0.14	0.16	0.17
Flexural Strength (MPa)	20°C	250	250	250
Hardness (kg/mm^2)	20°C	> 3000	> 3000	> 3000
Coefficient of Th. Exp.(ppm/K)	20-100°C	1.6	1.5	1.4
Specific Heat (J/kg-K)	20°C	700	660	640
Thermal Conductivity (W/m-K)	20°C	550	700	800
Attributes	Extreme Wear Resistance & Thermal Stability, Low Impact