

MAKROLON[®] Diffusion Sheet

Light Diffusing Sheet

MAKROLON[®] DL Diffusion Sheet is a translucent polycarbonate product with a textured surface on one side specifically designed for lighting lenses. It features a unique combination of high light diffusion and high light transmission through a combination of optimized surface texture and advanced diffuser technologies.

When compared to other light diffusing products such as glass and acrylic, MAKROLON DL Sheet has superior impact strength and toughness. Other surface textures are available for additional design options.

Applications

LED and other conventional lighting lenses

Typical Properties			
Property	Test Method	Units	Values
PHYSICAL			
Specific Gravity	ASTM D792	-	1.2
Light Transmission			
B81 @ 0.060"	ASTM D1003	%	89
B81 @ 0.118"	ASTM D1003	%	84
B84 @ 0.060"	ASTM D1003	%	87
B84 @ 0.118"	ASTM D1003	%	75
B85 @ 0.060"	ASTM D1003	%	77
B85 @ 0.118"	ASTM D1003	%	61
MECHANICAL			
Tensile Strength, Ultimate	ASTM D638	psi	9,540
Tensile Strength, Yield	ASTM D638	psi	8,840
Tensile Modulus	ASTM D638	psi	335,000
Elongation	ASTM D638	%	94
Flexural Strength	ASTM D790	psi	1420
Flexural Modulus	ASTM D790	psi	362,000
Instrumented Impact, 0.125"	ASTM D3763	ft-lbs	49
THERMAL			
Coefficient of Thermal Expansion	ASTM D696	in/in/°F	3.75 x 10 ⁻⁵
Coefficient of Thermal Conductivity	ASTM C177	BTU·in/hr·ft ² ·°F	1.35
Heat Deflection Temperature @ 264 psi	ASTM D648	°F	274
Heat Deflection Temperature @ 66 psi	ASTM D648	°F	287
ELECTRICAL			
Dielectric Constant, @10Hz	ASTM D150	-	2.98
Dielectric Constant @ 60Hz	ASTM D150	-	2.88
Volume Resistivity	ASTM D257	Ohm·cm	>8 x 10 ¹⁵
Dissipation Factor @ 60 Hz	ASTM D150	-	0.002
Arc Resistance, Tungsten Electrodes	ASTM D495	Seconds	125
Dielectric Strength, in air @ 0.125"	ASTM D149	V/mil	460
FLAMMABILITY			
Horizontal Burn, AEB	ASTM D635	in	<1
Flame Class @ 0.060"	UL 94	-	V2
Flame Class @ 0.118"	UL 94	-	V2

Disclaimer

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.



MAKDL 1009

Sheffield Plastics

A Bayer MaterialScience LLC Business

119 Salisbury Road
Sheffield, MA 01257
800-254-1707

Fax: 800-457-3553

Web site: www.sheffieldplastics.com

E-mail: info@sheffieldplastics.com

©Copyright, 2009 Bayer

Bayer, The Bayer Cross and MAKROLON[®] are registered trademark of Bayer