

Optigrafix™

Circular/Bulk Light Diffuser Films



OptiGrafix™ Light Diffuser Films are one- or two-side diffuser film products designed to break up and distribute light evenly.

They can be used for a variety of different lighting applications like Electronic Displays and signs, LED based Lighting Systems, Flourescent based Lighting Systems and Printed Signage.

Product Features:

- Thin polymer film construction
- Uniform surface properties (matte or gloss)
- Available in a wide range of grades
- Specific grades compatible with polarized light
- Excellent dimensional stability
- Commercially available

Light Diffuser Film Product Attributes:

	Grades					
	DFPM	DFPMHT	DFMM	DFIM	LBMT	LBOM
Visual Performance:						
Min. Stock Thickness	.003"/75um	.003"/75um	.003"/75um	.002"/50um	.003"/75um	.005"/125um
Max. Stock Thickness	.007"/175um	.004"/100um	.007"/175um	.005"/125um	.004"/100um	.005"/125um
Custom Thickness	.010"/200um	.005"/200um	.010"/200um		.005"-.020"	
Finish	1/Side Matte	1/Side Matte	2/Side Matte	2/Side Matte	1/Side Matte	1/Side Matte
Color	Clear/White	Clear/White	Clear/White	Clear/White	Clear	White
Gloss (gu) S1/S2	4/52	9/50	4/4	40/40	14/93	7/82
Transmission	85%	89%	75%	67%	92%	55%
Haze	90%	85%	90%	90%	68%	95%
Back Reflection	20%	11%	24%	33%	10%	44%

Grafix® Plastics

A Division of Graphic Arts Systems, Inc.

5800 Pennsylvania Ave.
Maple Heights, OH. 44137

(800) 447-2349 (216) 581-9050 FAX: (216) 581-9041

Email: filminfo@grafixplastics.com Web: www.grafixplastics.com



Optigrafix™

Circular/Bulk Light Diffuser Films



Light Diffuser Film Product Grade Descriptions:

DFPM Grade Diffusers are translucent, 1/side matte, 1/side luster film that can be used under a variety of lighting conditions. The luster surface provides a bit of specular back reflection. This grade is made from a rugged PET base film, and is available in a variety of thicknesses and sizes.

DFPMHT Grade Diffusers are a slightly higher transmission version of DFPM Grade Diffuser Film. It is a 1/side matte, 1/side gloss film that can be used under a variety of lighting conditions. The gloss surface provides a specular back reflection. This grade is made from a rugged PET base film, and is available mostly in .003" and .004". Other thicknesses are custom.

DFMM Grade Diffusers are translucent, 2/side matte film that can be used under a variety of lighting conditions except polarized light. It's 2 layers of matted finish provide maximum diffusion. Made from a rugged PET base film, and is available in a variety of thicknesses and sizes.

DFIM Grade Diffusers are translucent, internal matte film that can be used under a variety of lighting conditions except polarized light. It's 2/side luster, internal matted finish provide maximum diffusion at an economical price point. This grade is made from a rugged PET base film, and is available in a variety of thicknesses and sizes.

LBMT Grade Light Diffuser Film, is a 1/side matte, 1/side gloss clear film. Its low, uniform birefringent properties make it ideal for diffusing polarized light. This is a lighter diffusion product with maximum transmission... more aggressive than anti-glare film, yet not as hazy as our other products. And it can also be thermoformed!

LBOM Grade Light Diffuser Film, is a 1/side matte, 1/side gloss clear film. This ultra-bright white film can be solvent and UV inkjet printed, as well as conventional printing methods for use in back-lit signage. It's bright white opalescent quality really makes colors pop! It is also a very aggressive diffuser. And it can also be thermoformed!

Grafix® Plastics

A Division of Graphic Arts Systems, Inc.

5800 Pennsylvania Ave.

Maple Heights, OH. 44137

(800) 447-2349 (216) 581-9050 FAX: (216) 581-9041

Email: filminfo@grafixplastics.com Web: www.grafixplastics.com



Optigrafix™

Circular/Bulk Light Diffuser Films



Light Diffuser Film Product Options:

	Grades					
	DFPM	DFPMHT	DFMM	DFIM	LBMT	LBOM
Anti-Static	Yes	Yes	Yes	No	No	No
Rugged PET Base	Yes	Yes	Yes	Yes	LB Grade	LB Grade
Low Birefringence	No	No	No	No	Yes	No
Commercially Available	Yes	Yes	Yes	Yes	Yes	Yes
Max Width (Stock)	42"/1067mm	42"/1067mm	42"/1067mm		50"/1270mm	50"/1270mm
Max Width Custom	60"/1525mm	60"/1525mm	60"/1525mm	60"/1525mm		
Roll Stock	Yes	Yes	Yes	Yes	Yes	Yes
Sheet Stock	Yes	Yes	Yes	Yes	Yes	Yes

Important Notice: Grafix makes no warranties, express or implied, including but not limited to any implied warranty of merchantability of fitness for a particular purpose. The user is responsible for determining whether the Grafix product is fit for a particular purpose and suitable for the user's method of application. Please remember that many factors can affect the use and performance of an OptiGrafix optical film product in a particular application. Given the variety of factors that can affect the use and performance of a Grafix product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluate the Grafix product to determine whether it is fit for a particular purpose and suitable for the user's method of application.

Limitation of Remedies and Liability: If the Grafix product is proven to be defective, THE EXCLUSIVE REMEDY, AT GRAFIX'S OPTION, SHALL BE TO REFUND THE PURCHASE PRICE OF OR TO REPAIR OR REPLACE THE DEFECTIVE GRAFIX PRODUCT. Grafix shall not otherwise be liable for loss or damages, whether direct, indirect, special, incidental or consequential, regardless of the legal theory asserted, including, but not limited to, contract, negligence, warranty or strict liability.

Grafix® Plastics

A Division of Graphic Arts Systems, Inc.

5800 Pennsylvania Ave.

Maple Heights, OH. 44137

(800) 447-2349 (216) 581-9050 FAX: (216) 581-9041

Email: filminfo@grafixplastics.com Web: www.grafixplastics.com



Optigrafix™

Diffuser Film Technical Specifications



Properties are based on .005"/125um Diffuser Film film. Properties of other gauges and finishes of Diffuser Film can vary.

Film Property	DFIM, PM-MM	LBMT-LBOM	Units	Test Method
	Value	Value		
Physical Properties				
Tensile Strength (MD)	28,000	14,400	psi	ASTM D 882
Tensile Strength (TD)	34,000	14,400	psi	ASTM D 882
Strength Elongation MD	15,000	34	psi	ASTM D 882
Modulus MD	710,000	360,000	psi	ASTM D 882
Modulus TD	740,000	360,000	psi	ASTM D 882
Elongation MD	115	45%	%	ASTM D 882
Elongation TD	92	25%	%	ASTM D 882
Electrical Properties				
Dielectric Strength	7,000	15,000	volts/mil	ASTM D 149-64
Dielectric Constant, 25°C, 1 kHz	3.2	n/a		ASTM D150-81
Dissipation Factor, 25°C, 1 kHz	0.005	n/a		ASTM D150-81
Volume Resistivity 25°C	1.00E+19	5.10E-13	ohm-cm	ASTM D257-78
Corona Threshold	425	n/a	V-AC	ASTM D2275-80
Thermal Properties				
Melt Point	200	120	°C	
Service Temperature Range	-70-150	-70-110	C	
Dimensional Stability				
at 105° MD	0.6	1.15	%	Measured Shrinkage
at 105° TD	0.9	1.15	%	Measured Shrinkage
Chemical Properties				
Permiability				
Water Vapor	0.1	22	g/100 in ² /24hr.	ASTM E-96
Carbon Dioxide	16	n/a	g/100 in ² /24hr.	ASTM D1434-58

Grafix® Plastics

A Division of Graphic Arts Systems, Inc.

5800 Pennsylvania Ave.
Maple Heights, OH. 44137

(800) 447-2349 (216) 581-9050 FAX: (216) 581-9041

Email: filminfo@grafixplastics.com Web: www.grafixplastics.com

