



## Properties of Ceramic Formulations

		ELECTRICAL PORCELAIN FORMULATIONS							
	UNITS	White Porcelain			Steatite	Grey Porcelain			
		Regular	1/8 Reg.	9/64 Reg.	S - 313	Everett	1/8 Grey	9/64 Grey	Pyro
		AP-099	AP-102	AP-098		AP-089	AP-088	AP-100	AP-086
Shrink	%	11.3	12.5	14.1	21.0	11.9	12.5	13.6	11.8
Absorption	%	1.0	1.0	1.0	4.0	1.0	1.0	1.0	1.0
Apparent Specific Gravity		2.4	2.4	2.4	2.6	2.4	2.4	2.4	2.4
MOR	psi	4,400	4,000	3,700	7,600	4,535	3,500	4,200	4,200
Thermal Expansion (25 - 700C)	1E <sup>-6</sup> in/inC	5.25E <sup>-6</sup>	5.25E <sup>-6</sup>	5.25E <sup>-6</sup>	7.5E <sup>-6</sup>	5.23E <sup>-6</sup>	5.23E <sup>-6</sup>	5.23E <sup>-6</sup>	5.23E <sup>-6</sup>
Thermal Conductivity 25°C	W/m°K	1.5	1.5	1.5	2.0	1.5	1.5	1.5	1.5
Tensile Strength	psi	2,500	2,500	2,500	10,000	2,500	2,500	2,500	2,500
Compressive Strength	psi	40,000	40,000	40,000	80,000	40,000	40,000	40,000	40,000
Dielectric Strength	volts/mil	50.0	50.0	50.0	240.0	50.0	50.0	50.0	50.0
Resistance to Impact	Inch-lbs	2.4	2.4	2.4		2.4	2.4	2.4	2.4

		REFRACTORY CERAMIC BODY							
	UNITS	Alumina **	Semi Cordierite			Semi Mullite			Fused Silica
		AL HP 5	Mullite	Capitol	C109-9	Ford	SC-28	SC-34	RB-6B
			AP-330	AP-305	AP-807	AP-465	AP-472	AP-471	AP-700
Shrink	%	15.0	8.7	7.2	5.1	8.2	5.5	6.0	3.8
Absorption	%	3.40%	12	15	15	16.0	11.0	13.0	15.0
Apparent Specific Gravity			2.57	3.03	2.68	2.77	2.86	2.35	2.40
MOR	psi	6,500	2,700	2,400	2,000	1,650	1,800	1,500	1,500
Color		White	Buff	Cream	Buff	White	White	White	White
Thermal Expansion (25 - 700C)	1E <sup>-6</sup> in/inC	7.1E-6	3.65E <sup>-6</sup>	n/a	3.64E <sup>-6</sup>	8.2E <sup>-6</sup>	n/a	6.68E <sup>-6</sup>	2.03E <sup>-6</sup>
Thermal Conductivity 25°C	W/m°K	4.0			1.8				

		INJECTION MOLDED BODY									
	UNITS	Leachable Core Bodies			Electrical					Refractory	
		IM 147	IM 149	IM 150	IM 198**	IM 159	IM 170	IM 270	IM 308	IM 167	IM 400
			AP-503		AP-504	AP-505	AP-506			AP-502	AP-501
		96% Fused Silica	74% Fused Silica; 24% Zr	74% Fused Silica; 24% Zr	99.8% Alumina	Regular Porcelain	White Porcelain	Grey Porcelain	Steatite	Hybrid Body	Cordierite
Shrink	%	1.0	1.0	1.0	19.2	14.0	15.1	17.5	12.9	5.8	4.0
Absorption	%	24	21	21	0.0	1.0	1.0	1.0	0.0	12.2	12.0
Apparent Specific Gravity		2.35	2.64	2.67	3.90	2.45	2.47		2.50	2.60	2.62
MOR	psi	1,370	1,600	2,280	20,000	5,600	6,500	10,000	13,000	4,700	3,500
Color		White	White	White	White	White	White	Grey	Buff	Brown	Buff
Thermal Expansion (25 - 700C)	1E <sup>-6</sup> in/inC	13.95	n/a	16.36	8.20	5.25	5.25	5.25	8	n/a	n/a
Thermal Conductivity 25°C	W/m°K				28	1.5	1.5	1.5	2		1.8
Leachability in 230F, 45% NaOH		Very Good			n/a					n/a	

\*\* High Temperature Firing Required

The information and data presented on this sheet is based on testing and research and believed to be accurate. Due to the variant nature of mineral deposits as they are mined, the user is responsible for determining the suitability for their process and their products/production needs. AP&P does not warrant the results and disclaims all liability for any inaccuracies or omissions, or for any direct, special or indirect or consequential damages or losses of whatever kind resulting from any causes, or from products and information mentioned on this sheet.

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