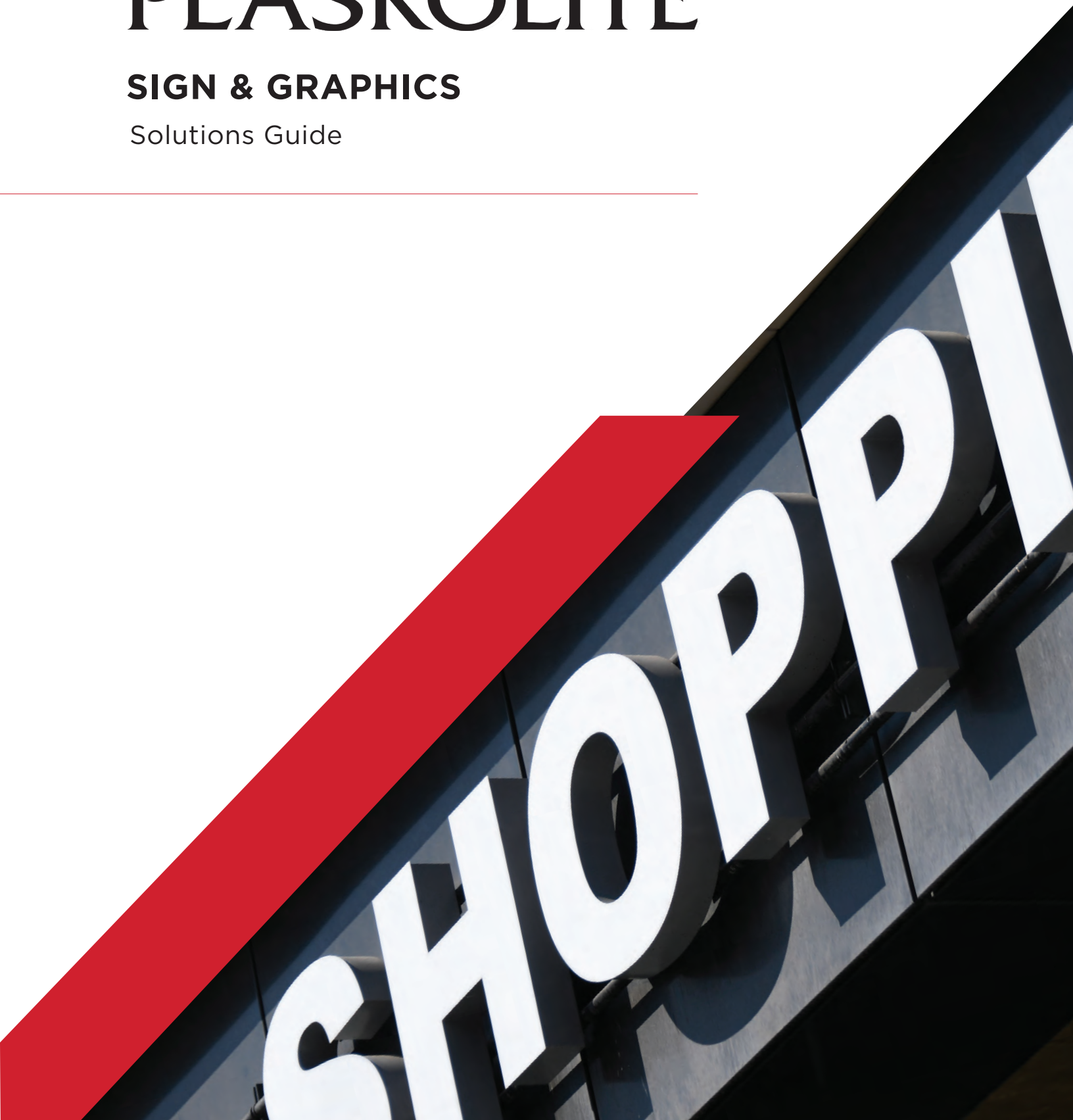


PLASKOLITE

SIGN & GRAPHICS

Solutions Guide



PLASKOLITE

PERFORMANCE PLASTIC
MANUFACTURING;
SHEET, POLYMER, PROFILES

1950
FOUNDED

OUR MISSION

TO PRODUCE INNOVATIVE ENGINEERING
THERMOPLASTICS THE RIGHT WAY; THROUGH
LONG-LASTING CUSTOMER RELATIONSHIPS,
HANDS-ON CUSTOMER SERVICE AND
RESPONSIBLE MANUFACTURING

MANUFACTURING LOCATIONS



GLOBAL
HEADQUARTERS
COLUMBUS, OH

PRIVATELY HELD
120+ PRODUCTION
LINES

2000+
EMPLOYEES

OUR PILLARS OF SUSTAINABILITY

CONTRIBUTING TO MAKE THE WORLD A BETTER PLACE

From our founding, we strive to treat our employees, our customers, our community and the world with kindness, dignity and respect. This drives our continuing effort to perform sustainable manufacturing and create products in an environmentally-friendly manner, for generations to come.

This on-going commitment is expressed in our Three Pillars of Sustainability:

WHAT WE MAKE

Versatile, high-quality, durable thermoplastic sheets instead of single-use plastics.



HOW IT'S MADE

We create products to reflect our sustainable philosophy of improving our environment.



HOW IT'S USED

Our thermoplastics play an important role in advancing the well-beings of others, energy conservation, and quality of life.



INTRODUCTION

SIGNS & GRAPHICS

PLASKOLITE is North America's market leader in sheet and reels for the sign and graphics industry. As the manufacturer of OPTIX® acrylic, TUFFAK® polycarbonate, OPTIX® L and VIVAK® PETG sheet products, PLASKOLITE has the material solution for your branding needs. Working with our team of experts, specifications to enhance your brand is a snap.

Our dedicated team is here to educate your staff on which sheet product we produce is ideal for your project. With training programs, we can support your team on how to work with OPTIX, OPTIX L, TUFFAK and VIVAK sheets.

Our ongoing commitment to the sign and graphics industry means our team never stops working to ensure we are developing products to meet the needs of our customers. Flexibility is our goal. Large and small orders can be run as custom size sheets to reduce waste and increase efficiency. Contact your representative today for details and think of PLASKOLITE first, we are your solution provider.

** Consult with our experts in selecting the right sheet product for any application and installation*







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EXTERIOR - SIGNS AND GRAPHICS

OPTIX LD MAX 2406

OPTIX LD MAX 2406 White light diffusing acrylic is the ideal choice for decorative vinyl applications requiring high light output and dramatically increased light transmission, compared to standard sign whites, while diffusing the light source to reduce hot spots. Reduce the light source and save energy and money, or keep the light source the same and let your image shine.

- » Dramatically enhances difficult to illuminate films such as dual color film, perforated film and darker hues of color
- » Eliminates pin points of light and hot spots providing even and consistent illumination
- » Allows for shallower lens depth to light source for greater design flexibility
- » Ideal as a lens for any light source including LEDs and Fluorescents
- » Great for cabinet and channel letter illumination
- » Enhance your digital prints with a more vibrant image



* OPTIX LD MAX 2406 WHITE - 68% light transmission, 0.118"

OPTIX LD ACRYLIC SHEET

- » Brilliant colors
- » For use with decorative vinyl
- » Shallow cans for channel letters
- » Flat and formed sign faces
- » Sign cabinets
- » High light output
- » Dramatic illumination
- » Reduction of light sources
- » Enhanced digital printing
- » Translucent and dual color perforated films
- » High UV resistance
- » Available in SG

TUFFAK LD POLYCARBONATE SHEET

- » Channel letters
- » Sign cabinets
- » Virtually unbreakable
- » Weather resistant
- » Thinner deep draw areas retain strength and light diffusion properties
- » Meets UL 870 standard for use in electric signs
- » UL 94 V-2 flammability rating in 0.094" - 0.177"
- » UL 94 V-0 flammability rating in 0.236"

TUFFAK AR1

- » Hardest hard coat technology
- » Abrasion resistant
- » Chemical resistant
- » Second surface digitally printed
- » Flat applications only



TUFFAK SL

- » Enhanced UV resistance
- » Thermoformable
- » Virtually unbreakable
- » Wide temperature range
- » Thinner deep draw areas retain strength
- » Available in industry standard colors
- » Sheets and reels



OPTIX SG / DURAPLEX

- » Hardest hard coat technology
- » Abrasion resistant
- » Chemical resistant
- » Second surface digitally printed
- » Flat applications only



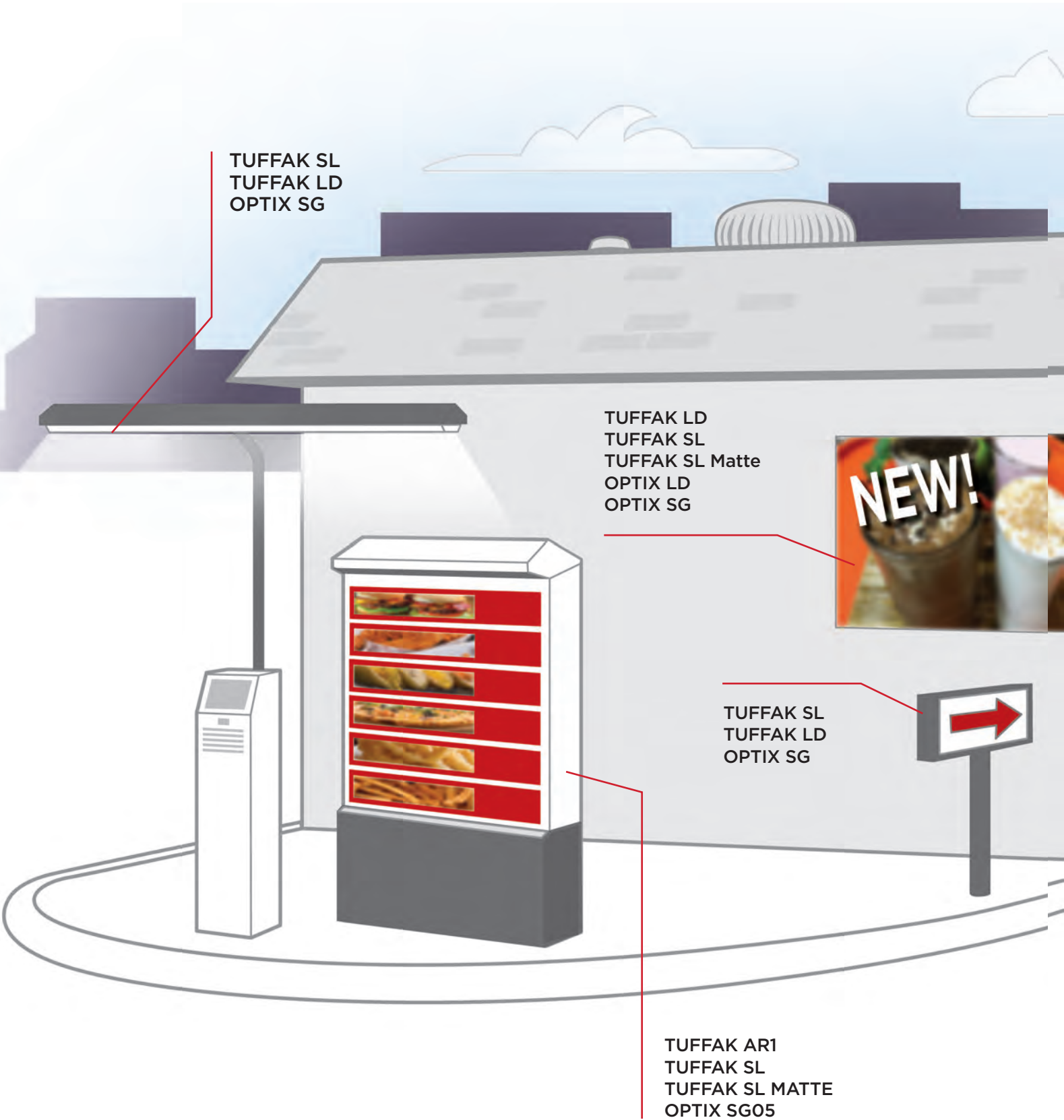
OPTIX BW CONTINUOUS CAST

- » Enhanced UV resistance
- » Thermoformable
- » Virtually unbreakable
- » Wide temperature range
- » Thinner deep draw areas retain strength
- » Available in industry standard colors
- » Sheets and reels



ANATOMY OF A DRIVE THROUGH

SIGN SOLUTIONS FOR EXTERIOR NEEDS



TUFFAK LD
OPTIX LD
OPTIX SG
OPTIX BW
OPTIX HEAVY GAUGE



TUFFAK SL
TUFFAK LD
OPTIX SG

INTERIOR - SIGNS AND GRAPHICS

OPTIX DA

OPTIX DA eliminates the need for costly, time-consuming applications of adhesion promoters prior to printing. Produce high quality, vibrantly-colored prints with the UV curable inks that are utilized in today's UV digital flatbed printers.

- » Produced with a specially formulated acrylic polymer that promotes optimal adhesion of UV curing inks without the need for an adhesion promoter prior to ink application
- » Developed and tested with a leading manufacturer of digital UV flatbed printers and various ink suppliers
- » Available in clear, 7328 white and non-glare
- » A variety of gauges available; 0.060" - 0.236"
- » Standard and run-to-size options



** Produced with a specially formulated acrylic polymer that promotes optimal adhesion of UV curing inks without the need for an adhesion promoter prior to ink application*

OPTIX MYST

- » Internal frost
- » Will not heat or form out
- » Superior craze resistance
- » Soft light diffusion
- » Gloss finish



OPTIX FROST

- » Translucent
- » Textured two sides
- » Easy to fabricate without significant loss of frost appearance
- » Line bends
- » Interior and exterior



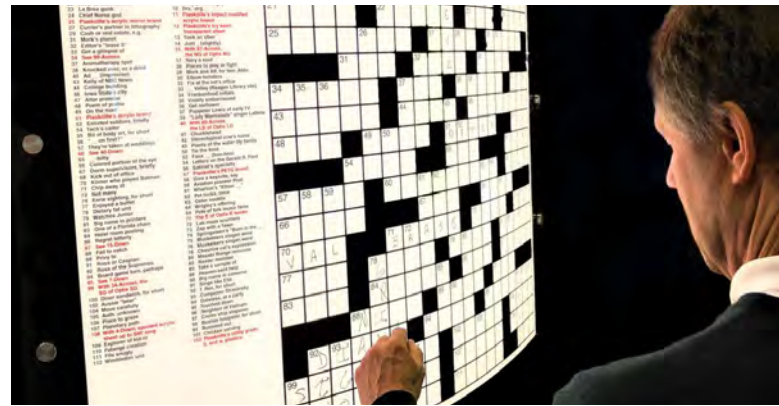
OPTIX L & EL

- » Bright and even edge illumination
- » Continuous Cast
- » Single or double-sided sign
- » Ideal for low profile signage for interiors / wayfinding
- » ADA sign compliant
- » Interior and exterior



OPTIX EDA

- » Erasable direct-to-print sheet
- » Abrasion resistant
- » Virtually unbreakable
- » Functional message board
- » Frameless installations



OPTIX L BLOCK CELL CAST ACRYLIC

- » Even illumination and diffusion for trimless letters
- » Alternative to traditional channel letters
- » Thick gauge acrylic that allow for routing and embedding LEDs
- » White or colored LEDs
- » 3D signs



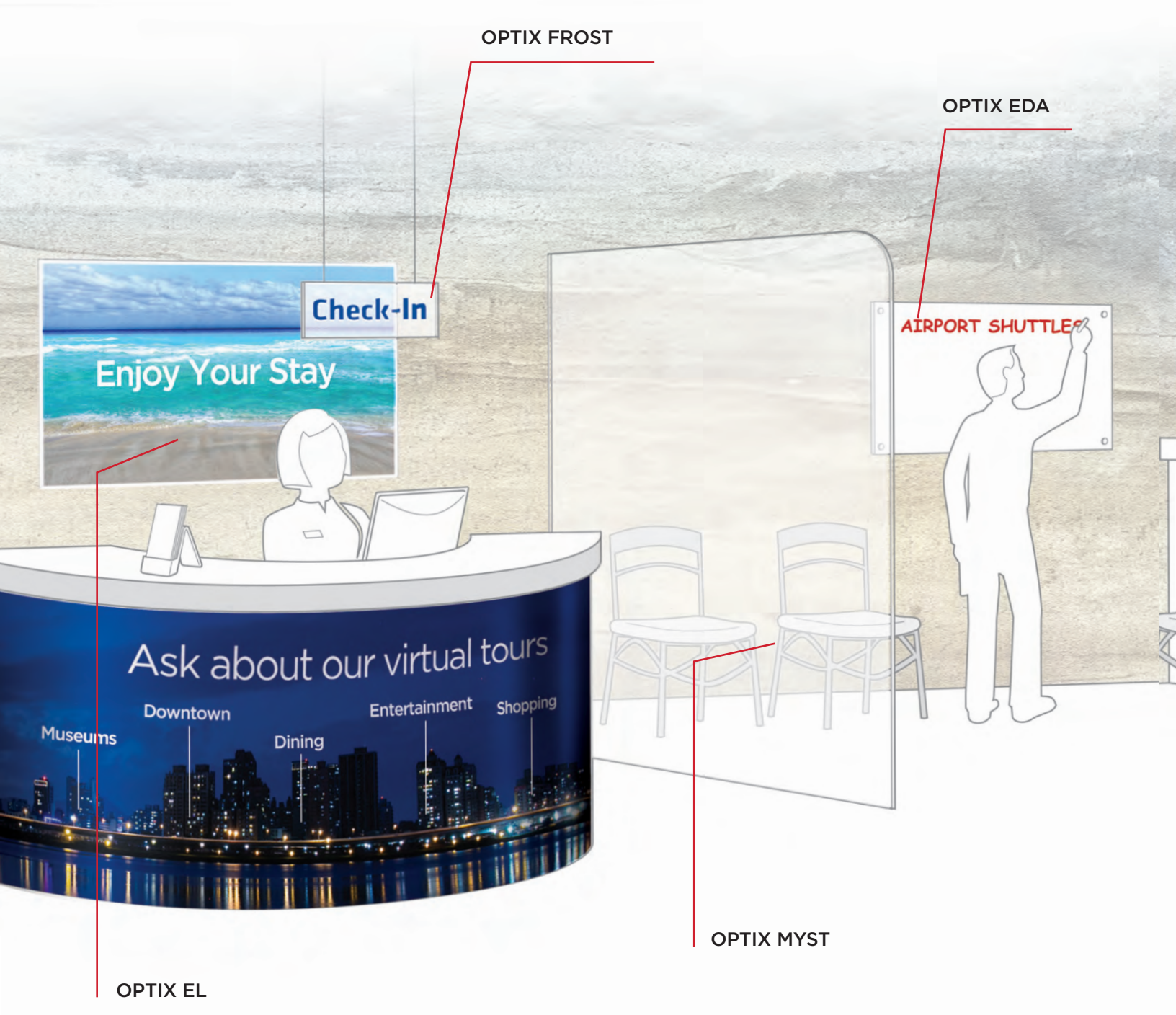
OPTIX 95

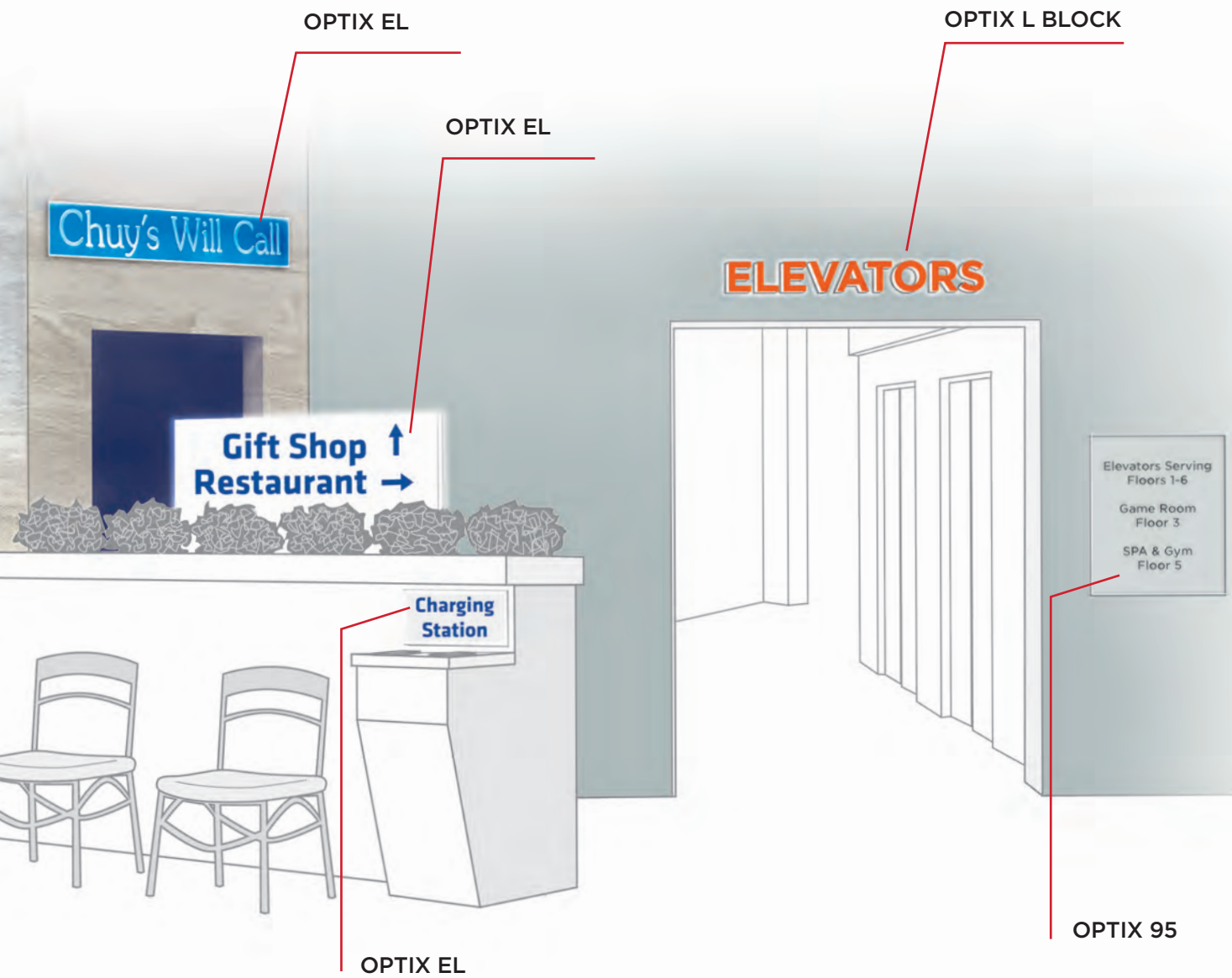
- » Matte finish one side
- » Second surface decoration
- » Reduction in surface reflection
- » Custom colors available
- » Additional matte finishes



ANATOMY OF AN OFFICE

SOLUTIONS FOR INTERIOR SIGNS





DISPLAY - GRAPHICS AND DISPLAYS

OPTIX L SERIES

OPTIX L continuous cast acrylic sheet has the highest clarity. It is easy to fabricate and form for many applications for interior and exterior applications with exceptional UV stability. It has superior thickness tolerance compared to cell cast sheets. OPTIX L is easy to clean and offers superior craze and chemical resistance. It is available in gauge range of 0.080" - 0.354". Custom gauged and sheet sizes are available.

- » Superior optical clarity
- » Superior craze resistance
- » Superior edge quality
- » Exceptional UV stability
- » Superior thickness tolerance compared to cell cast sheet

APPLICATIONS

- » Furniture
- » Cosmetic Displays
- » Interior partitions
- » Signage



** Produced with a specially formulated acrylic polymer that promotes optimal adhesion of UV curing inks without the need for an adhesion promoter prior to ink application*

OPTIX THICK

- » Crystal clear
- » Impact resistant
- » Custom colors available
- » Soft light diffusion
- » Gloss finish



OPTIX 99

- » Ultra light matte finish
- » Glare reduction
- » Half the weight of glass
- » Shatter resistant
- » Translucent
- » Interior and exterior



OPTIX DA & NGDA

- » Eliminate vinyl decoration
- » Eliminate adhesion promoters
- » Strong ink adhesion allowing graphics to be printed to the edge
- » Certified with all leading digital flatbed printers
- » Available in clear, white, custom colors
- » OPTIX NG-DA available in non glare finish



VIVAK PETG

- » Interior use
- » Durable
- » Flexible
- » Deep draws and complex die cuts
- » Easily decorated: painting silkscreen or hot stamp
- » Available in sheets only



FABBACK

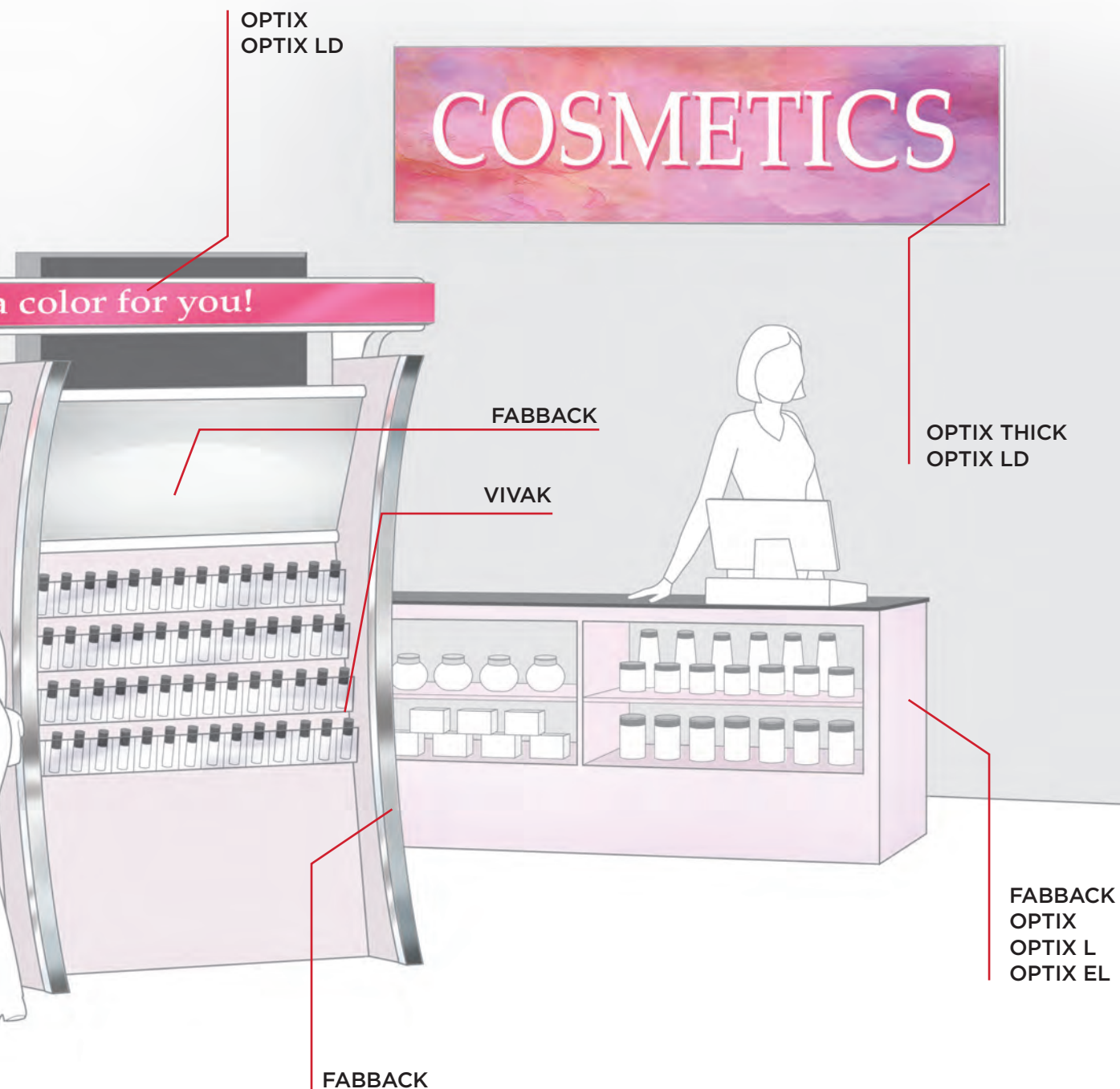
- » Over 20 colors
- » Clear or see-through
- » Ease of fabrication
- » Wide range of standard gauges
- » Flat sheet only



ANATOMY OF A RETAIL STORE

SOLUTIONS FOR RETAIL DISPLAY





PRODUCT SELECTION GUIDE

		EXTRUDED	CONT. CAST	CELL CAST ACRYLIC	PC	PETG	IMPACT RESISTANT	DURABILITY	PATTERNS	ABRASION RESISTANT
LIGHT DIFFUSING	OPTIX LD MAX 2406	.								
	TUFFAK LD	.			.		SUPERIOR IMPACT STRENGTH	✓		
	OPTIX LD	.								
	OPTIX L BLOCK			.				✓		
DIGITAL PRINTING	OPTIX DA	.								
	OPTIX NGDA	.			.				✓	
	OPTIX EDA	.								✓
	VIVAK	.				.	SUPERIOR IMPACT STRENGTH			
	TUFFAK AR1	.			.		SUPERIOR IMPACT STRENGTH	✓		✓
NON REFLECTIVE	TUFFAK NR	.			.		SUPERIOR IMPACT STRENGTH	✓	✓	
	TUFFAK NRC (Coated)	.			.		SUPERIOR IMPACT STRENGTH	✓	✓	✓
LIT	OPTIX EL (Edge Lit)		.							
	OPTIX L		.							✓
	OPTIX L BW (Back Lit)		.							
SIGN GRADE	OPTIX SG, SG05, SG10	.						✓	✓	
	TUFFAK SL	.			.		SUPERIOR IMPACT STRENGTH	✓		
TRANSLUCENT	OPTIX Frost (Infused)	.							✓	
	OPTIX 95 (Matte)	.							✓	
	TUFFAK SL Matte	.			.		SUPERIOR IMPACT STRENGTH	✓	✓	
	OPTIX L Myst (Infused)		.					✓	✓	

	HIGH CLARITY	INTERIOR	EXTERIOR	FLEXIBILITY	COLD FORMING	DIGITAL PRINT	THERMO-FORMABLE	SUPERIOR DIFFUSION	UV ENHANCED	REELS	CHEMICAL RESISTANT
OPTIX LD MAX 2406		✓	✓	✓		✓	✓	✓	✓	✓	
TUFFAK LD		✓	✓	✓	✓	✓	✓	✓	✓	✓	
OPTIX LD		✓	✓				✓	✓	✓		
OPTIX L BLOCK		✓	✓	✓	✓	✓	✓	✓	✓		✓
OPTIX DA	✓	✓	NA			✓					
OPTIX NGDA		✓	NA			✓					
OPTIX EDA	✓	✓	NA			✓					✓
VIVAK	✓	✓	NA	✓	✓	✓	✓				
TUFFAK AR1	✓	✓	✓			✓			✓		✓
TUFFAK NR		✓	✓	✓	✓	✓	✓		✓		
TUFFAK NRC (Coated)		✓	✓			✓			✓		✓
OPTIX EL (Edge Lit)		✓	✓	✓					✓		✓
OPTIX L	✓	✓	✓	✓					✓		✓
OPTIX L BW (Back Lit)		✓	✓	✓					✓		✓
OPTIX SG, SG05, SG10		✓	✓	✓		✓	✓	✓	✓	✓	
TUFFAK SL		✓	✓	✓	✓	✓	✓		✓	✓	
OPTIX Frost (Infused)		✓	✓				✓				
OPTIX 95 (Matte)		✓	NA				✓				
TUFFAK SL Matte		✓	✓	✓	✓	✓	✓		✓	✓	
OPTIX L Myst (Infused)		✓	✓	✓	✓	✓	✓		✓		✓

TYPICAL PROPERTIES

PROPERTY	TEST METHOD	UNITS	VALUES		
			OPTIX L	OPTIX LD / SG	TUFFAK SL
PHYSICAL					
Specific Gravity	ASTM D792	-	1.19	1.19	1.2
Optical Refractive Index	ASTM D542	-	1.49	1.49	1.586
Light Transmission - Clear	ASTM D1003	%	92	<90	86
Light Transmission - Haze	ASTM D1003	%	<1	*	-
Sound Transmission	ASTM E90 / E413	db	27	27	24
Water Absorption	ASTM D570	%	0.2	0.4	0.15
MECHANICAL					
Tensile Strength	ASTM D638	psi	11,000	11,030	9,500
Tensile Modulus of Elasticity	-	psi	465,000	490,000	340,000
Flexural Strength	ASTM D790	psi	14,700	17,000	13,500
Izod Impact Strength - Notched	ASTM D256	ft-lb/in	3.2	0.4	18
Izod Impact Strength - Unnotched	ASTM D256	ft-lb/in	-	-	(no break) 60
Rockwell Hardness	ASTM D785	-	M-100	M-95	M-70 / R118
THERMAL					
Deflection Temperature @ 264 psi	ASTM D648	°F	200	203	270
Deflection Temperature @ 66 psi	ASTM D648	°F	-	207	280
Coefficient of Linear Thermal Expansion	ASTM D696	in/in/°F	3.5x10 ⁻⁵	3.0x10 ⁻⁵	3.75x10 ⁻⁵
Thermal Conductivity	ASTM C177	Btu-in/hr•ft ² °F	0.12	0.075	1.35
Smoke Density Rating	ASTM D2843	%	13.5	>16.5	57.7
Self-Ignition Temperature	ASTM D1929	°F	750	833	1022
Horizontal Burn @ 0.236"	ASTM D635	in/min	0.65	>1	<1
Flammability	UL 94	94HB	HB	HB	HB
ELECTRICAL					
Volume Resistivity	ASTM D257	OHms/cm	>3.92x10 ¹⁵	-	8.2x10 ¹⁶
Dielectric Constant @ 10Hz	ASTM D150	-	3.0-3.6	-	2.96
Dielectric Constant @ 60Hz	ASTM D150	-	2.7	-	3.17

INDUSTRY STANDARD COLORS

STANDARD COLOR	PMS MATCH	OPTIX	OPTIX L	TUFFAK SL	TUFFAK LD	STANDARD GAUGE (in)
CLEAR	-	-	-	YES	-	0.093 - 0.236
WHITE 7328	-	YES	YES	YES	YES	0.060 - 0.236
WHITE 2406	-	YES	YES	-	-	0.118 - 0.500
WHITE 2447	-	YES	YES	-	YES	0.093 - 0.236
BLACK	BLACK C	-	YES	-	-	0.177
YELLOW 8197	7548C	YES	YES	-	-	0.093 - 0.236
GREEN 7235	2426C	YES	YES	-	-	0.093 - 0.236
RED 2157	485C2X	YES	YES	-	-	0.118 - 0.177
RED 2283	485C	YES	YES	YES	YES	0.118 - 0.177
RED 6192	-	-	-	YES	-	0.118 - 0.177
RED 2783	186C	YES	-	YES	YES	0.118 - 0.177
BLUE 2114	288C	YES	YES	YES	YES	0.118 - 0.177
BLUE 2050	280C	YES	YES	-	-	0.118 - 0.177
BLUE 2051	300C	-	-	YES	YES	0.118 - 0.177
GREEN 2108	349C	YES	-	YES	YES	0.118 - 0.177
YELLOW 2037	YELLOWC	YES	YES	YES	YES	0.118 - 0.177
ORANGE 2119	166C	YES	-	YES	YES	0.118 - 0.177

*OPTIX L - All "white" color standard gauges 0.118" - 0.177"

CUSTOMIZED SERVICES

RUN-TO-SIZE PROGRAM

Custom extrusion for any specification - low minimums and fast turnaround. PLASKOLITE offers the flexibility of running custom sheet in the sizes you and your customers need, including run-to-size options in a wide range of sizes up to 105" and a thickness range from 0.040" to 1.0" for:

- » OPTIX Acrylic in clear, colors and patterns
- » DURAPLEX Impact Modified Acrylic
- » VIVAK PETG Sheet

NON - STOCK MATERIAL

- » Special tolerances, film coverages, thicknesses and sizes available
- » Saw cut and slitter / hot knife edges available
- » 3,000 lb. minimum order required for a custom thickness of clear acrylic and for color production runs
- » Minimum required for standard color production run
- » Sheet edges may vary - please specify preferred edge cut at the time of order

OPTIX CLEAR ACRYLIC

- » 2 Week lead time
- » Clear ONLY (No Impact, Frame Grade, L, etc.)
- » Minimum 1,000 lbs. / Maximum 20,000 lbs.
- » Thickness range 0.060" to 0.250"

OPTIX COLORED ACRYLIC

- » 3 Week lead time
- » Colors ONLY (No Impact, White LD only)
- » Minimum 3,000 lbs. / Maximum 20,000 lbs.
- » Thickness range 0.060" to 0.250"

TUFFAK CLEAR POLYCARBONATE

- » 3 Week lead time
- » GP Clear & Clear ONLY (No AR, OP, etc.)
- » Minimum 1,000 lbs. / Maximum 20,000 lbs.
- » Thickness range 0.060" to 0.236"

TUFFAK COLORED POLYCARBONATE

- » 4 Week lead time
- » Colors and White SL ONLY
- » Minimum 3,000 lbs. / Maximum 20,000 lbs.
- » Thickness range 0.060" to 0.236"



ACRYLIC AND POLYCARBONATE REEL STOCK

Better total sheet utilization, fewer seams and joints in finished signs, provides better inventory management and storage. Available for most sign-grade acrylic and polycarbonate substrates, reel-stock sheet delivers all the benefits of standard sheet, but with unlimited lengths that help reduce seams and joints. This makes reel stock ideal for especially large applications such as outdoor signage. For signage and point-of-purchase displays, sign grade acrylic and polycarbonate sheet provides excellent forming characteristics with detailed vacuum definition, high optical clarity, and superb weatherability.

****Contact customer service for standard and custom reel lengths and widths.***

BENEFITS

» FLEXIBLE

Wide range of sizes and thicknesses

» ECONOMICAL

Low minimum order requirements

» FAST CUSTOMIZATION

The industry's shortest turnaround

» UNIQUE COLORS

Custom color matching available





1-888-CURBELL

www.curbellplastics.com

Curbell Plastics is a proud supplier of Plaskolite materials.



These suggestions and data are based on information we believe to be reliable. They are offered in good faith, but without guarantee, as conditions and methods of use are beyond our control. We recommend that the prospective user determines the suitability of our materials and suggestions before adopting them on a commercial scale.

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BRO060_PSK_SIGN_GUIDE