

Specialty Film & Sheet



New horizons through design freedom and imagination

High optical quality, impact, UV and fire resistant, virtually unbreakable Lexan* polycarbonate sheet: an added dimension in interior and exterior architectural applications and glazing

SABIC Innovative Plastics, Specialty Film & Sheet helps to provide value-added solutions across a wide variety of industries, ranging from electronics and electrical to transportation, building and construction. These solutions are founded on a portfolio of leading edge materials backed by advanced technical support around the world.

In architectural glazing, glass has been the primary material of choice for centuries, dating back as far as 1500 B.C. Notable advances in properties and performance have included heat or annealing treatments and low e-coatings. However, recent technological advances have slowed and have not been able to address the safety issues of broken glass.

SABIC Innovative Plastics has been working to bring its excellent materials to bear in architectural glazing applications for over 25 years. Today the company may offer a wide range of versatile materials that combine the aesthetic appeal of glass with value-added performance. Based on Lexan* polycarbonate resin, one of the most versatile materials in the world, these high performance materials are characterized by high impact strength, an excellent balance of low weight and high stiffness, naturally “crystal-clear” transparency and design freedom.

From conservatories, commercial greenhouses and swimming pools, to industrial buildings, offices and football stadiums, SABIC Innovative Plastics specialty sheet products can be used to help deliver creative, easy-to-install glazing that is built to last. Many products are covered by a minimum 10 year limited written warranty against excessive yellowing, loss of light transmission and loss of strength due to weathering.

Lexan* sheet helps to meet tough challenges facing architects and builders

Glazing has become an increasingly important element in building design from a number of standpoints and requirements: aesthetics, weight reduction, energy conservation, safety and security and environmental quality. Architects and contractors have a number of material choices, including traditional glass and an array of polymers, each with different properties and attributes.

Virtually unbreakable, high optical quality Lexan polycarbonate (PC) sheet materials from SABIC Innovative Plastics are often a top choice due to the versatile glazing solutions that they may help provide.

SABIC Innovative Plastics' Lexan polycarbonate sheet combines crystal-clear transparency with value-added performance that features light weight, high stiffness, design freedom, impact and fire resistance and weatherability. This high-tech sheet product – solid and multiwall products with highly specialized properties – is an excellent candidate to help answer the specific needs of a variety of structures.



Enabling creative design

While the characteristics of glass – weight and brittleness – limit its design versatility, Lexan* sheet products can provide exceptional design freedom mainly due to their light weight, ability to be formed and bent into complex shapes, and the many different colors, textures and special effects they offer.

Coatings for superior weatherability, self-cleaning, anti-drip and other customizations can also be selected to differentiate a design. Office interiors, for example, can be made more interesting by replacing flat ceilings with a gently rolling surface. For exteriors, Lexan sheet can offer solutions for glazing, cladding and façades that are visually striking, yet practical.

Attractive and comfortable environment

A well-designed building offers a high-quality experience, including temperature, light and sound control. SABIC Innovative Plastics' transparent Lexan Solar Control IR* sheet products help to block near infrared heat, but let in high levels of light, which may help to reduce cooling and lighting costs by up to 40 percent. They are also resistant to yellowing caused by UV light.

Lexan Soundglaze* sheet helps provide excellent sound insulation properties combined with abrasion resistance for a range of demanding urban, road, rail and airport noise reduction barriers. It can also be used for such unique applications as ski jump barriers and was featured on the ski jump used in the 2006 Torino Winter Olympics.

For commercial buildings such as greenhouses, Lexan ZigZag* sheet provides rigid, lightweight glazing that combines extremely high light transmission with very good thermal insulation.



Lexan Thermoclear* sheet featuring a hammered glass look is used as interior partition walls in 100% design EXPO restaurant



Lexan corrugated sheet system is used for the façade and the interior of the theater building in Rotterdam, Netherlands



Due to its aesthetics, Lexan sheet was chosen by architect firm flow for partition walls used in this apartment

Maintaining appearance and performance over the life of the building

The life of the building

To avoid the high maintenance or replacement costs for glazing, many architects and builders select Lexan® sheet for its resistance to yellowing, graffiti, scratching and breakage.

For example, Lexan Margard® sheet offers a proprietary hard coating on one or both sides to help resist abrasion and weathering. To help minimize maintenance costs, Lexan Thermoclear® easy clean sheet products feature a patented coating that offers self-cleaning properties when the material comes in contact with water, the coating causes the formation of large droplets that wash away dirt.

This SABIC Innovative Plastics product glazes the rooftops of several stadiums around the world.

Helping to protect people and property

Terrorism, crime and natural disasters such as hurricanes have led to increased demand for glazing solutions that can help protect people, property and critical infrastructure.

The use of glass can be problematic due to breakage that can cause injury and require re-glazing. SABIC Innovative Plastics' line of Armorgard®, Suregard® and Lexgard® transparent armor laminates have been engineered to help defend buildings – and their occupants – against ballistics impact, forced entry and bomb blast.

Together with Lexan Margard sheet, these products may help provide greater safety, protection, and peace of mind in a wide range of threatening situations. Unlike many polymer materials used for glazing, Lexan sheet also offers excellent flame resistance and heat stability for an added measure of protection.

Shopping center Leclerc Romilly Acrolux, France. Lexan Exell® D sheet with 10 years limited written warranty is used for the glazing of the building. Requirements were AVIS technique certification, M² minimum fire rating and formability



Lexan Thermoclear sheet roof glazing
The University of Warsaw



Lexan Margard sheet protection walls
Dresden Zoo in Germany



Keeping costs in line

Keeping costs in line

Lexan® sheet glazing materials can help to deliver measurable return on investment through ease of installation; lower insurance costs through resistance to break-ins, weather damage and vandalism; lower utility costs from better heat management; and less need for replacement due to weathering and breakage. Most of these products are covered by a minimum 10 year limited written warranty against excessive yellowing, loss of light transmission and loss of strength due to weathering.

Helping with special requirements

The vast technical resources of SABIC Innovative Plastics make it easy for architects and builders to obtain the support, customized products, and design assistance needed to help complete projects on time and meet stringent specifications.

With a balance of outstanding high performance, design flexibility and aesthetics, Lexan polycarbonate sheet continues to expand its uses in diverse architectural applications. From conservatories, commercial greenhouses and swimming pools, to industrial buildings, offices and football stadiums, SABIC Innovative Plastics' products help deliver a creative, easy-to-install interior and exterior applications that are built to last.



Applications

Building cladding and façades	8
Residential glazing and conservatories	9
Architectural interior	10
Swimming pool covers	11
Stadium roof glazing and arena applications	12
Transportation infrastructure	14
Sound walls	15
Industrial glazing	16
Greenhouses	17
Security glazing	18



Building cladding and façades

Building cladding and façades

Cladding and façades have an important influence on the character of a building. Lexan® sheet systems provide exciting design opportunities that are a world apart from the drab uniformity of traditional flat panels. With their inherent design freedom, Lexan sheet systems allow designs that are visually striking and yet extremely practical.

For example, the innovative Lexan ThermoClick® inter-clicking sheet system delivers attractive, profile-free façades, which are not only easy to install but also enhance thermal insulation. Furthermore, the low maintenance end-product will help to resist rust, rot or warp.



Due to its thermal insulation properties, easy installation and aesthetics, Lexan ThermoClick sheet system was chosen by architect Pich-Aguilera for the façade of the building in Barcelona, Spain



With design freedom a key requirement, architect Thomas Eriksson chose Lexan ThermoClick sheet system for the external wall cladding of the Haestens building in Sweden

More than 12,000 m² Lexan Exell® D and ThermoClear® sheets are used to construct the exterior/interior cladding walls of the Millennium Dome in Greenwich, England. According to architects involved in this project, these materials were chosen because of the outstanding impact strength, optical clarity and design flexibility



Residential glazing and conservatories

Residential glazing and conservatories

The wide range of Lexan* polycarbonate glazing materials provides architects with broad design flexibility in applications for both inside and outside the home. From intelligent glazing materials for conservatories that help to block heat by reflecting heat and cut down glare, to robust glazing with double-sided UV protection for porches and carports that can withstand high wind and snow loads. From stylish bathroom glazing, partition walls and false ceilings, to low maintenance pool covers.

USG, a leading manufacturer of building materials for construction and remodeling, has selected Lexan 90355 sheet from SABIC Innovative Plastics to create high performance ceiling topographies. This high-tech, textured sheet provides enhanced design flexibility in USG's Topo® 3-Dimensional system for ceiling topography. From major commercial developments, to residential housing and simple home improvement projects, USG products turn vision into reality everywhere people live and work.



USG ceiling made from Lexan 90355 sheet



Lexan Thermoclear* sheet is an excellent candidate for conservatories



Architectural interiors

Architectural interiors

From office workstations and partition walls to façades and false ceilings, the use of Lexan* polycarbonate sheet in interior applications can transform the environments of people at home, work or play. In ceiling topography, for example, it can replace flat ceiling planes with gently rolling landscapes that are pleasing on the eye.

Available in a variety of colors and effects, these materials not only look good, but they also help to reduce heat build-up from solar radiation and cut the brightness of the sun to a pleasant level.



Due to its easy installation and aesthetics, Lexan sheet was selected by architects Sidonie Ory, Francois Marcireau and Jupei Yamgiwa for the interior of the restaurant LA Fabrique in Sibuya, Tokyo



Lexan Thermoclear* sheet featuring a hammered glass look

Due to its easy installation and aesthetics properties, Lexan sheet system was chosen by architect Klein Dytham for the interior of the Spike Cyberworks



Swimming pool covers

Swimming pool covers

“We needed a lightweight, unobtrusive and flexible material to be able to design the optimal pool cover. Following the product testing and development phase, SABIC Innovative Plastics’ Lexan* Thermoclear* sheet was chosen as it exhibited outstanding formability and bonding compatibility that met all of our requirements”, say Thérèse and Serge Chapus, creators of Abrisud.

Lexan Thermoclear plus and easy clean polycarbonate multiwall sheets with unique UV protection on both sides, may offer high light transmission, excellent insulation properties and impact resistance.

The complete Lexan Thermoclear sheet range features a proprietary both sides surface treatment designed to protect the sheet against the degrading effects of ultra-violet radiation in natural sunlight. The sheet can be economically cut to in desired shape on-site with minimal waste. Furthermore, installation mistakes are minimized since both sheet surfaces are UV-protected and may be faced outwards.

As a roof glazing material Lexan Thermoclear sheet is subjected to the extremes of weather; storms, hail stones, wind, snowfalls and ice formation. Under these conditions, the product is virtually unbreakable and is able to accommodate the subsequent temperature change to sunny conditions without breaking or buckling.



Swimming pool shelters with Lexan Thermoclear plus sheet demonstrate extreme endurance in Abrisud’s low profile pool cover



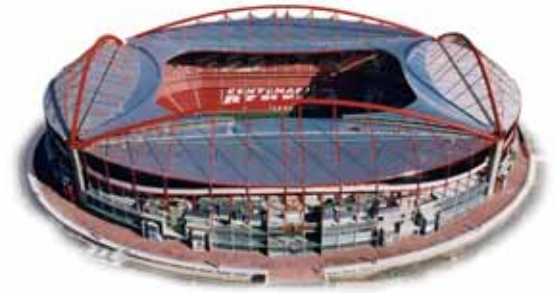
Stadium roof glazing and arena applications

Stadium roof glazing and arena applications

In 2003, 74,000m² of both side UV protected Lexan® Thermoclear® sheet was installed at the six stadiums in Portugal. Today, SABIC Innovative Plastics Specialty Film & Sheet has supplied, or will supply Lexan polycarbonate sheet for more than 10 European stadiums in more than 5 countries - a total glazing area of some 100,000m² - taking its grand total in the region to over 40 stadiums.

With SABIC Innovative Plastics long-term experience in stadium glazing, this comes as no surprise that the patented technology of Lexan Thermoclear easy clean sheet was chosen by Chongqing Urban Development Co. Ltd. for the roof glazing of the first stadium in Chongqing, West China. The stadium accommodates 60,000 spectators and they are all protected from the changing weather conditions by the Lexan Thermoclear easy clean sheet roof covering an area of 36,000 m².

Amsterdam Arena is Europe's first stadium with a sliding roof, made from transparent sheet. 20.000m² - the sliding roof was necessary to allow events to be staged regardless of the weather.



Lisbon, Luz stadium



Porto Dragão stadium



Chongqing stadium



For over a quarter of a century, Lexan® polycarbonate glazing materials have been the materials of choice in stadiums and arenas around the world. From balconies, dugouts and walkways to bowl cladding, separation walls and roofing, architects and installers value the materials' different coating surfaces, lightweight and formability into the most complex designs.

SABIC Innovative Plastics Specialty Film & Sheet worked together with HOK architectural company on the Sydney Olympic stadium project, where 27,000m² of 16mm Lexan Thermoclear® sheet was used for the most challenging engineering feature of the stadium, the 300-metre span roof structure. Suspended from a huge arch structure, the roof is constructed from a translucent grade of Lexan polycarbonate to help minimize any shadows and patches of direct sunlight on the sporting area. Its light, steel and sheet combination structural weight of 85kg/m² (the sheet weight is only 3kg/m²) the roof provides spectators with protection from the weather, while reducing the wind resistance for the participants on the field.

The Amsterdam Arena, in addition to major sports and concert events, is also popular for smaller events. Altogether, the Arena with a total capacity of 52,000 seats, hosts about 70 major events per year, with around 2.1 million visitors in total, including tours



Separation walls



Dugouts



Bowl cladding



Amsterdam Arena, has chosen Lexan Solar Control IR® sheet as the glazing material for its escalator tunnels of four side of the stadium



Sydney Olympic stadium

Bold new designs, crime prevention

In bus, train and bicycle shelters, Lexan* polycarbonate enables architects to realize bold new designs that turn a vandal's playground into a safe, user-friendly place. The all-too-familiar smashed glass panels and graffiti covered walls are replaced by clean, ergonomically designed shelters, which are helping in the fight against crime.

55,000 m² of a new tailor-made Lexan Thermopanel* multiwall sheet is currently installed for the roof of the Shanghai south railway station. Not only does this ambitious construction project represent one of the largest building with polycarbonate sheet ever used, but more importantly underscores SABIC Innovative Plastics' commitment to help revitalize the Chinese infrastructure with some of the world's most advanced materials technologies.

Much of the roof of the Shanghai south railway station covers the upper departure area of the station, which is around 300 meters in diameter and capable of holding up to 10,000 people. The custom-designed sheet is being manufactured using procedures developed specifically for this demanding project. SABIC Innovative Plastics is utilizing a global team of experts from SABIC Innovative Plastics China and SABIC Innovative Plastics' Specialty Film & Sheet business in France, Italy, India and European headquarters in Bergen op Zoom, The Netherlands.



Lexan Margard* sheet is used for this train station shelter because of its high impact and abrasion resistance and durability for possible vandalism



Sound walls

Lexan* polycarbonate sheet provides opportunities for highly effective, unobtrusive sound screens with large glazing panels.

In sound wall and barrier applications, Lexan polycarbonate sheet provides opportunities for highly effective, unobtrusive sound screens with large glazing panels. Wide design flexibility and ease of forming allow the sheets to be curved along the top edges, so eliminating the need for a supporting profile. This enhances sheet deflection and sound reflection, while simplifying installation and widening the field of vision.

Benefits of SABIC Innovative Plastics' Lexan sheet include

- High impact resistance over a wide temperature range, helping to minimize the risk of damage by accidents or vandalism
- Long-term UV protection on both sides, Lexan sheet is highly resistant to yellowing and loss of performance due to weathering
- Virtually no contribution to the spread of fire and the generation of toxic gases
- Easy to transport and install on-site with conventional metal working tools



Soundscreen alongside the high speed railway line between The Netherlands and Antwerp from Koker Peerdobos



Industrial glazing

Lower costs, enhanced reliability, thermal insulation and safety

Across a wide range of industrial glazing applications, Lexan* polycarbonate sheet is helping to lower material costs while enhancing reliability, thermal insulation and safety.

Installation costs are kept low as each product is designed using custom-made configurations for fast on-site assembly. In insulated corrugated roofing applications, for example, Lexan Thermopanel* sheet systems feature a choice of integrated side wing that can be easily calibrated to fit onto virtually any metal sandwich panel.

When designing rooflights, Lexan Thermoroof* sheet systems offer a tailor-made, fully insulated product that can be installed seamlessly into a corrugated metal roof without any cold bridges.

In walkways, roof domes and vault barrels, Lexan polycarbonate solar control sheet with IR technology not only allows individual designs to be cost-effectively realized but also improves energy management within the building. In industrial window glazing, this sheet range is compatible with the commonly-used steel sash window constructions.



With its high light transmission and thermal insulation properties, Lexan Thermoclick* sheet was chosen by architect firm Abalos & Herreros for the vertical cladding of this building

Extech, Exterior Technologies Inc. has chosen Lexan Thermoclear* sheet for this hangar facility in New York

UV resistant greenhouses

In commercial greenhouses around the world, the use of Lexan* ZigZag* polycarbonate sheet provides rigid, lightweight glazing that resists UV degradation and provides long-term light transmittance and good flame retardant properties.

Grades have been formulated with a specially developed hydrophilic coating on the inner surface to prevent crop spoilage through condensation while maintaining the excellent light transmission of the material.

This proprietary coating is also applied in Lexan sheet systems, which are designed to click easily together, without the need for support profiles. In addition to high light transmission, the end product offers highly effective thermal insulation, which can deliver energy savings of up to 45% compared with single glass.



Corn. Bak BV, a world leading grower and exporter of Bromelia plants, has adopted Lexan ZigZag polycarbonate panels for the roof refurbishment of three of its greenhouses, a total area of 3,800 m². The special shape of the twin-wall Lexan ZigZag polycarbonate panel reflects light back into the greenhouse thereby generating higher light transmission in the greenhouse than with single glass

Huisman B.V. has chosen Lexan Thermoclear* sheet for façade and cladding and Lexan ZigZag sheet system for roof glazing of the first innovative, energy producing greenhouse (26000m²) in The Netherlands



Security glazing

Security glazing

Burglary, terrorism, violence and natural disaster are an all too familiar threat to the everyday lives of people in all walks of life. The risk of harm is made much bigger in property using unprotected glass, as the consequences of shattered glass can be devastating.

SABIC Innovative Plastics' line of transparent armor products helps provide ballistic, bomb blast, natural disaster and forced entry protection for a wide variety of customers and applications. Lexgard® sheet has the potential to provide formidable defense against major threats with its exceptional heat and impact resistance along with significant energy absorption, lightweight durability and anti-spalling qualities.

Lexan* Margard* sheet will resist a burglar from forcing an entry. It will delay him to a point where he is likely to give up the attempt, or is detected. Either way, the premises and property are protected and re-glazing costs are eliminated.

Major segments served include military bases, embassies, government buildings, corporate headquarters, manufacturing facilities, guard booths, schools, detention centers, gas stations, banks, and critical infrastructure areas such as chemical sites, water filtration and power plants.



From specialty products offering superior weatherability, self-cleaning properties or anti-drip properties, to grades providing enhanced impact resistance, heat management or graffiti resistance, the versatile range of Lexan polycarbonate sheet materials may deliver glazing with imagination.



Lexan 9030 sheet is the standard grade of Lexan polycarbonate sheet offering excellent clarity, high impact resistance and formability. Lexan 9030FR sheet has been specifically developed to meet the flammability requirements of the European building and construction market.

Lexan Exell* D solid sheet

Lexan Exell D sheet with UV-resistant surface on both sides, offers a 10 year limited written warranty against breakage, yellowing and loss of light transmission. An excellent candidate for overhead and vertical glazing, can also be vacuum formable for dome skylights applications. FR grade offers excellent flame retardancy properties.

Lexan Solar Control IR* sheet

Available in solid and multiwall, transparent Lexan solar control sheet helps to block near infrared heat but lets in high levels of light, helping save energy costs for cooling and lighting buildings. Because the proprietary resin technology is inherent, solar control properties are permanent. Also the product is UV protected on both sides, may help installers to reduce losses due to installation errors. Furthermore, it 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 can be cold-formed and therefore it is an excellent candidate for a broad range of glazing applications including roof domes, skylights and walkways.



Lexan Exell D sheet is used for the roof of the entrance to this metro station in Rotterdam, The Netherlands



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. Lexan Margard sheet can be an excellent candidate for safety and security glazing to suit a wide range of applications. Available clear or bronze tinted, it can be used for both flat and curved glazing.

Five years limited written warranty against loss of light transmission and coating failure - and by a ten years limited written warranty against breakage. See warranty for exact details.

Security glazing

Lexan Margard sheet will resist a burglar from forcing an entry. It will delay him to a point where he simply gives up the attempt, or is detected. Either way, the premises and property are protected and re-glazing costs are eliminated.

Premises safety glazing

Lexan Margard sheet will not shatter or splinter, so greatly reduces the risk of accidental injury in applications like internal partitions and doors.

Safety screens and acoustic screens

Lexan Margard sheet is an outstanding material of choice for safety screening in sports stadium and other outdoor applications like acoustic screens for deflection of traffic noise in built-up areas.



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 can provide 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.

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.

Transparent armor laminates

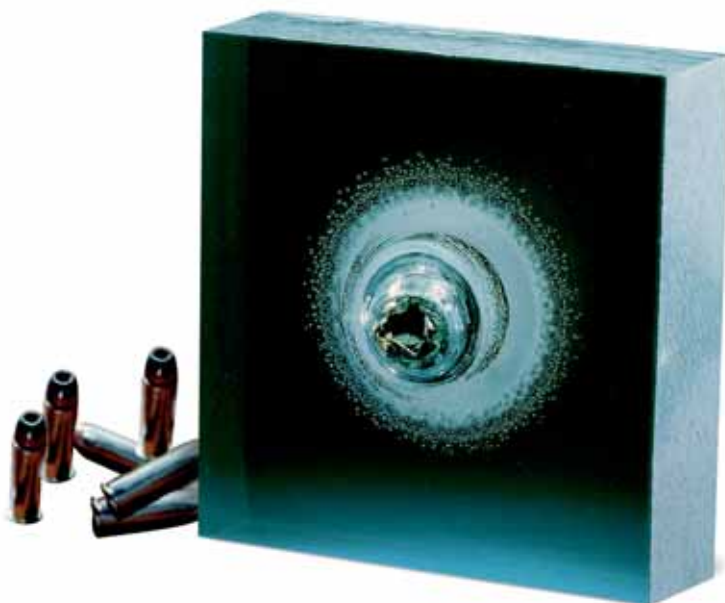
Armorgard®, Suregard® and Lexgard® laminates have the potential to provide formidable defense against major threats. SABIC Innovative Plastics' range of transparent armor products possess exceptional heat and impact resistance along with significant energy absorption, lightweight durability and anti-spalling qualities.

Products are thoroughly tested for widely recognized standards such as ASTM, UL, HP white and NIJ. As an example, internationally, SABIC Innovative Plastics' ballistic solutions can withstand gunfire from 7.62mm NATO high-power rifles.

These versatile laminates provide extremely high impact resistance and absorb total impact energy without spalling. Suitable for flat applications only, Lexgard MPC-375 and MPC-500 bullet resistant sheet grades have been developed specifically for protection against manual attack. In addition, their multi-ply construction offers superior anti-bandit properties.



SABIC Innovative Plastics' Lexan Soundglaze SC sheet was chosen for the ski jump barriers of the 2006 Olympic Winter Games. More than 1,700m² Lexan polycarbonate sheet is used as ski jump barriers for two ski jumps – HS140 (125m) and HS106 (95m) in Pragelato



Double-sided UV protection- Lexan Thermoclear plus sheet

UV-protected on both surfaces, Lexan Thermoclear plus sheet offers wide design flexibility as well as important advantages in both cutting and installation. Unlike with competitive products, installation mistakes are minimized as either sheet surface may be faced outwards.

Superior weatherability - Lexan Thermoclear SunXP sheet

In addition to the inherent properties of the Lexan Thermoclear range, this range of products offers UV protection on both sides, but with even higher resistance to UV radiation, yellowing and loss of light transmission. This exceptional material is awarded a unique 15 years limited written warranty with an excellent yellowing resistance and light transmission performance.

Self-cleaning - Lexan Thermoclear easy clean sheet

This is the world's first self-cleaning polycarbonate sheet. UV protected on both sides, Lexan Thermoclear easy clean sheet features a unique hydrophobic coating on the outside surface that reduces the surface tension of polycarbonate and increases the contact angle of water to the sheet. This causes larger droplets to form and wash away dirt, leaving the sheet almost spotless. Furthermore, it stays clean for longer, thereby reducing the frequency and the associated cost of cleaning.

Anti-drip - Lexan Thermoclear Dripgard[®] sheet

Lexan Thermoclear Dripgard sheet is an excellent candidate for roof glazing applications in which water droplets are unacceptable, such as commercial greenhouses where they could cause crop spoilage. This innovative product has UV protection on the outer surface and a specially developed hydrophilic coating on the inner surface. This coating reduces the formation of condensation droplets by increasing the surface tension of the sheet and decreasing the contact angle. As a consequence, a thin mist of water will form on the inner surface of the sheet, which will not drip and will not affect the excellent light transmission of the material.

Heat management - Lexan Solar Control IR^{*} multiwall sheet

With Lexan Solar Control IR multiwall sheet, proprietary resin additives are used to manage heat instead of expensive and fragile coatings, which can be damaged during handling and installation. This innovative solar control-glazing product significantly reduces solar transmission while simultaneously offering high levels of light transmission, helping save energy costs for cooling and lighting buildings. 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.



Both side UV protected Lexan Thermoclear Sun XP sheet is used for the roof glazing on this school in Al Wasel, UAE Dubai



Restaurant Madera in Belgrade chose Lexan Thermoclear sheet for its canopy due to its excellent light transmission, easy installation and UV protection on both sides



This hospital lecture room in Dresden, Germany uses Lexan Thermoclear Dripgard sheet

Lexan* Thermoclear* multiwall sheet

A well-established brand name for over 20 years, Lexan Thermoclear sheet is widely specified by architects and designers around the world. This unique sheet portfolio is amongst the most extensive on the market today, offering hundreds of possible combinations of structure, color, coating and finish.

- Outstanding balance of low weight and high stiffness
- Ease of installation - it can be easily cut on site using conventional tools and can be cold-formed into tight radii without pre-forming.
- Excellent thermal insulation performance
- Good flame resistance
- UV resistance
- Long-term high light transmission.
- Broad portfolio - a range of structures, coatings, colors, dimensions and gauges

Lexan Thermoclear Venetian sheet

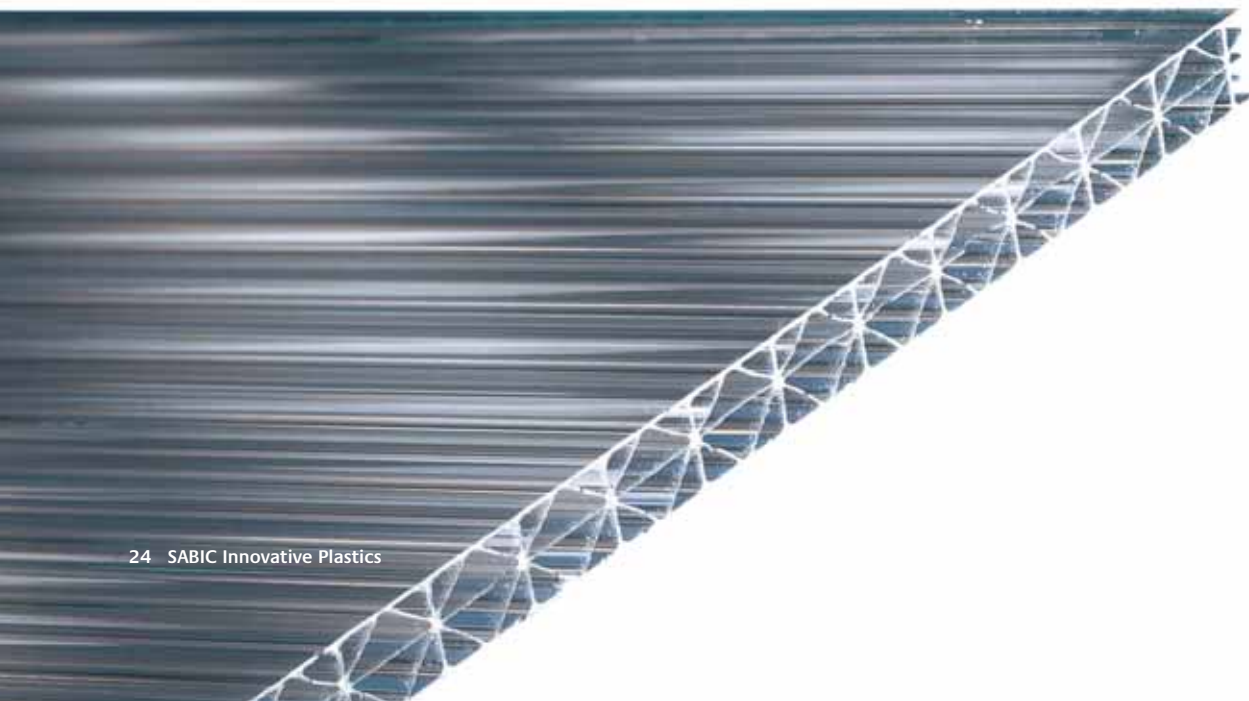
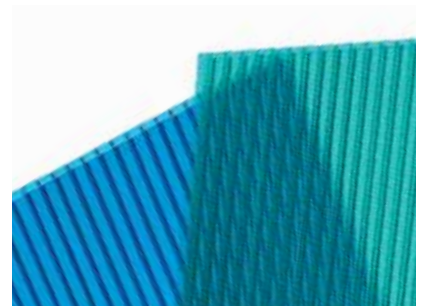
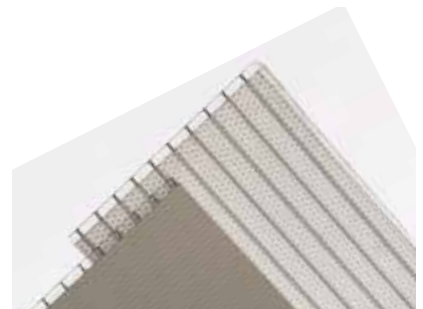
Lexan Thermoclear Venetian sheets are UV-protected on the outer surface and screen-printed with white stripes on the inner surface. Although the screen-printed white stripes are mainly intended for decorative purposes, they also provide a shadow effect. This helps to reduce heat build-up from solar radiation, resulting in an improved comfort level inside the building.

Lexan Thermoclear sheet metallic look

The addition of fine metallic pigment into the multiwall sheet provides both a completely new look and acts as a heat blocker by reflecting heat. It also cuts down the brightness of the sun to a pleasant level. This material maintains the standard level of mechanical properties.

Lexan Thermoclear sheet hammered glass look

In this unique material, the addition of glass fibers into the sheet provides an original “hammered glass” effect. In addition to the innovative look, it provides UV protection on both sides, high light transmission and good insulation properties. Typical applications include interior partition walls, swimming pool enclosures and bathroom glazing.



Lexan* sheet systems for industrial roofing and facades

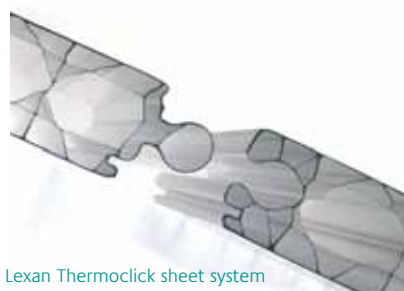
The Lexan sheet systems portfolio provides flexible glazing solutions for industrial roofing and façades. Characterized by outstanding optical and mechanical properties, each product in the portfolio is designed to provide added value performance through potentially low systems costs and consistent high quality.

Installation costs may be kept low as each product is designed using custom-made configurations for fast on-site assembly. A 10 year limited written warranty is given against loss of light transmission, discoloration and breakage.

- **Lexan Thermoclick* sheet system** for profile-free facades. This X-structure, inter-connecting sheet system eliminates the need for vertical profiles, thereby potentially saving costs and enhancing aesthetics
- **Lexan Thermorooft* sheet system** for tailor-made, fully insulated rooflight without any cold bridges. Lexan Thermorooft sheet systems offer a tailor-made, fully insulated rooflight that can be installed seamlessly into a corrugated metal roof without any cold bridges. These panels can be tailor-made according to customers' designs and mechanical requirements
- **Lexan ZigZag* sheet** for exceptional light transmission and thermal insulation for heated greenhouses. The panels are designed to click easily together, without the need for support profiles. This helps to reduce installation costs and provides glazing that maximizes light transmission while saving on energy costs
- **Lexan Thermopanel* sheet system** for flexible top-to-gutter designs with integrated side wings. Customers can select from different side wing profiles that can be easily calibrated to fit onto virtually any metal sandwich panel. Available in lengths of up to 20 meters, Lexan Thermopanel have a four-wall construction, which provides excellent thermal insulation, high stiffness and high light transmission



Lexan Thermoclick sheet system is used for the building façade in Barcelona



Lexan Thermoclick sheet system



Lexan Thermorooft sheet system



Lexan ZigZag panel

Lexan Thermopanel sheet system



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 include

- High impact strength (figure 1)
- Inherent “water-clear” transparency
- Dimensional stability at elevated temperatures
- Flame resistance
- Light weight (figure 2)
- Weatherability (figure 3)
- Formability

Lexan Thermoclear* sheet, the multiwall version of Lexan sheet, has on one or two sides proprietary UV-protected surface, giving superior resistance to outdoor weathering.

This unique protection helps to provide long-term optical quality under intensive UV exposure, and maintains the superior toughness of the polycarbonate material in comparison to other thermoplastic glazing.

Some things are meant to change their color by season but not your glazing!

According to accelerated 4,000 hours weathering tests (figure 3) (DIN53387 / ASTM G26) that have been carried out at SABIC Innovative Plastics laboratories, Lexan Thermoclear sheet is superior to other available polycarbonate multiwall glazing products. This test is comparable to 10 years outdoor exposure in moderate climate conditions. Lexan Thermoclear sheet offers a ten-year limited written warranty against discoloration, loss of light transmission and loss of impact strength due to weathering.

Figure 1 Impact resistance

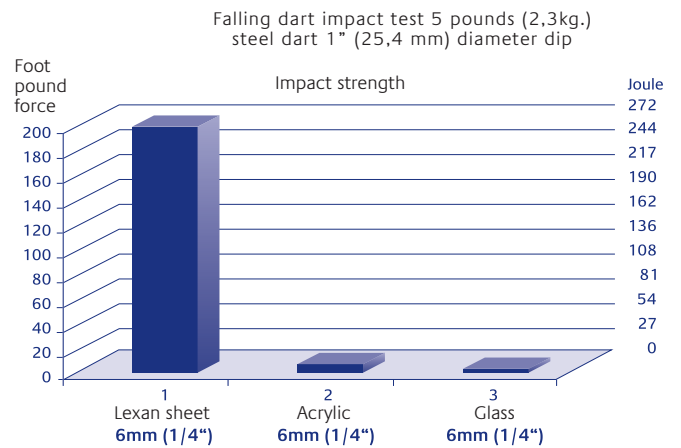
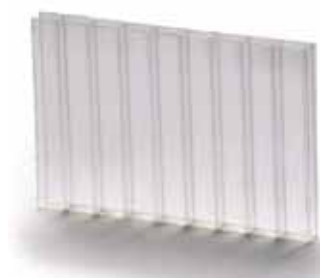
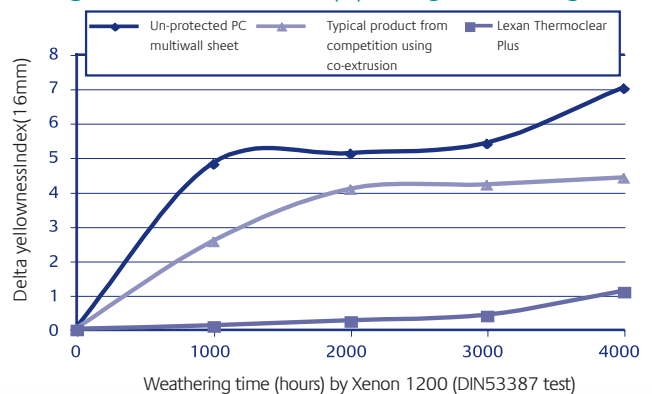


Figure 2 weight

Thickness		Polycarbonate sheet kg/sq.meter. (lbs/sq.ft)	Glass kg/sq.meter (lbs/sq.ft)
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

Figure 3 Yellowness index (Yi) through weathering



Sample 1 DYi=0
reference sample = original value



Sample 2 DYi=2
Loss of light transmission 2%
Lexan Thermoclear plus sheet warranty



Sample 3 DYi=10
Loss of light transmission 4-6%.
Typical multiwall PC sheet warranty

SABIC Innovative Plastics technical support

For architects, contractors and installers around the world, SABIC Innovative Plastics Specialty Film & Sheet is much more than a supplier of high quality glazing materials. From its network of technical centers in the Netherlands, Japan, China, Korea, India and the US, the company helps to offer hands-on engineering support. Founded on a history of innovation and technology that spans over a quarter of a century, SABIC Innovative Plastics offers customers state-of-the-art technical support that extends from glazing material selection to profile design and installation guidelines.

SABIC Innovative Plastics Specialty Film & 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.

As a business unit of SABIC Innovative Plastics, Specialty Film & Sheet benefits from global cross-business resources and expertise. At the state-of-the-art polymer processing development center in the USA, engineers, designers and technologists explore and extend the boundaries of film and sheet application development through sophisticated material analysis and advanced processing technology.

Lexan® Thermoclear® sheet
glazing of Wankdorf stadium,
Switzerland



Contact us

Americas

Headquarters

SABIC Innovative Plastics
Specialty Film & Sheet
One Plastics Avenue
Pittsfield, MA 01201
USA
T 800 451 3147
T 413 448 5400
F 413 448 7506

European

Headquarters

SABIC Innovative Plastics
Plasticslaan 1
PO Box 117
4600 AC
Bergen op Zoom
The Netherlands
T +31 164 292911
F +31 164 292940

Pacific

Headquarters

SABIC Innovative Plastics
1266 Nanjing Road(W)
Unit 902-907, Plaza 66
200040 Shanghai
China
T +86 21 3222 4500
F +86 21 6289 8998

Email

sfs.info@sabic-ip.com



THE MATERIALS, PRODUCTS AND SERVICES OF SABIC INNOVATIVE PLASTICS HOLDING BV, ITS SUBSIDIARIES AND AFFILIATES ("SELLER"), ARE SOLD SUBJECT TO SELLER'S STANDARD CONDITIONS OF SALE, WHICH CAN BE FOUND AT <http://www.sabic-ip.com> AND ARE AVAILABLE UPON REQUEST. ALTHOUGH ANY INFORMATION OR RECOMMENDATION CONTAINED HEREIN IS GIVEN IN GOOD FAITH, SELLER MAKES NO WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, (i) THAT THE RESULTS DESCRIBED HEREIN WILL BE OBTAINED UNDER END-USE CONDITIONS, OR (ii) AS TO THE EFFECTIVENESS OR SAFETY OF ANY DESIGN INCORPORATING SELLER'S PRODUCTS, SERVICES OR RECOMMENDATIONS. EXCEPT AS PROVIDED IN SELLER'S STANDARD CONDITIONS OF SALE, SELLER SHALL NOT BE RESPONSIBLE FOR ANY LOSS RESULTING FROM ANY USE OF ITS PRODUCTS OR SERVICES DESCRIBED HEREIN. Each user is responsible for making its own determination as to the suitability of Seller's products, services or recommendations for the user's particular use through appropriate end-use testing and analysis. Nothing in any document or oral statement shall be deemed to alter or waive any provision of Seller's Standard Conditions of Sale or this Disclaimer, unless it is specifically agreed to in a writing signed by Seller. No statement by Seller concerning a possible use of any product, service or design is intended, or should be construed, to grant any license under any patent or other intellectual property right of Seller or as a recommendation for the use of such product, service or design in a manner that infringes any patent or other intellectual property right.

SABIC Innovative Plastics is a trademark of SABIC Holding Europe BV

* Exell, Lexan, Margard, Solar Control IR, Soundglaze, Thermoclear, Thermoclick, Thermopanel, Thermoroof, and ZigZag are trademarks of SABIC Innovative Plastics IP BV

® Armorgard, Dripgard, Lexgard and Suregard are trademarks of Standard Bent Glass Corp.

® Topo is a registered trademark of USG Corporation

© Copyright 2008 SABIC Innovative Plastics IP BV. All rights reserved.

sabic-ip.com