



AKRON PORCELAIN & PLASTICS

Custom Molders of Ceramics & Plastics - Since 1890

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PROPERTIES OF CERAMIC FORMULATIONS

INJECTION MOLDED MATERIALS

	UNITS	Leachable Core Materials			Electrical Materials							Refractory	
		IM 147	IM 149	IM 150	IM 191	IM 192	IM 270	IM 276	IM 198	IM 199	IM 308	IM 400	IM 500
		AP-510	AP-503	AP-511	AP-506	AP-512	AP-508	AP-513	AP-504	AP-515	AP-507	AP-501	AP-509
		96% Fused Silica	74% Fused Silica; 24% Zr	74% Fine Fused Silica; 24% Zr	White Porcelain	Alumina Porcelain (57% Al)	Grey Porcelain	Tan Alumina Porcelain (55% Al)	99.8% Alumina	99.8% Alumina	Steatite	Cordierite	Capital
Color		White	White	White	Bright White	White	Grey	Tan	White	Bright White	Buff	Buff	Buff
Apparent Specific Gravity		2.35	2.64	2.67	2.42	2.40	2.47	2.45	3.87	3.83	2.50	2.68	2.40
Absorption	%	24.0	21.0	21.0	1.0	0.0	0.2	0.0	0.0	0.0	0.0	17.0	16.0
MOR (Flexural Strength)	psi	1,370	1,600	2,280	6,500	15,000	10,000	22,500	23,000	23,000	19,000	6,000	4,000
Hardness (Vickers)	HV300				675	660	705	700	1,700	1,700	695		
Thermal Expansion (25 - 700C)	1E-6 in/inC	13.95	16.00	16.36	5.25		5.25		8.20	8.20	8.00		
Thermal Conductivity 25°C	W/m°K				1.5	1.5	1.5	1.5	28.0	28.0	2.0	1.8	
Dielectric Strength	V/mil				93	159	174	218	199	199	195	70	61
Leachability in 230F, 45% NaOH		Very Good			n/a							n/a	

COMPRESSION MOLDED ELECTRICAL PORCELAIN MATERIALS

	UNITS	White Porcelain			Grey Porcelain			
		Regular	1/8 Reg.	9/64 Reg.	Everett	1/8 Grey	9/64 Grey	Pyro
		AP-099	AP-102	AP-098	AP-089	AP-088	AP-100	AP-086
Color		White	White	White	Grey	Grey	Grey	Grey
Apparent Specific Gravity		2.4	2.4	2.4	2.4	2.4	2.4	2.4
Absorption	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0
MOR (Flexural Strength)	psi	4,400	4,000	3,700	4,535	3,500	4,200	4,200
Compressive Strength	psi	40,000	40,000	40,000	40,000	40,000	40,000	40,000
Hardness (Vickers)	HV300	650	650	650	675	675	675	675
Thermal Expansion (25 - 700C)	1E-6 in/inC	5.25	5.25	5.25	5.23	5.23	5.23	5.23
Thermal Conductivity 25°C	W/m°K	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Dielectric Strength	volts/mil	82.0	50.0	50.0	67.0	50.0	50.0	50.0

COMPRESSION MOLDED REFRACTORY MATERIALS

	UNITS	Semi Cordierite			Semi Mullite			Fused Silica
		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
Color		Buff	Cream	Buff	White	White	White	White
Apparent Specific Gravity		2.57	3.03	2.68	2.77	2.86	2.35	2.40
Absorption	%	12.0	15.0	15.0	16.0	11.0	13.0	15.0
MOR (Flexural Strength)	psi	2,700	2,200	2,000	1,650	1,800	1,500	1,500
Thermal Expansion (25 - 700C)	1E-6 in/inC	3.65		3.64	8.20		6.68	2.03
Thermal Conductivity 25°C	W/m°K			1.8				
Dielectric Strength	volts/mil		68.0	59.0				

The information and data presented on this sheet are based on testing and research, and are believed to be accurate. Due to the variant nature of mined mineral deposits, the user is responsible for determining the suitability for their process and their product/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.