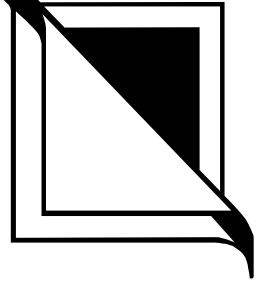


OptiGrafix™ Anti-Glare Films (LB-AG)

Summer 2005



Grafix Plastics Anti-Glare Film (LB-AG) is a high clarity, low birefringent base film with a one side anti-glare hard coating. Our LB-AG films are ideal for applications requiring the minimization of specular reflection of ambient light, while maintaining transmission. Further our LB-AG films will not interfere with polarized light.

LB-AG is a custom manufactured film available in range of gloss levels and thicknesses. This makes our LB-AG film ideal for a range of applications, from hand held displays to projection displays. Because our AG surface is a hard coating, it is designed to be used as a first surface on top of Display Glass, Acrylic or Polycarbonate. Our highly uniform anti-glare surface is scratch and scuff resistant as well as resistant to most household chemicals.

Product Features:

- ⇒ Thin polymer construction
- ⇒ 90% Transmission
- ⇒ Scratch, Scuff Resistant Surface
- ⇒ 3H Surface Hardness
- ⇒ Resistant to household chemicals
- ⇒ Will not interfere with polarized light
- ⇒ Commercially available

Available Configurations:

- ⇒ Thickness range: .002" to .007" (50um to 175um)
- ⇒ Gloss level: 60-10gu (measured against black background)
- ⇒ Masking Film: 1 or 2/side masking available
- ⇒ With or without Optical Adhesive

*** Note: This is a custom manufactured product. Limited configurations are in stock ***

GRAFIX® Plastics

A Division of GRAFIX, Inc.

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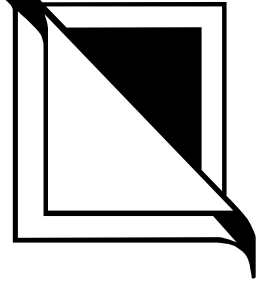
E-MAIL info@optigrafix.com WEB <http://www.optigrafix.com>



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Properties based on .005" LB Grade Base Film properties of other gauges and finishes of may vary. The following technical information and data should be considered representative or typical only, and not used for specification purposes.

Physical/Mechanical Properties	LB Base Value	VLB Base Value	Unit	Test Method
Abrasion Resistance	5	5		ASTM D1044
Pencil Hardness	H	H		ASTM D3363
Specific Gravity	1.31	1.31		
Max Service Temp.	70	95	C	
T/G Temp	120	160	C	
Shrinkage (80c @ 85% for 20 hrs)	1.17	1.05	%	ASTM D1204-4
Vapor Permeability	685	685	g/M2/day	
O2 Permeability	1800	1800	g/M2/day	
Tensile Strength	75	75	Nmm2	ASTM D882
Elongation @ Break	20-45	20-45	%	ASTM D882
Mullen Bursting Strength	72.5	72.5	psi	BS 4768

Optical Properties	Value					Unit	Test Method
Gloss/Backpainted Flat Black - 60 Deg.	55	45	33	20	10	GU	ASTM D523
Gloss/Over White Matte - 60 Deg.	90	75	55	35	20	GU	ASTM D523
In Plane OPD @ 560nm	<20	<20	<20	<20	<20	nm	
Phase Uniformity	<5	<5	<5	<5	<5	%	
Light Transmission	>90	>90	>90	>90	>90	%	ASTM D1003
Clarity	70	58	50	34	25	%	ASTM D1746
Haze	8	10	16	29	55	%	ASTM D1003
Refractive Index (Film Base)	1.49	1.49	1.49	1.49	1.49		
Refractive Index (Coating)	1.53	1.53	1.52	1.53	1.53		

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.

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