SIL/TUNG

Main Performance Index of Silicon Carbide(SiC)			
Item	Unit	SiC	SSiC
Purity	%	=90	=98
Density	g/cm3	3.05	3.1
Shore Hardness	HS	110-125	120-130
Elastic Modulus	Mpa	4.12x105	4.10 x 10s
Poisson Ratio		0.15	0.16
Tensile Strength	Mpa	2.75 x102	2.8 x 102
Bending Strength	Mpa	4.41 x102	4.9 x 102
Compression Strength	Mpa	2.94 x103	3.0 x 103
Thermal Conductivity	W/m.k	141 (W/m.k)	147(W/m.k)
Coefficient ofThermal Expansion	l/	4.3x10-6	4.0 x 10-6
Heat Resistance		1600C	165CTC
Thermal Impact Coefficient	cal/cm.sec	46.5	200
Acid Resistance		5 times higher than the usual TC	Resist al chemical media

The Corrosion Test for Four Materials in Reagent					
Test Environment		(mg/cm2yr) Conosive Agravity			
Reagent Concentration	(℃) Temperature	TC(6%)	SiC1	SSiC	Ceramic (99%)
98% H2S04	100	>1000	55	1.8	65
50% NaOH	100	5	>1000	2.5	75
53% HF	25	8	7.9	<0.2	20
85% H3P04	100	55	8.8	<0.2	>1000
70% HN03	100	>1000	0.5	<0.2	7
45% KOH	100	3	>1000	<0.2	60
25% HCL	70	85	0.9	<0.2	72
10%HF+ 57% HN03	25	>1000	>1000	<0.2	16

Main Technology Data of Tungsten Carbide(TC)			
Item	WC-Co	WC-Co	WC-Ni
Brand No.	YG6	YG15	YWN8
Density	14.6-15.0	13.9-14.2	14.4 ～14.8
HRA	89.5	87.0	88.0
Bending Strength	1421	2058	1470
Linear Expansivity 10-6/K(2(TC ～500)	5.0	6.3	5.3
Medium	Resistant against: Oil, sewage water, weak acid/alkali ect.		Strong erosive medium