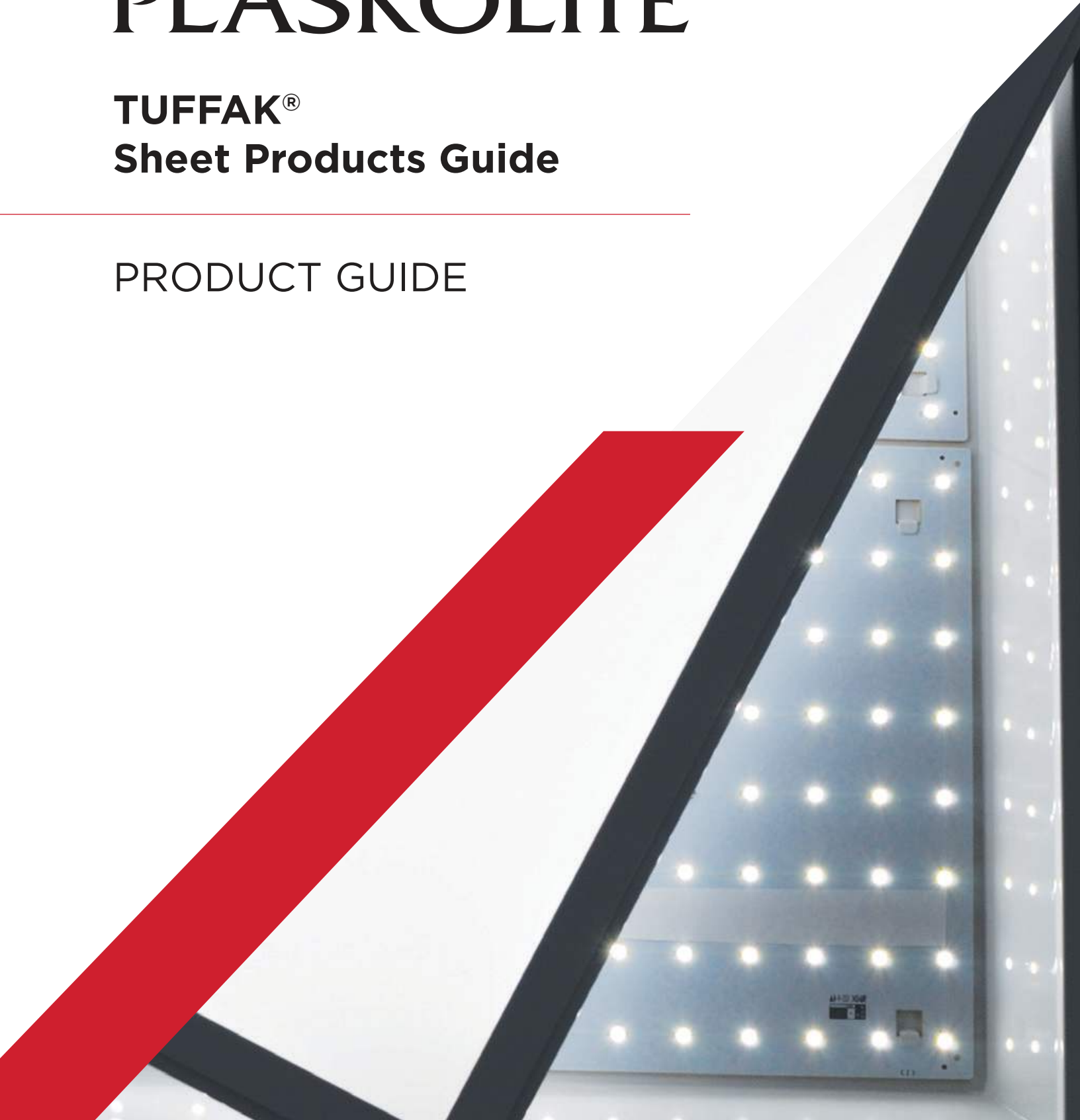


# PLASKOLITE

## TUFFAK® Sheet Products Guide

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### PRODUCT GUIDE



# TUFFAK POLYCARBONATE SHEET PRODUCTS

## TECHNOLOGY ADAPTED TO THE PERFORMANCE AND AESTHETIC DEMANDS OF SPECIFIC INDUSTRIES

### About this guide

**Designed as a quick reference tool**, this guide summarizes the main features, differences, and applications for TUFFAK sheet products.

**Organized by industries**, shows typical applications for each product. Products with broader uses are listed in several industry categories.

**For complete information** on properties, warranty and agency compliance, visit [www.plaskolite.com](http://www.plaskolite.com)

### Information under column headings

**TUFFAK Grade** lists formal product designations for ordering and referencing.

**Key Product Features** describes each product's key attributes and helps differentiate products from each other.

**Typical Applications** describes the most common uses for each product in the industry.

TUFFAK Grade	Key Product Features	Typical Applications
GP	High impact; clarity; and temperature resistant	Industrial glazing, machine guards, structural parts, thermoformed and fabricated components
GP Patterns	Pebble, matte and prismatic surface finishes	Industrial glazing, privacy glazing, signs, displays and lighting covers
OP	Optical Quality	Face shields, laminates
FI	UL 94 V-0, 5VA; FAA rated; not UV stabilized	Electrical devices, equipment housings, switch-gear covers, and interior aircraft components
LF	UL 94 V-0; FAA rated; has UV stabilizer	Electrical devices, equipment housings, switchgear covers, light fixtures, aerospace components
FD	FDA/NSF compliant for food contact	Machine guards, bulk food bins, candy molds, sneeze guards, hospital trays, bassinets, incubators, and medical device storage containers



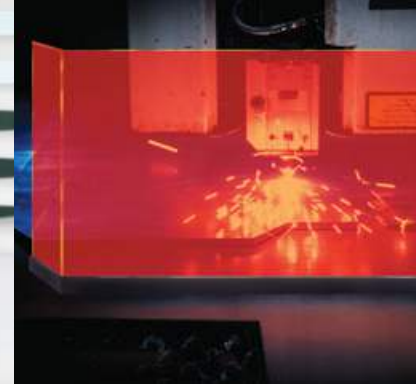
<b>TUFFAK Grade</b>	<b>Key Product Features</b>	<b>Typical Applications</b>
<b>SL</b>	Enhanced outdoor weathering performance	Flat and formed sign faces and channel letters
<b>SL Matte</b>	Enhanced outdoor weathering performance with matte texture	Flat and formed sign faces, channel letters and digital displays
<b>LD</b>	LED light diffusion; enhanced outdoor weathering performance	Flat and formed sign faces and channel letters using LEDs
<b>NR</b>	Non-reflective; UV resistant; proprietary matte surface; impact strength	Display and screen protection, signage, lenses, and menu boards with reduced glare
<b>NR-C</b>	Non-reflective; UV resistant; one side hard-coated; textured surface with improved chemical resistance and reduced glare	Display and screen protection, fuel dispensing systems, signage, lenses, and menu boards
<b>UV</b>	High optical quality; enhanced outdoor weathering performance and can be cold formed on site	Covered pedestrian walkways, entryway canopies, awnings, skylights, barrel vaults, glazed archways, and sloped, vertical, and curved glazing
<b>SK</b>	Smooth and prismatic pattern designed as inner lite of a dual domed skylight	Awning, skylights, entryway canopies, barrel vaults, sloped, vertical and curved glazing
<b>SK1</b>	Smooth and prismatic optimized to diffuse and distribute light with high light transmission; UV resistant	Awning, skylights, entryway canopies, barrel vaults, sloped, vertical and curved glazing
<b>SK1 CC</b>	Advanced IR blocking to reduce solar heat gain, maximizing visible light transmission; UV resistant	Awning, skylights, entryway canopies, barrel vaults, sloped, vertical and curved glazing



TUFFAK Grade	Key Product Features	Typical Applications
<b>AR</b>	Long lasting abrasion and chemical resistance, and outdoor weathering performance	Replacement glazing, industrial guarding, safety components
<b>15</b>	Long lasting abrasion and chemical resistance, and outdoor weathering performance; Fifteen (15) year limited product warranty	Architectural glazing for residential, retail, transportation centers, psychiatric facilities
<b>AMGARD</b>	AMGARD formulated with silver ion antimicrobial agent to protect against surface microorganism growth; tested to ISO 22196	Safety shields and barriers
<b>AMGARD SR</b>	AMGARD formulated with silver ion antimicrobial agent to protect against surface growth with scratch resistant coating; tested to ISO 22196	Scratch resistant safety shields and barriers
<b>CA</b>	Optical grade, UV stable sheet meeting ICB Class A flammability; passes NFPA 286	Wall cladding, ceiling finishes and decorative panels
<b>CA-UV</b>	Optical grade, UV enhanced sheet meeting ICB Class A flammability; passes NFPA 286	Exterior glazing and canopies
<b>FC</b>	Cold formable and drape formable; meets ANSI Z26 .1 AS-6	Motorcycle and recreational vehicle windscreens, face shields, and formed applications
<b>AF</b>	Two-sided coated product with Anti-Fog properties; meets ANSI Z87.1 (2020)	Personal protection safety shields, ski goggles, swim goggles, underwater photography equipment, face shields, industrial safety shields and firefighter helmets



TUFFAK Grade	Key Product Features	Typical Applications
<b>CG375, CG500, CG750</b>	Meets ASTM F 1915; ASTM F 1233; H.P. White TP 0500	Jails, prisons, detention and psychiatric containment glazing
<b>BR750</b>	Meets UL 752 Level 1	Ballistic resistant glazing for government, institutional and commercial installations
<b>BR1000</b>	Meets UL 752 Level 2; ASTM F 1233; ASTM F 1915; H.P. White TP 0500	Ballistic resistant glazing for government, institutional, banks and commercial installations
<b>BR1250</b>	Meets UL 752 Level 3; NIJ Level II, IIIA; ASTM F 1233; ASTM F 1915; H.P. White TP 0500	Ballistic resistant glazing for government, institutional, banks and commercial installations
<b>MS1250</b>	Meets UL 752 Level 6 rating; multi-shot 9 mm (Uzi) ballistic attack and supplementary shotgun	Ballistic resistant glazing for severe threat
<b>Lumen XT</b>	Superior LED and conventional light diffusion; wide range of diffusion levels; meets UL 94 V-0, 5VA	Interior LED and conventional lighting fixtures
<b>Lumen XT-V</b>	Superior LED and conventional light diffusion; wide range of diffusion levels; meets UL 94 V-0, 5VA	Interior LED and conventional lighting fixtures
<b>DX-NR</b>	Specifically formulated for superior LED light diffusion with enhanced weathering performance	Exterior LED and conventional lighting fixtures



TUFFAK Grade	Key Product Features	Typical Applications
IR	Meets welding shades 3 and 5; complies with ANSI Z87.1, EN 169: CSA Z94.3	Face shields for flame welding and cutting, general IR protection, welding curtain
LS	Available in IR, Visible and UV laser blocking tints; certified to ANSI Z136.7	Door and room windows, standing panels and screens, modular barriers and enclosures where reflective laser light blocking is required
WC	Effectively blocks 100% of harmful UV light, hazardous blue-light, a common cause of “welder arc-eye”; complies with AWS F2:3M:2011	Welding curtains, screens, booths, enclosures and walkways, tanning salons screens and other high UV and visible lighted areas
MG	0.750” – 2.0” thick for machining, textured surface	Machined parts such as manifolds, insulators, diaphragms, electrical, semiconductor, military applications
WG	0.750” – 2.0” thick, transparent	Sight windows for tanks/vessels, viewports, medical parts, military applications
AU	UV and abrasion resistant; ultra-clear; high visible light transmission	Specialty laminates
UC	High light transmission; and high optical quality	Military aircraft canopies, specialty laminates
SQ	High optical quality	High optical quality with specifications tailored to end-use application
HV	UV and abrasion resistant; high optical quality thick gauge sheet; meets ANSI Z26.1 AS-4	Forestry equipment, agricultural and industrial vehicle glazing



TUFFAK Grade	Key Product Features	Typical Applications
TX	Extended UV and abrasion resistant glazing for windows; meets ANSI Z26.1 AS-4 and FMVSS 302	RV, construction, and commercial truck rear windows
BG	UV and abrasion resistant; optical performance meets ANSI Z26.1 AS-4 and FMVSS 302	Bus window glazing
DG	High optics, abrasion resistant for driver guard; conforms to FMVSS 205/ANSI Z26.1. AS4	Transportation approved glazing for use as protective bus driver surrounds
TG	High optical performance with enhanced UV and abrasion resistance; meets FRA 49 CFR 223 & 49 CFR 238 for flammability, smoke, ballistics, and impact	Passenger rail car glazing
Marine 5	High optical clarity; low optical distortion; UV, abrasion, and chemical resistant	Marine flexible enclosures, tent and awning enclosures
VR	High optical quality; low optical distortion; high clarity; enhanced UV resistance	Marine flexible enclosures, tent and awning enclosures
AL	High optical quality; abrasion, chemical and UV resistant	Automotive laminates

# PLASKOLITE

**A GLOBAL LEADER IN THE PRODUCTION OF THERMOPLASTIC SHEET**

**FOUNDED IN 1950**

Our Mission: to deliver superior thermoplastic sheet, coatings and polymers to the world, through long-lasting customer relationships and hands-on customer service.

## MANUFACTURING LOCATIONS



From our founding, PLASKOLITE strives to treat our employees, our customers, our community and the world, with kindness, dignity and respect. This drives our continuing effort to create sustainable products, in a sustainable manner, for future generations. This on-going commitment is expressed in the

**PLASKOLITE Sustainable Ecosystem:**

### QUICK FACTS

**STATUS:** Privately held

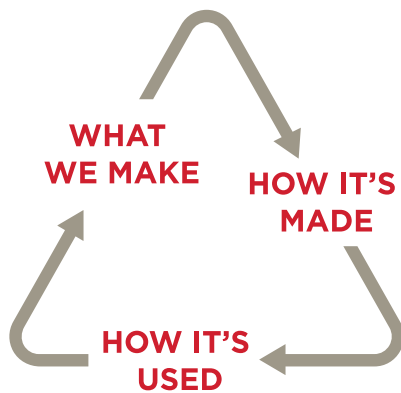
**GLOBAL HEADQUARTERS:** Columbus, OH

**EMPLOYEES:** 1900 Worldwide

**MARKETS SERVED:** Signage, Lighting, Retail Display, Construction, Transportation, Security, Bath & Spa, Industrial, Architecture, Green Houses

## OUR PILLARS OF SUSTAINABILITY

**EACH CONTRIBUTES TO MAKING THE WORLD A BETTER PLACE**



### WHAT WE MAKE

Versatile, high-quality, durable thermoplastic materials...not single-use plastics

### HOW IT'S MADE

How we make our products reflects our overall philosophy of continuous environmental improvement

### HOW IT'S USED

Our thermoplastics play an important role in advancing human well-being, energy conservation and quality of life

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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