IPS CERAMICS

MATERIAL DATASHEET

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Saggar Materials for the Battery Industry

Typical Properties

Composition		C-Bat General purpose	N-Bat Faster firings	M-Bat Chemical resistance	J-Bat Used as saggar coating
Minerology		Cordierite spinel	Cordierite mullite	Cordierite mullite	Corundum spinel
Al_2O_3	%	60	50	65	70
SiO_2	%	20	40	30	1.5
MgO	%	15	5	3	20
Fe_2O_3	%	0.3	0.7	1.0	0.3
Property					
Max Service Temperature	°C (°F)	1300 (2400)	1250 (2300)	1300 (2400)	1300 (2400)
Bulk Density	g/cm^3	2.3	1.9	2.2	J-Bat is only used as a coating applied to the inside of saggars used for the battery industry
Open Porosity	%	23	30	24	
Modulus of Rupture (room temp)	MPa	11	9	10	
Modulus of Rupture (1250°C)	MPa	10	8	11	
Thermal Expansion (20-1000°C)	10-6/K	3.5	2.9	3.5	
Specific Heat Capacity	kJ/kg.K	1.0	1.0	1.1	
Thermal Shock Resistance		***	****	**	
Battery Chemistry Application		Ternary materials	Sodium materials	Lithium cobalt	Ternary materials