



Bayblend® MTR sheet

Mass transportation rail low flame, smoke and toxicity

Bayblend® MTR sheet is an opaque product offering a unique combination of low flammability characteristics, robust mechanical properties, and ease of fabrication. Bayblend MTR complies with the flammability and smoke emission requirements for transit materials per the U.S. Federal Railroad Administration, listed in DOT: 49 CFR 238, and meets the criteria in the Bombardier Transportation Standard SMP 800-C for Toxic Gas Generation.

Bayblend MTR has lower specific gravity, higher stiffness, higher strength, and greater toughness than typical non-metallic materials used for mass transportation interior components. This combination of physical properties allows for design of thinner and lighter parts that often do not require secondary reinforcement or stiffeners in the application. Bayblend MTR is available in a variety of textures and colors.

Applications

Thermoformed rail interior parts such as structural seating components, wall cladding, window reveals, and ceiling panels

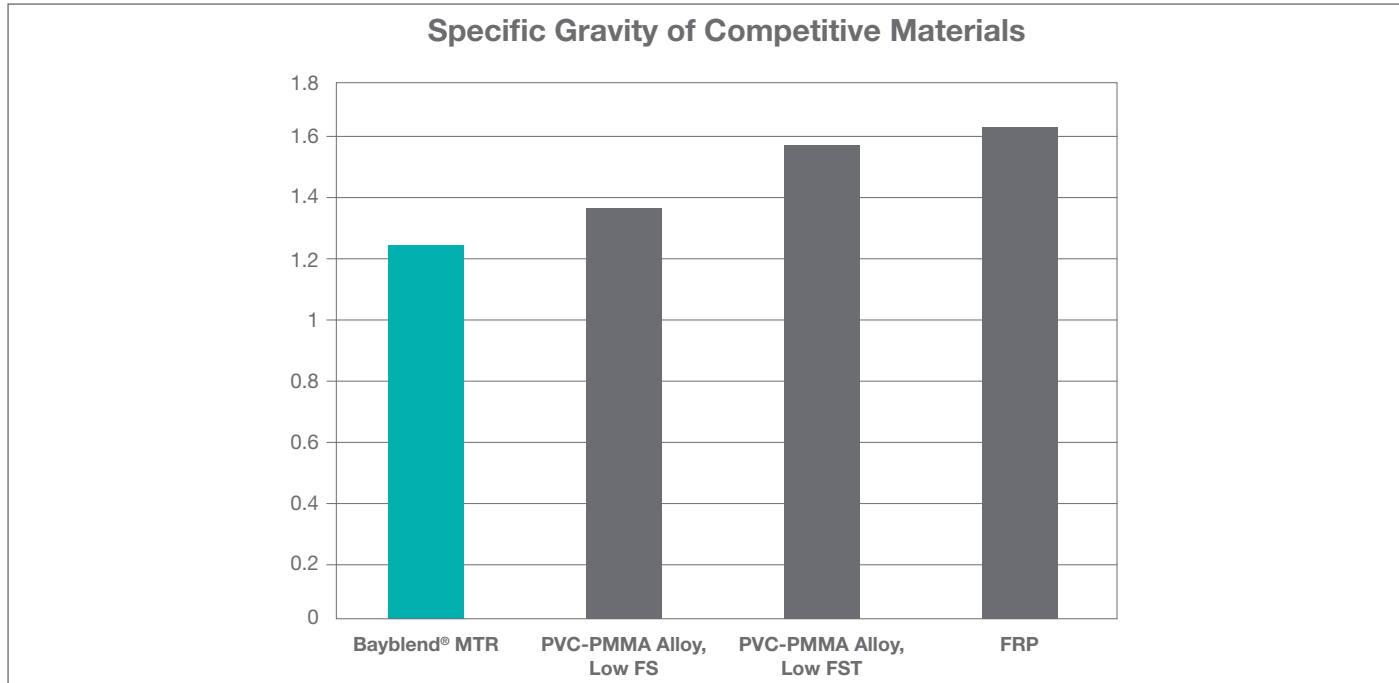
Typical Properties*				
Property	Test Method	Units	Values	
PHYSICAL				
Specific Gravity	ASTM D 792	-	1.3	
Moisture Absorption, Equilibrium, 24 hours	ASTM D 570	%	0.1	
MECHANICAL				
Tensile Strength, Yield	ASTM D 638	psi	7,900	
Tensile Elongation	ASTM D 638	%	11	
Tensile Stress at Break	ASTM D 638	psi	7,100	
Modulus of Elasticity	ASTM D 638	psi	540,000	
Flexural Modulus	ASTM D 790	psi	530,000	
Flexural Stress	ASTM D 790	psi	15,000	
Izod Impact Strength, Notched @ 0.118"	ASTM D 256	ft-lbs/in	1.5	
Instrumented Impact @ 0.118"	ASTM D 3763	ft-lbs	20	
Rockwell Hardness	ASTM D 785	-	M60	
THERMAL				
Coefficient of Thermal Expansion	ASTM D 696	in/in/°F	2.73 x 10 ⁻⁵	
Heat Deflection Temperature @ 264 psi	ASTM D 648	°F	205	
Heat Deflection Temperature @ 66 psi	ASTM D 648	°F	217	
Vicat Softening Temperature	ASTM D 1525	°F	232	
ELECTRICAL				
Dielectric Constant @ 1 MHz, @ 0.118"	ASTM D 150	-	2.9	
Dielectric Constant @ 60 Hz, @ 0.125"	ASTM D 150	-	3.0	
Dissipation Factor @ 1 MHz, @ 0.118"	ASTM D 150	-	0.006	
Dissipation Factor @ 60 Hz, @ 0.125"	ASTM D 150	-	0.004	
Dielectric Strength	ASTM D 149	V/mil	615	
Volume Resistivity @ 0.112"	ASTM D 257	Ohm-cm	4.0 x 10 ¹⁵	
Volume Resistivity @ 0.125"	ASTM D 257	Ohm-cm	6.6 x 10 ¹⁵	
FLAMMABILITY				
Flame Spread Index	ASTM E 162	Is (1.5 min)	<35	
Burning Dripping	ASTM E 162	-	None	
Smoke Density	ASTM D 662	Ds (1.5 min)	<100	
Smoke Density	ASTM E 662	Ds (4.0 min)	<200	
Bombardier Toxic Gas Generation	SMP 800-C	-	Pass	
Boeing Toxic Gas Generation	BSS 7239	-	Pass	

*Typical Properties are not intended for specification purposes

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Weight savings

Bayblend® MTR has a lower specific gravity and higher stiffness than typical non-metallic materials used for mass transportation interior components. This unique property profile can provide over 30% weight savings for components designed for specific stiffness when compared with other materials as shown below.



Thermoforming

Bayblend MTR can be thermoformed using conventional tooling and processes for thermoplastic materials such as PVC alloys, ABS, and polycarbonate. Optimal results can be obtained with fluid-heated aluminum tooling. Suggested tooling temperatures are 125°F – 205°F. Depending on geometry Bayblend MTR parts can be formed with and without vacuum-assist and plug-assist. Textures can be achieved via in mold texturing or through retention of texture as supplied using vacuum-forming. Recommended sheet temperature for thermoforming is 350°F – 400°F. For best results, Bayblend MTR should be pre-dried in a dessicated hot-air circulating oven at 180°F from 8 to 24 hours depending upon sheet thickness.

Secondary operations

Bayblend MTR can be cut and drilled with standard saws and tooling. Finished parts can be assembled using conventional mechanical fastening techniques or by gluing or welding. Bayblend MTR can be painted and printed using standard paints and inks that are suitable for polycarbonate. No surface pre-treatment is necessary.



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The manner in which you use and the purpose to which you put and utilize our products, technical assistance and information (whether verbal, written or by way of production evaluations), including any suggested formulations and recommendations are beyond our control. Therefore, it is imperative that you test our products, technical assistance and information to determine to your own satisfaction whether our products, technical assistance and information are suitable for your intended uses and applications. This application-specific analysis must at least include testing to determine suitability from a technical as well as health, safety, and environmental standpoint. Such testing has not necessarily been done by us. Unless we otherwise agree in writing, all products are sold strictly pursuant to the terms of our standard conditions of sale which are available upon request. All information and technical assistance is given without warranty or guarantee and is subject to change without notice. It is expressly understood and agreed that you assume and hereby expressly release us from all liability, in tort, contract or otherwise, incurred in connection with the use of our products, technical assistance, and information. Any statement or recommendation not contained herein is unauthorized and shall not bind us. Nothing herein shall be construed as a recommendation to use any product in conflict with any claim of any patent relative to any material or its use. No license is implied or in fact granted under the claims of any patent.