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TEST CERTIFICATE — EAR-CONTROLLED DATA

Date: 1/22/2014
P.O. No.: to follow
W/O No.: RUM004-01-07-29216-1

Sample Information: Mix

SUMMARY OF TEST RESULTS

Test	ASTM Test Method	Test Result
Flame Spread	D635	Consumed 100%, 4:50 – 6:30 minutes
Abrasion Resistance	D4060	0.07% weight loss
Water Absorption	D1037	0 %
Water Absorption	D570	0.88 %
Coefficient of Friction	C1028, Dry - Static	0.64
Coefficient of Friction	C1028, Dry - Sliding	0.80
Density	D792	0.96 g/cm ³
Specific Gravity	D792	0.96 g
Coefficient of Thermal Expansion	D696	4.45 x 10 ⁻⁵
Modulus of Elasticity	D4761	19,435 psi
Flexural Modulus of Elasticity	D198	22,415 psi
Compressive Strength Modulus	D143	5,680 psi

Respectfully Submitted

Terry Wilt
Manager, Product Qualification and Non-Metallics

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RATE OF BURNING TEST RESULTS

Test Method: ASTM D635

Specimen #	Thickness (in)	Flame Travel (in)	Flame Spread Time (min)	Test Result
1	0.486	2.95	5:50	Total Combustion
2	0.494	2.95	6:30	Total Combustion
3	0.494	2.95	4:50	Total Combustion

The flame travelled the entire 2.95 inch test distance.

ABRASION RESISTANCE TEST RESULTS

Test Method: ASTM D4060, 1000 cycles
Using 1000 gram load

Specimen #	Number of Cycles	Weight Loss (g)	Wear Index (g/cycle)	Mass Loss - Weight (%)
1	1,000	0.0518	0.0518	0.07

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WATER ABSORPTION

Test Method: ASTM D1037, Section 23, Method A
 24 hr Immersion Temp: 20 ± 1 °C

Dry Conditioned Temp (°C)	Dry Conditioned Dimensions l x w (in)	Average Dry Conditioned Thickness* (in)	Dry Conditioned Volume (in ³)	Dry Conditioned Weight (g)
21.0	6.038 x 5.973	1.325	47.786	810

Weight After 2 hr Immersion (g)	Thickness* After 2 hr Immersion (in)	Volume After 2 hr Immersion (in ³)	Weight After 22 hr Immersion (g)	Thickness* After 22 hr Immersion (in)
810	1.325	47.786	810	1.325

Weight Difference (g)	Thickness Difference (in)	Increase in Weight (%)	Increase in Thickness (%)	Increase in Volume (%)
0	0	0	0	0

TWENTY-FOUR HOUR WATER ABSORPTION TEST RESULTS

Test Method: ASTM D570
 Conditioning: 1 hour at 105 °C – 110 °C
 24 hr Immersion Temp: 23 °C

Specimen #	Conditioned Weight (g)	Weight After 24 hr Immersion (g)	Weight Difference (g)	Increase in Weight (%)
1	8.7771	8.8570	0.0860	0.98
2	8.9703	9.0455	0.0752	0.84
3	8.3879	8.4570	0.0691	0.82
Average	---	---	---	0.88

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COEFFICIENT OF FRICTION TEST RESULTS

Test Method: C1028, Dry

Specimen #	Coefficient of Static Friction	Coefficient of Sliding Friction
1	0.64	0.80

Values reported are the average values of 12 tests.

SPECIFIC GRAVITY & DENSITY TEST RESULTS

Test Method: D792

Specimen #	Specific Gravity (g)	Density (g/cm ³)
1	0.9799	0.9779
2	0.9535	0.9516
3	0.9534	0.9515
Average	0.9623	0.9603

COEFFICIENT OF LINEAR THERMAL EXPANSION TEST RESULTS

Test Method: ASTM D696

Specimen #	Coefficient of Linear Thermal Expansion (in/in/°C)
1	4.31 x 10 ⁻⁵
2	4.39 x 10 ⁻⁵
3	4.65 x 10 ⁻⁵
Average	4.45 x 10⁻⁵

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ELASTIC MODULUS TEST RESULTS

Test Item: 1" x 1" x 12" Specimen
Test Method: ASTM D4671, Sections 18-23
Load Rate: 1.40 in/min

Specimen #	Depth (in)	Span (in)	Maximum Load (lbs)	Modulus (psi)
1	1.332	10.0	136	19,435

FLEXURAL MODULUS TEST RESULTS

Test Item: 0.5" x 0.5" x 12" Specimen
Test Method: ASTM D198, Sections 4-11
Load Rate: 1.33 in/min

Specimen #	Depth (in)	Span (in)	Maximum Load (lbs)	Modulus (psi)
1	0.501	10.5	5.16	20,605
2	0.502	10.5	6.55	24,225
Average	---	---	---	22,415

COMPRESSIVE MODULUS TEST RESULTS

Test Item: 1" x 1" x 4" Specimen
Test Method: ASTM D143, Section 9, Secondary Method
Load Rate: 0.10 in/min

Specimen #	Depth (in)	Maximum Load (lbs)	Modulus (psi)
1	4.000	885	5,365
2	4.193	1,175	5,990
Average	---	---	5,680

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