

# Mykroy-Mycalex Ceramics

## MOLDABLE GRADES TECHNICAL DATASHEET

### ROHS COMPLIANT GRADES

General Properties	UNIT	MM 451	MM 501	MM 561
Density	g/cm <sup>3</sup>	2.5	2.6	2.6
Moisture Absorption	%	Nil	Nil	Nil
Color	---	Dark Green*	Brown*	White
Mica Filler	---	Natural	Natural	Synthetic
Flammability	---	DOES NOT BURN		

### Thermal Properties

Max. Continuous Use Temperature	°F	840	930	1020
	°C	450	500	560
Thermal Conductivity	W/m.K	.64	1.58	1.46
Coefficient of Thermal Expansion (x10 <sup>-6</sup> )	/°C @ 25°C	10.10	10.60	10.2
	@ 250°C	11.95	12.44	12.80
	@ 450°C	12.86	13.5	13.5

### Electrical Properties (Tested at 25°C)

Dielectric Strength	V/mil	530	480	425
	KV/mm	21.0	19.0	16.7
Dissipation factor	1 MHz	.0037	0.010	0.0042
Loss Index	1 MHz	.023	.070	0.028
Surface Resistivity	Ω/sq (25°C)	3.7x 10 <sup>10</sup>	5.8x10 <sup>12</sup>	4.0x 10 <sup>14</sup>
Volume Resistivity	Ω-cm (25°C)	3.9x 10 <sup>14</sup>	1.1x10 <sup>15</sup>	1.6x 10 <sup>14</sup>
Dielectric Constant	1 MHz	6.29	6.98	6.87

### Mechanical Properties (Tested at 25°C)

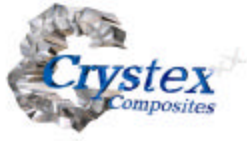
Flexural Strength	Psi	12,500	13,800	16,000
	MPa	86.2	95.1	110
Compressive Strength	Psi	45000	45000	48,000
	MPa	310	310	331
Flexural Modulus	psi x10 <sup>6</sup>	5.1	6.2	6.4
	GPa	35.2	42.7	44.1
Hardness – Rockwell	<b>A</b>	47	62	63
Impact Strength—IZOD (notched)	Ft-lbs/in	8	15	16
	J/cm	4.27	8.01	8.54

#### Glass Bonded Mica Summary Specification – ASTM D 1039

- : D = Dark; L = Light; O = Off.

"To the best of our knowledge the information contained herein is accurate; however, Crystex Composites LLC does not accept any liability regarding the accuracy or completeness of such information. Further, such information is established using standard base material and thus may change if the product ordered by purchaser requires further processing of base material by us and/or the purchase. Purchaser has the sole responsibility in determining the suitability of any material described herein for the use contemplated and the processing of such material by purchaser."

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## MOLDABLE GRADES TECHNICAL DATASHEET

### LEADED GRADES

General Properties	UNIT	MM 411	MM1301	MM 371
Density	g/cm <sup>3</sup>	3.8	3.9	4.8
Moisture Absorption	%	Nil	Nil	Nil
Color	---	L-Green *	Cream	D-Green *
Mica Filler	---	Natural	Synthetic	Natural
Flammability	---	DOES NOT BURN		

### Thermal Properties

Max. Continuous Use Temperature	°F	750	1300	700
	°C	400	700	370
Thermal Conductivity	W/m.K	.94	1.19	.93
Coefficient of Thermal Expansion (x10 <sup>-6</sup> )	/°C @ 25°C	12.47	12.96	13.02
	@ 350°C	11.07	10.75	11.20
Specific Heat	cal/g/°C	0.24	0.23	0.25

### Electrical Properties (Tested at 25°C)

Dielectric Strength	V/mil	375	375	350
	KV/mm	14.8	14.8	13.8
Dissipation factor	1 MHz	0.0012	0.0015	0.006
Loss Index	1 MHz	0.011	0.015	0.075
Surface Resistivity	Ω/sq (25°C)	10 <sup>15</sup>	10 <sup>15</sup>	10 <sup>15</sup>
Volume Resistivity	Ω-cm (25°C)	10 <sup>13</sup>	10 <sup>14</sup>	10 <sup>14</sup>
Dielectric Constant	1 MHz	8.6	9.0	12.5

### Mechanical Properties (Tested at 25°C)

Flexural Strength	Psi	10,000	9,000	10,000
	MPa	68.9	62.1	68.9
Compressive Strength	Psi	33,000	30,000	35,000
	MPa	228	207	241
Flexural Modulus	psi x10 <sup>6</sup>	7.0	9.2	---
	GPa	48.3	63.4	---
Hardness - Rockwell	A	47	47	47
Impact Strength—IZOD (notched)	Ft-lbs/in	8	8	8
	J/cm	4.27	4.27	4.27

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