

Specialty Film & Sheet



A solid portfolio

SABIC Innovative Plastics solid sheet products have the potential for providing value-added solutions across a wide variety of industries, including aerospace, transportation, electrical and electronics, building and construction, material handling, telecommunications and business machines. These solutions are founded on a portfolio of high quality materials backed by advanced technical support around the world.

Based on high performance Lexan* polycarbonate and Ultem* polyetherimide resins, the broad portfolio of solid sheet products is helping customers around the world to develop lightweight, durable parts with tailor-made performance.

The company offers specialized sheet solutions with features like optical quality, high performance coatings, flame retardancy and others.

Advances in product and processing technology keep in step with application requirements and increasingly stringent industry standards. The SABIC Innovative Plastics' Polymer Processing Development Center in the USA and technical centers in the Netherlands, Japan, China, Korea and India help keep customers at the leading edge of sheet technology. Furthermore, as a business unit of the Saudi Arabia Basic Industries Corporation, SABIC Innovative Plastics benefits from global cross-business resources and expertise.

Developed in 1953, Lexan polycarbonate resin is an amorphous engineering thermoplastic, which is characterized by high levels of mechanical, optical, electrical and thermal properties. Lexan resin is one of the most widely used engineered materials in the world and has contributed to product revolutions in virtually every industry.

Typical properties of the Lexan sheet includes

- High impact strength (figure 1)
- Inherent “water-clear” transparency
- Dimensional stability at elevated temperatures
- Flame resistance
- FDA compliance
- Light weight (figure 2)
- Weatherability
- Formability

From man’s first steps on the moon to laptop computers, SABIC Innovative Plastics’ Lexan resins—one of the most versatile materials in the world—has been an important part of our lives. It has helped make cars safer and lighter; enabled the digitization of music and film as CDs and DVDs; and ushered in new design trends in computers, cell phones and literally hundreds of other products. Lexan resin is widely used in sporting and boating equipment, building and construction materials, commercial and military aircraft and outdoor signage. It also plays a vital role in the security industry in the form of Lexgard® laminated bullet-resistant window glazing.

Figure 1
Impact resistance

Falling dart impact test 5 pounds (2,3kg.)
steel dart 1” (25,4 mm) diameter dip

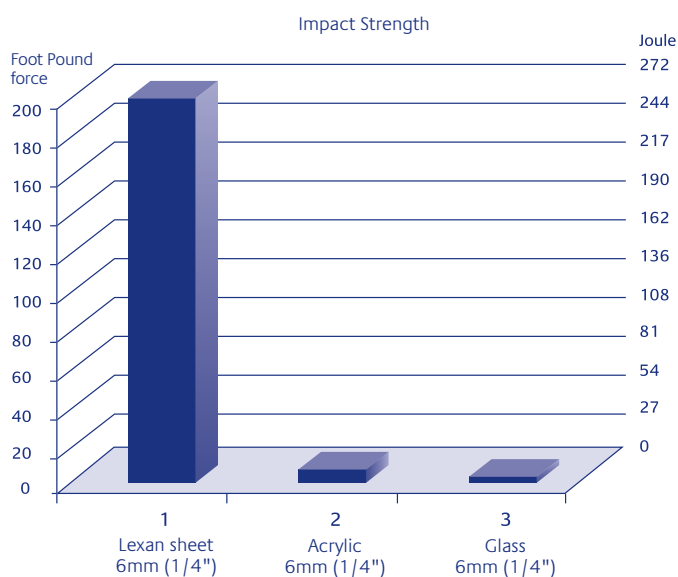


Figure 2
Weight

		Polycarbonate sheet kg/sq.meter. (lbs/sq.ft)	Glass kg/sq.meter (lbs/sq.ft)
Thickness			
mm	inch		
2	0.08	2.4 / 0.5	5.0 / 1.02
2.4	0.093	2.8 / 0.58	5.9 / 1.2
3	0.118	3.6 / 0.73	7.8 / 1.6
4.5	0.177	5.4 / 1.1	11.7 / 2.4
6	0.236	7.2 / 1.46	15.6 / 3.2
9.5	0.375	11.4/ 2.34	23.4 / 4.8

The solid sheet product line of SABIC Innovative Plastics, Specialty Film & Sheet is categorized in the product families

High optical quality sheet
Clear added-value performance

Lexan* sheet

Standard, UV-resistant, flame retardant, and other specialized products

Lexan Margard* sheet

Specialized coated products

Gepax* sheet

Opaque product for thermoformed applications

Ultem* sheet

Highly engineered products based on PEI



Solid sheet

Broad design versatility

Lexan polycarbonate resin is a naturally transparent, 'water-clear' material with excellent aesthetic properties, high impact strength and ease of design and formability. Building on the unique properties of this high performance engineering material, SABIC Innovative Plastics has developed a range of sheet materials in the following categories

- General purpose
- Textures
- Optical quality
- UV resistance
- Solar control
- Sign
- Flame retardancy



Graph 1
Lexan sheet segments

Family name	Grade	Segments and applications																				
		General purpose	Visors	Bike helmets	Appliance front panels	Rail & air light diffusers	Aircraft interiors/skylights	B&C roofing	B&C glazing	Signs	Bus shelters	Laminated safety glazing	Motorcycle windshields	Lighting covers	Specialty vehicle glazing	Automotive glazing	Machine guards	FDA - food applications	Electrical enclosures	Electrical applications	Aircraft canopy glazing	Privacy glazing
Lexan sheet	ULG1003																					
Lexan sheet	9030HO																					
Lexan sheet	9030/9034																					
Lexan sheet	9030TG																					
Lexan sheet	S100																					
Lexan sheet	V200																					
Lexan sheet	LV200																					
Lexan sheet	90316																					
Lexan sheet	90317																					
Lexan sheet	90318																					
Lexan sheet	9030FR																					
Lexan sheet	9030V																					
Lexan sheet	F2000																					
Lexan sheet	F2100																					
Lexan sheet	9600																					
Lexan sheet	Exell D																					
Lexan sheet	XL10																					
Lexan sheet	LT300XL																					
Lexan sheet	Exell-D SC IR																					
Lexan sheet	SGC100																					
Lexan sheet	Exell D FR																					
Lexan sheet	F6000																					
Lexan sheet	9000																					
Lexan sheet	9440																					
Lexan sheet	DSP155																					
Lexan sheet	LT300																					
Lexan sheet	SGC100																					
Lexan sheet	SG100																					
Lexan sheet	SG404																					
Lexan sheet	SG308																					
Lexan sheet	SG305																					
Lexan sheet	SL2030																					
Lexan sheet	SG410																					

General purpose products

Lexan* 9030/9034 sheet

Lexan 9030/9034 is the standard grade of Lexan polycarbonate sheet offering excellent clarity, high impact resistance, and formability.

Lexan 9034HO sheet

Improved optical quality sheet over standard 9030/9034 grades.

Lexan SL2030 sheet

Thin gauge sheet for visor applications

Lexan V200 sheet

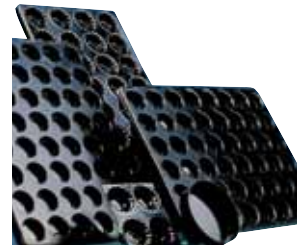
Thin gauge clear sheet specifically designed for printed vending front applications.

Lexan 9440 sheet

US Federal Department of Agriculture (FDA) compliance for a wide range of food applications including trays and food preparation components.

Lexan LT300/DSP155 sheet

Non-aesthetic sheet for industrial applications with low requirements for aesthetics but still provides the toughness of Lexan sheet.



Textures

Lexan sheet comes in a variety of textures and surface patterns for the purpose of light diffusion, privacy, and 3D printing.

Lexan 90316 sheet Prismatic K40

Prismatic textures excellent for lighting applications.

Lexan 90317 sheet Prismatic K12

Prismatic textures excellent for lighting applications.

Lexan 90318 Protect-a-Glaze sheet

Translucent pebble-finished privacy glazing for vertical and overhead applications.

Lexan Exell* D-ST sheet

One sided textured two sided UV sheet.

Lexan LV200 Lenticular sheet

Extruded with pitched grooves specifically designed to serve the vending market. This sheet can be back printed to give the appearance of a 3D graphic.



General purpose products

SABIC Innovative Plastics has been a key supplier of Lexan® optical quality sheet products to the optical industry for many years. Top-of-the-range high optical quality Lexan and Lexan Margard® sheet meet the highest requirements with regard to black specks, bubbles, lints and fibers, distortion and ripple. Also these products are in compliance with DIN 52305 A AZ requirements.

Lexan ULG1003 sheet

This grade offers the highest optical quality in the solid sheet range, with light transmission values, depending on the thickness of the sheet. This uncoated material can be used in flat or curved applications.



UV resistance

Lexan XL10 sheet

UV resistant surface on one side. Offers a 10 year limited written warranty against breakage, yellowing and loss of light transmission. Suitable for overhead and vertical glazing. Vacuum formable for dome skylights applications.

Lexan LT300XL sheet

Thin gauge sheet with UV resistant cap layer. Can be a good fit for dome skylights where UV protection is important.

Lexan Exell® D sheet

UV resistant surface on both sides. Same characteristics as Lexan XL10 sheet.

Also available, Lexan Solar Control solid sheet, grade name called Lexan Exell D SC IR sheet.



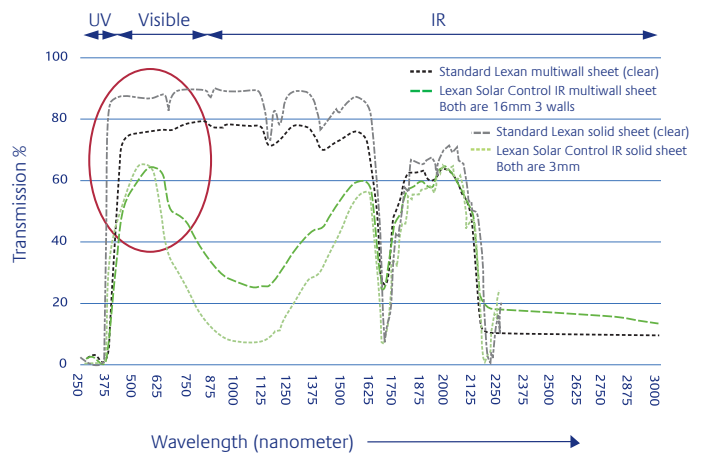
Lexan* solar control sheet let light into your life... not heat

SABIC Innovative Plastics, Specialty Film and Sheet, has developed new heat management glazing, which makes use of a new and innovative technology platform. Instead of being translucent or opaque as previous products, the Lexan Solar Control IR* sheet is transparent with a light green tint, which blocks near infrared heat but lets in high levels of light. Proprietary resin additives are used to manage heat instead of expensive and fragile coatings, which can be damaged during handling and installation. Because the additive technology is inherent to the polymer, solar control properties are permanent and sheets are UV protected on both sides, which can help installers reduce losses due to installation errors.

This innovative solar control glazing product in solid polycarbonate sheet significantly reduces solar transmission while simultaneously offering high levels of light transmission, helping save energy costs for cooling and lighting buildings (see fig. 3 and 4). Furthermore, its superior UV resistance and toughness is backed by a 10 year limited written warranty against reduction of light or solar transmission properties, yellowing and breakage due to hail impact.

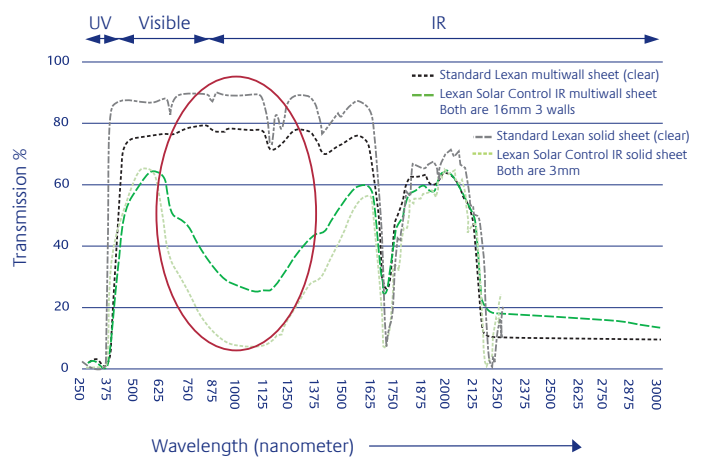
Lexan Solar Control IR sheet offers excellent design freedom due to its ability to be cold formed or thermoformed (vacuum or blow form) without losing impact or weathering properties. It could be an excellent candidate for a broad range of glazing applications including roof domes, skylights, walkways, conservatories and a range of public transportation applications such as train and bus glazing.

Figure 3



Lexan solid and multiwall sheets have the highest transmission in the visible part of the light.

Figure 4



Lexan Solar Control IR sheet selectively blocks the near infra-red region of the light, therefore reduces the heat build up.



Sign products

SABIC Innovative Plastics, Specialty Film & Sheet's sign product portfolio includes some of the toughest and most versatile Lexan® polycarbonate material available. Formulated in a rainbow of colors and textures, they help fabricators create signage that promotes a strong and lasting impression. From tradeshow booths and point of purchase displays to store fixtures and outdoor pole signs, our products offer value-added features to meet even the most exacting design and performance requirements, including UL requirements for indoor and exterior lighted signs. Lexan sheet for sign applications can be thermoformed, screen printed or decorated with vinyl graphics.

Lexan S100 and S300 sheet

Clear S100 (polished both sides) and S300 (matte one side) sheet are excellent candidates for many interior sign applications and readily accept most forming techniques. Second surface graphics are protected against fading and wear. Both products offers a 5 year limited written warranty against breakage.



UV resistant sign products

UV resistant sign products

Lexan SG305 sheet

Lexan SG305 is a one side matte textured sheet and provides UV protection on both two sides. It is suited for all flat and formed signs where reduced reflection and glare is required. Also, second surface graphics are protected against fading and wear. Lexan SG305 sheet offers a 10 year limited written warranty against breakage, yellowing and loss of light transmission.

Lexan SG308 sheet

Clear SG308 is matte textured on the UV resistant side. It is for all types of thermoformed or flat signs where reduced reflection and glare are required. Second surface graphics are protected against fading and wear. Backed by a limited 5 year warranty against breakage, yellowing and loss of light transmission.

Lexan SGC100 sheet

Clear Lexan SGC100 sheet (polish/polish) has a proprietary, UV resistant surface on one side. It is backed by a 10 year limited written warranty against breakage, yellowing and loss of light transmission. Ideally suited for second surface decorated white signs or whenever color shift is objectionable.

Lexan SG404 sheet

Lexan SG404 sheet (polish/polish) is a pigmented UV resistant sign material. It provides outstanding weatherability for colors and offers a 5 year limited written warranty against breakage and surface failure.

Lexan SG410 sheet

Lexan SG410 sheet (polish/polish) is a pigmented sheet with a proprietary advanced UV protective top surface. Lexan SG410 sheet provides superior weatherability and offers a 10 year limited written warranty against yellowing, breakage and surface failure.



Flame resistant products

Lexan® Exell® D FR sheet

This UV resistant transparent sheet has been specifically developed to meet the flammability requirements of the European building and construction market.

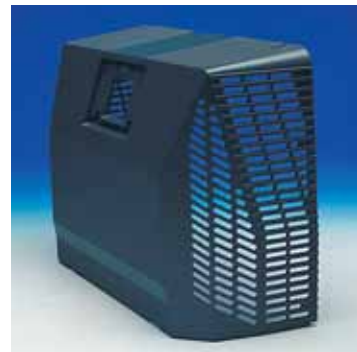


Lexan F2000/F2100 sheet

Lexan F2000/F2100 is a transparent, formable sheet, which combines the characteristics of Lexan clear sheet with good flammability. It is widely used in a variety of applications in the aerospace, electrical, electronics, building and construction and transportation industries.

Lexan F6000 sheet

Lexan F6000 is a flame retardant opaque sheet range, which is available in both standard and custom colors. In addition to its excellent FR properties, it offers high impact resistance, good stiffness and strength and excellent formability. It is used in applications as diverse as aircraft interior cladding, electronics housings and train seat cladding. Available in a variety of colors and textures. The materials meets a variety of rail, UL, aircraft standards depending on application and country.



Lexan 9000 sheet (opaque)

Lexan 9000 sheet has excellent low temperature impact, chemical resistance and ductility after weathering. Its ECO compliant flame retardant package makes it excellent for outdoor enclosures. Highest VL compliance of Lexan family with 5VA rating $\geq 3\text{mm} / .119''$.



Lexan 9030V sheet

UL flame classified depending on gauge.

Lexan 9600 sheet

This transparent sheet combines formability with excellent flame retardant properties, typically used in the transportation (aerospace) and electrical/electronic industries for applications such as light diffusers and dust cover panes.

Also available

• Lexan 9030FR sheet

This transparent sheet has been specifically developed to meet the flammability requirements of the European building and construction market.

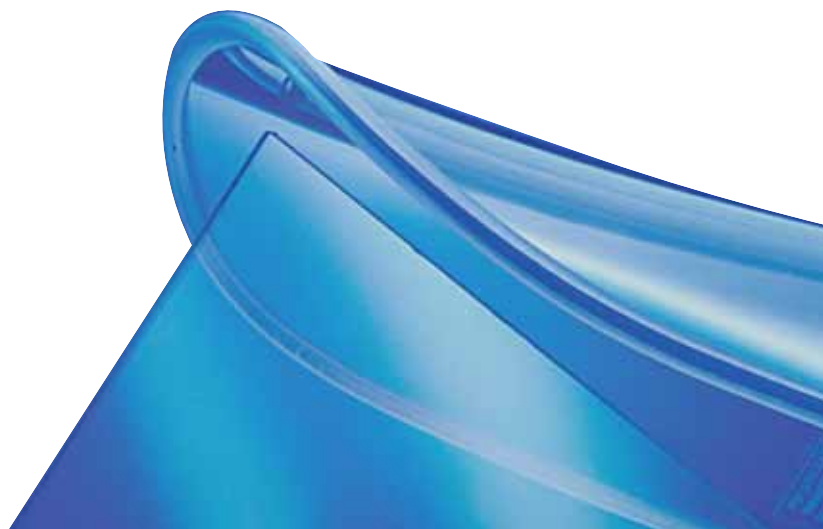


Lexan* Margard* sheet

In addition to the inherent characteristics of a polycarbonate material, Lexan Margard sheet has a proprietary hard surface coating, on one or two sides, which provides a high level of resistance to abrasion and weathering. The products are backed by a 5 or 10 year limited warranty against loss of light transmission and coating failure and by a 10 year limited warranty against breakage.

The Lexan Margard sheet family can be grouped as follows

- Products for flat applications
- Products for formable applications
- Anti fog products
- Flame retardant products



Graph 2
Lexan Margard sheet segments

Family name	Grade	Segments and applications																
		General purpose	Visors	Appliance front panels	Aircraft windows	Train (interior) glazing	B&C glazing	Signs	Bus shelters	Laminated safety glazing	Ice hockey visors	Motorcycle visors	Motorcycle windshields	Ski goggles	Specialty vehicle glazing	Automotive glazing	Soundwalls	Machine guards
Lexan Margard sheet	HLGA3			■				■		■								
Lexan Margard sheet	MRA3																	■
Lexan Margard sheet	FLG5										■							
Lexan Margard sheet	CTG-E	■									■	■		■				
Lexan Margard sheet	FMR5XT						■						■		■			
Lexan Margard sheet	CTG-AF	■												■				
Lexan Margard sheet	HLG5			■				■		■								
Lexan Margard sheet	MR5E	■				■	■								■	■		■
Lexan Margard sheet	MR5EFR				■	■												
Lexan Margard sheet	MRAC				■	■												
Lexan Margard sheet	MRX	■																■
Lexan Margard sheet	MR10	■				■	■		■									■
Lexan Margard sheet	MR10XL	■				■	■		■									■
Lexan Margard sheet	MR101									■								
Lexan Margard sheet	MRT					■									■			
Lexan Margard sheet	MRLG							■										
Lexan Margard sheet	FRA25C					■												
Lexan Margard sheet	FRA236C					■												
Lexan Margard sheet	FRA460					■												
Lexan Margard sheet	Soundglaze* SC																■	
Lexan Margard sheet	MRA3FR				■													
Lexan Margard sheet	CTG		■								■	■		■				
Lexan Margard sheet	MRFAF2		■								■	■		■				
Lexan Margard sheet	CTGAF										■	■		■				
Lexan Margard sheet	FMR102/FMRT102											■		■				
Lexan Margard sheet	FMR604				■													

Lexan* Margard* MRA3 sheet

With its inherent high impact resistance, clarity and guaranteed durability, this grade helps to maintain safety and a clear view in indoor applications such as machine guards and glazing for operator windows. As well as helping to improve safety in the workplace, this unique material is very light and can be cut to size on site using conventional workshop tools.

Lexan Margard MR5E sheet

Abrasion and UV resistant Lexan Margard MR5E sheet is typically used in anti vandal glazing, security glazing, safety screens and acoustic screens. It is guaranteed not to shatter or splinter and its unique surface coating resists graffiti and enables easy restoration. It is backed by a 10 year warranty against breakage and a 5 year limited warranty against yellowing, loss of light transmission and coating failure. Due to its mar-resistant coating, it is suited for flat applications only.

Lexan Margard MR10/MR101/MR10XL sheet

With exclusive abrasion-resistant Margard II surface on both sides. Offers 10-year limited written warranty against breakage, yellowing, loss of light transmission and coating delamination. Excellent for high traffic areas like architectural glazing for schools and for forced entry protection.

Lexan Margard HLG5 sheet

This one-side hard coated lamination grade is suited for flat glass-clad PC /glass PC laminates, PC laminates and fascias. In addition to its optical qualities, this grade provides exceptional abrasion resistance, excellent weatherability and outstanding impact resistance.

Lexan Margard HLGA3 sheet

This “Best In Class” abrasion-resistant material is one-side anti-abrasion coated and non-UV protected. It is typically used in applications such as automotive glass/PC laminates, asymmetrical glass/PC laminates and fascias.

Lexan FRA25C/FRA236C sheet

Offers abrasion and UV resistant surface on both sides. Designed for dual-glazed rail applications meeting US Federal Rail Authority Type I and II ratings. FRA25C/FRA236C is available for use in component systems only.

Lexan FRA460 sheet

Offers abrasion, UV resistant surface on both sides. Designed for single glazed rail applications meeting US Federal Rail Authority Type I and II ratings.

Lexan Margard MRT sheet

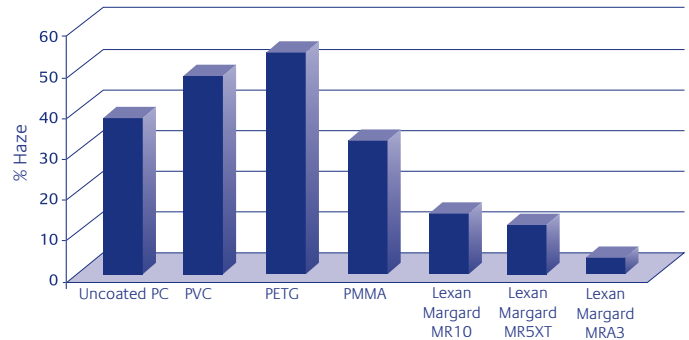
Offers exclusive abrasion-resistant Margard surface on both sides. This is a transportation version of MR10 grade where specific ripple orientation is required. Can be excellent candidate for window glazing for off-road vehicles and buses.

Lexan Soundglaze* SC sheet

This extremely tough, UV protected material provides excellent sound insulation properties for a range of demanding urban, road, rail and airport noise reduction barriers. Due to its proprietary hard coating, Lexan Soundglaze SC sheet provides exceptional abrasion resistance and resistance to substances such as oils, paints and aggressive cleaning products, which enables it to resist graffiti and allow repeated cleaning. Its proprietary UV protection is not affected if bent or curved. This material is backed by a ten year limited warranty against breakage and a five year limited warranty against yellowing and loss of light transmission.

Figure 5
Taber abrasion

ASTM D1044 test at 500 cycles



Lexan* Margard* CTG sheet family

- Lexan Margard CTG-E sheet is a transparent, two side hard coated material offering good abrasion resistance, optical quality and impact resistance. This thin gauge grade can be formed and an excellent candidate for visor and goggle applications.
- Lexan Margard CTG sheet is a two side formable hard coated visor grade
- Lexan Margard CTG-AF sheet (See Anti Fog)

Lexan Margard FMR5 XT sheet

This extremely tough, two side hard coated, formable glazing grade is typically used for revolving doors, partitions, skylights and barrel vaults.

Lexan Margard FMR5 XT sheet can be cold curved into radii of > 300 times the thickness and draped formed. Offers excellent clarity and transmission and high optical quality according DIN52305 A-AZ and passes ANSI/SAE 26.1 (1990 & 1996 valid as of September 2006). After 100 cycles Taber test according ASTM D 1044 the haze is < 10% vs > 25% for uncoated polycarbonate sheet and acrylic.

Lexan Margard FLG5 XT sheet

This is a one side, hard coated formable lamination grade. In addition to its good abrasion resistance and excellent optical quality, this Lexan Margard grade offers the important advantage of formability. It is an excellent candidate for curved, asymmetrical glass clad applications, which need to be abrasion resistant and formable.

Also available

Lexan Margard FMRT102 sheet

One side, hard coated formable lamination sheet. Formable mar resistant "T" version indicates higher shrinkage and optical tolerances.

Lexan Margard FMR604 sheet

This one side, hard coated formable lamination sheet offers flame retardant properties for aircraft interior applications such as dust covers, (see flame retardant section)



Anti fog products

Lexan* Margard* MRFAF1 sheet

This grade has a one side formable hard coat and one side anti fog coating. This provides anti fog properties and impact resistance.

Lexan Margard MRFAF2 sheet

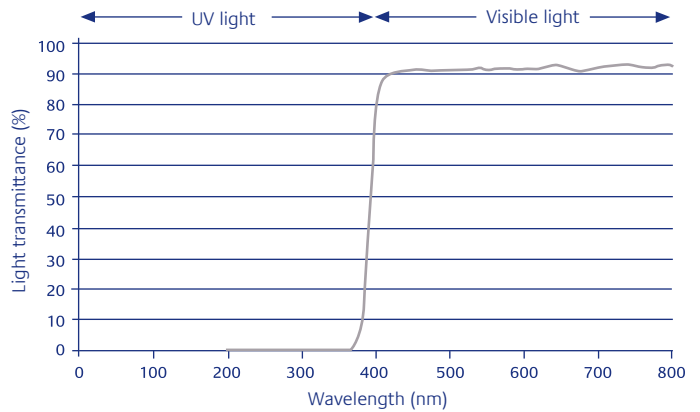
This drape formable grade has anti fog coating on both sides, combined with abrasion and impact resistance.

Lexan Margard CTG-AF sheet

This formable, thin gauge sheet offers anti fog properties on one side and SABIC Innovative Plastics' proprietary formable coating on the other side. These products can be used for goggles, safety shields, gauges, appliances and windscreens.

Figure 6

The unique proprietary technology applied to Lexan sheet blocks the UV rays of sunlight

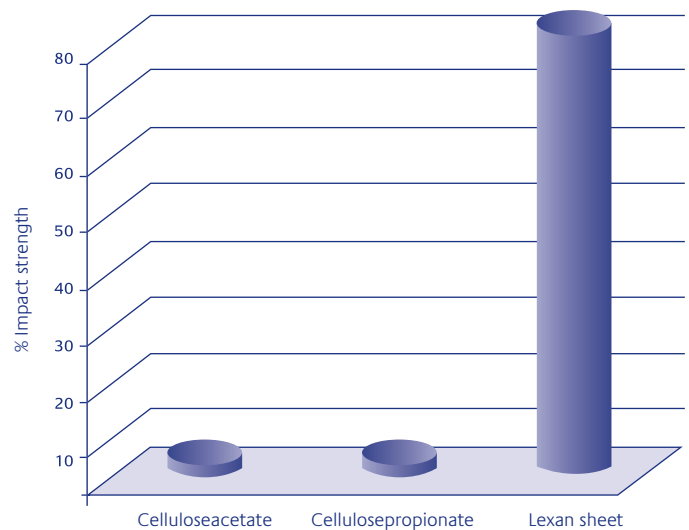


Tough anti scratch UV resistant

Lexan sheet used for the visor industry, provides high impact resistance, optical clarity, UV protection and abrasion resistance.

Figure 7 Lexan polycarbonate sheet is one of the toughest, transparent materials, which can withstand impact from many kinds of objects without shattering. Its proven energy absorption characteristics are maintained at sub zero winter temperature down to -20°C (-4°F). As seen in figure 7, Lexan sheet performs better than other non polycarbonate materials with respect to brittleness, as measured under the ISO 6603/1 flex plate impact test at -20°C conducted by SABIC Innovative Plastics.

Figure 7



Hard coated flame resistant products

Lexan* Margard* MR5EFR sheet

This material combines the properties of Lexan Margard MR5E sheet with flame retardancy.

Lexan FMR604 sheet

This is a flame retardant, drape and cold formable sheet with a two side scratch resistant coating. Its toughness, abrasion resistance and optical clarity make it particularly well suited to applications in the transportation, aerospace and electrical/ electronic industries. Complies with UL flame ratings.

Lexan MRAC sheet

Margard coated flame retardant sheet offering excellent impact resistance and abrasion resistance. Complies with FAA FAR 25.853 A & B requirements. It should be used in flat, vertical applications and has been developed to provide superior abrasion and chemical resistance for aircraft window dust covers.



Adding a touch of color

Opaque Gepax sheet products combine excellent impact performance and stiffness with ease of thermoforming or cold forming. They offer a consistent high quality surface and provide cost-effective part differentiation through wide color availability. Furthermore, Gepax sheet is available in a range of textured surfaces that increase abrasion resistance.

Widely used for enclosures requiring UL compliance, the range of Gepax sheet products provides cost effective design flexibility for both small to medium size production runs. Inherently lightweight and easy to fabricate, each sheet type offers a different balance of key properties to meet specific application requirements.

Gepax 7000 sheet

This grade is noted for its high impact performance and good stiffness over a wide temperature range.

Gepax 7200 sheet

In addition to its excellent mechanical and thermal properties, this grade is flame retarded.

Gepax 8000 sheet

With their excellent UV resistance, high color stability and extremely high impact performance, these grades are suitable for outside enclosures.

Gepax 8200 sheet

With excellent UV resistance, high color stability and flame retardant product.

Graph 3
Gepax sheet matrix

Family name	Grade	Segments and applications					
		Materials handling	Specialty vehicle	Cladding	Tent panels	Electronics housings	Railway/aircraft seating cladding
Gepax sheet	3000	■	■				
Gepax sheet	7000		■				
Gepax sheet	7200				■		■
Gepax sheet	8000		■	■	■		
Gepax sheet	8200			■	■	■	



Cutting edge performance

With its flame, smoke and toxicity compliance, exceptional strength and modulus at elevated temperatures, broad chemical resistance and stiffness, light weight Ultem sheet is proven in a growing range of demanding applications. Used by leading airline and rail OEMs, this high performance engineering material provides cutting edge performance and satisfies both safety issues and eco label concerns.

Ultem 1668A sheet for aircraft interiors

This latest generation material has been specifically developed for use in aircraft interiors, including seating and flight deck components, galleys, stow bins and sidewalls. This inherently flame retardant material meets all commercial aircraft interior requirements. This includes an OSU heat release rate below 65/65, compliance with FAA NBS smoke and flammability testing and toxicity standards BSS7239 and ABD0031.

This grade also offers aircraft OEMs exceptional impact resistance, high long-term heat resistance, (HDT of 202°C / 395°F), chemical resistance and consistent formability. It can be thermoformed, pressure formed, twin-sheet formed or used in flat or cold-formed applications.

Ultem 1613V sheet

This grade is established for use in aircraft interiors as it offers outstanding heat release rate and an HDT of 193°C (380°F).

Ultem R16SG00/R16SG29 sheet for railway interiors

This innovative material has been developed to meet stringent U.S. Federal Railroad Administration (FRA) and various European flammability requirements for passenger train interior components, including cladding and train window masks. In addition to satisfying flame, smoke and toxic emission regulations, the material's excellent chemical resistance allows repeated cleaning to help maintain part aesthetics.

Graph 4
Ultem sheet matrix

Family Name	Grade	Segments and applications				
		Aircraft seating cladding	Aircraft interior cladding	Train seating cladding	Train interior cladding	Food trays
Ultem sheet	1668A	■	■			
Ultem sheet	1668L	■				
Ultem sheet	R16SG00			■	■	
Ultem sheet	1613V		■			■

Figure 8
Heat deflection temperature

ASTM D648 test at 66 psi, 0,46 Mpa

	Temp. °F	Temp. °C
Ultem 1668A sheet	395	202
Ultem 1613V sheet	380	193
PVC/Acrylic	173	78

Figure 9
Weight savings

Part size 635mm x 635mm (25" x 25")
Part gauge 2mm(0.080 ")

	Part weight kg	Part weight lb
Ultem 1668A sheet	1.05	2.33
PVC/Acrylic	1.21	2.67
PPSU	1.13	2.49

Up to 14% part weight savings in a large airplane with 1.000 parts
(possible saving of 150 kg (328 lb))



Graph 5 Solid sheet family tree

Resin type	Hard coating	UV resistance	Flammability	Formability	Optical quality	Surface finish	Product name	Manufacturing pole									
Lexan*	No hard coating	Non-UV resistant	Non-FR	Thermoformable	High optical	Polished	Lexan ULG1003 sheet Highest optical sheet	EUR									
							Lexan 9034HO sheet US High optical	US									
							Lexan 9030/9034 sheet General purpose standard PC grade	EUR									
							Lexan 9030TG sheet General purpose standard thin gauge PC sheet										
							Lexan S100 sheet										
					Lexan SL2030 sheet Thin gauge for visor applications Non UV sign grade	US											
					Lexan V200 sheet Vending grade												
					Lexan LV200 sheet Lenticular	US											
					Lexan 90316 sheet Prismatic K40												
					Lexan 90317 sheet Prismatic K12												
					Lexan 90318 sheet Pebble finish (PAG)	Polished	EUR										
					Lexan 9030FR sheet Flame retardant standard PC for B&C		US										
					Lexan 9030V sheet US VO grade of 9030		EUR										
					Lexan F2000 sheet Flame retardant grade passing specific requirements		US										
					Lexan F2100 sheet Flame retardant grade passing specific requirements		EUR										
		Lexan 9600 sheet Flame retardant grade passing specific requirements															
		Lexan Exell D sheet 2-side UV coex sheet															
		Lexan XL10 sheet One side UV coex	US														
		Lexan LT300XL sheet Thin gauge, one side UV coex															
		Lexan Exell-D SC IR sheet 2-side UV coex Solar Control IR* blocking	EUR														
		Lexan SGC100 sheet Sign application grade	US														
		Lexan Exell-D FR sheet 2-side UV coex flame retardant for B&C															
		Non-UV resistant	Non-FR	FR	Thermoformable	Non aesthetic	Standard optical quality	Textured polished/ on request polished on request	Gepax* 7200 sheet FR thermoformable opaque sheet	EUR							
									Lexan F6000 sheet FR thermoformable opaque sheet for aircraft interior	EUR							
									Lexan F6000 sheet FR thermoformable opaque sheet for aircraft interior	US							
									Lexan 9000 sheet FR thermoformable sheet 5VA rated	US/ EUR							
									Gepax 3000 sheet Coloured cap Gepax	EUR							
									Gepax 7000 sheet Thermoformable opaque sheet	EUR							
									Lexan 9440 sheet FDA								
									UV resistant	Non-FR	FR	Thermoformable	Non aesthetic	Standard optical quality	Textured	Lexan DSP155 sheet General purpose opaque sheet	EUR
																Lexan LT300 sheet General purpose opaque sheet	US
																Gepax 8200 sheet FR and weatherable thermoformable opaque sheet	EUR
																Gepax 8000 sheet Weatherable thermoformable opaque sheet	EUR
																Lexan SGC100 sheet SG - Clear, weatherable	US
																Lexan SG100 sheet SG - specially made for Eur	US
	Lexan SG404 sheet SG - translucent Color, weatherable															US	
	Lexan SG308 sheet SG-matte texture weatherable															US	
	Lexan SG305 sheet SG-matte texture weatherable	EUR															
	Lexan SG410 sheet SG-translucent color, best weatherability	US															
	High UV resistance	Non-UV resistant	Non-FR	Thermoformable	Standard optical quality	Polished	Textured	Lexan Margard* HLG A3 sheet One side hardcoated lamination grade taberhaze 3%	EUR								
Lexan Margard MRA3 sheet 2-side hardcoated sheet indoor use , taberhaze 3%								EUR									
Lexan Margard FLG5 XT sheet One side formable hardcoated lamination grade								EUR									
Lexan Margard CTG-E sheet 2-side formable hardcoated visor grade								EUR									
Lexan Margard FMR5 XT sheet 2-side formable hardcoated sheet								EUR									
UV resistant	Non-UV resistant	FR	Thermoformable	Standard	Polished	Textured	Lexan Margard CTG-AF sheet 1-side formable hardcoat + 1 side anti-fog coated visor grade	EUR									
							Lexan Margard HLG5 sheet One side hard coated lamination grade taberhaze 8-12%	EUR									
							Lexan Margard MR5E sheet 2-side hardcoated sheet 5 yr warranty	EUR									
							Lexan Margard MR5EFR sheet 2-side hardcoated FR sheet 5 yr warranty	EUR									
							Lexan Margard MRAC sheet 2-side hardcoated FR	US									

Resin type	Hard coating	UV resistance	Flammability	Formability	Optical quality	Surface finish	Product name	Manufacturing pole
Ultem* (Opaque)	No hard coating	Non-UV resistant	Non-FR	Drape formable	Optical quality		Lexan* Margard* MRX sheet 2-side hardcoated sheet non OQ based sheet	EUR
							Lexan Margard MR 10 sheet 2-side hardcoated sheet 10 yr warranty	US
							Lexan Margard MR 10XL sheet 2-side hardcoated sheet 10 yr warranty large size	US
							Lexan Margard MR 101 sheet One side hardcoated 10 yr warranty lamination sheet	US
							Lexan Margard MRT sheet Transportation grade	US
							Lexan Margard MRLG sheet 1-side hardcoated low glare sheet various glare levels	US
							Lexan Margard FRA25C sheet Rail glazing	US
							Lexan Margard FRA236C sheet Rail glazing	US
							Lexan Margard FRA460 sheet Rail glazing	US
							Lexan Margard Soundglaze* SC sheet 2-side hardcoated sheet for soundwalls/barriers	EUR
			Lexan Margard MRA3FR sheet 2-side hardcoated FR sheet indoor, taberhaze 3%	EUR				
			Lexan Margard CTG sheet 2-side formable hardcoated visor grade	US				
			Lexan Margard MRF2 sheet Anti-fog	US				
			Lexan Margard CTGAF sheet 1-side formable hardcoat and 1-side anti-fog coated visorgrade	US				
			Lexan Margard FMR102 / FMRT 102 sheet "2-side formable hardcoated sheet; T=transportation use"	US				
	Lexan Margard FRM604 sheet 2-side formable hardcoated FR sheet	US						
		FR	Thermoformable		Textured	Ultem 1668A sheet Aircraft - OSU 65/65, ABD0031	US	
						Ultem R16500 sheet Railway interior grade, compliant to global standards	US	
						Ultem 1613V sheet Aircraft interior, OSU100/100	US	

Manufacturing pole please consult product availability guide for product availability in your region.

SABIC Innovative Plastics technical support

SABIC Innovative Plastics Specialty Film and Sheet business is a leading supplier of high performance engineering film and sheet products, serving customers around the world in a broad spectrum of industries and applications. The sheet product line includes a wide diversity of structures, ranging from solid sheet, multi-wall sheet and corrugated sheet, through to coated sheet and laminations and combinations of each of these.

Recognized as a center of excellence, the Polymer Processing Development Center in the USA is equipped with state-of-the-art laboratories and facilities for printing, drape forming, thermoforming and prototype testing. Engineers, designers and technologists explore and extend the boundaries of sheet application development through sophisticated material analysis and advanced processing technology.

With satellite development centers in the Netherlands, Japan, China, Korea and India, SABIC Innovative Plastics Specialty Film and Sheet offers customers around the world access to this full range of laboratory, testing and design services, complemented by local hands-on technical support.

A part of Saudi Arabia Basic Industries Corporation, SABIC Innovative Plastics, Specialty Film and Sheet was established in 1968 and now operates a worldwide network of sales, research, manufacturing and technical service facilities. With thirty eight manufacturing sites across the US, Canada, the Netherlands, Italy, Austria, China and Japan, the company serves customers around the world in a broad spectrum of industries and applications. These include aircraft, appliances, automotive, building and construction, business machines, electrical and lighting, furnishing, greenhouse, industrial roofing, medical, electronics, telecommunications and packaging.

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