INNOVATIVE PLASTICS

INSPIRE+ CREATE

LEXAN™ SHEET PORTFOLIO FROM SPECIALTY FILM & SHEET

CHEMISTRY THAT MATTERS™

SPECIALTY FILM & SHEET

SABIC's Specialty Film & Sheet business offers high-performance, engineering thermoplastics LEXAN™ sheet and film portfolio and full-service solutions for customers in various segments including mass transportation, consumer electronics, glazing, building and construction. The company supports customers by providing high-performance materials that can comply with current and upcoming regulations, enabling customers to find new solutions to evolving requirements for fire safety, as well as related challenges of sustainability and cost reduction.

SABIC's LEXAN sheet portfolio offers high quality, engineered thermoplastic monolithic and multiwall sheet products across a wide variety of industries, ranging from building and construction, lamination, sign to transportation. The company's virtually unbreakable, lightweight, fire resistant polycarbonate LEXAN sheet portfolio includes a wide variety of structures and it is backed by advanced technical support and application development services to meet our customers' specification needs with local supply.

SABIC ranks among the world's top petrochemical companies, and operates in more than 45 countries across the world with 40,000 employees worldwide. It has significant research resources with 19 dedicated technology and innovation facilities in Saudi Arabia, the USA, the Netherlands, Spain, Japan, India, China and South Korea.

INTRODUCTION TO LEXAN™ SHEET

SABIC's Specialty Film & Sheet business 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 has been working to bring 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 polycarbonate (PC) LEXAN 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.

LEXAN sheet is designed to allow the penetration of natural, filtered daylight into living areas without the energy loss and higher heating and cooling costs of glass roofing inserts.

BENEFITS

MEETING TOUGH CHALLENGES

From conservatories, commercial greenhouses and swimming pools, to industrial buildings, offices and football stadiums, SABIC 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 ten-year limited written warranty against excessive yellowing, loss of light transmission and loss of strength due to weathering.

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™ PC sheet materials from SABIC are often a top choice due to the versatile glazing solutions that they may help provide.

SABIC's LEXAN PC 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

Glass, because of its weight and brittleness, has limited design versatility. In contrast, LEXAN sheet products provides design freedoms. LEXAN sheet is light weight, versatile, and comes in assorted colors, textures and special effects.

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 both practical and visually striking.

Due to its aesthetics, LEXAN sheet was chosen by the architecture firm Flow for partition walls used in this apartment.

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

LEXAN THERMOCLEAR sheet roof glazing - The University of Warsaw

LEXAN MARGARD sheet protection walls - Dresden Zoo in Germany

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

ATTRACTIVE AND COMFORTABLE

A well-designed building offers a high-quality experience, including temperature, light and sound control. SABIC's 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.

THE LIFE OF THE BUILDING

To avoid 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. THERMOCLEAR glazes the rooftops of several stadiums around the world.

BENEFITS

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.

Glass can be problematic due to breakage, potentially causing injury and requiring re-glazing. SABIC's line of Armor-Gard®, 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.

KEEPING COSTS IN LINE

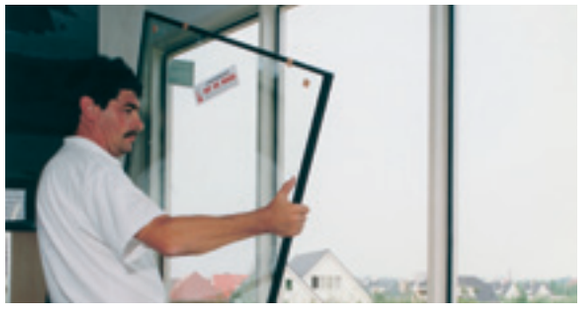
LEXAN sheet glazing materials can help to deliver measurable return on investment through ease of installation; lower insurance costs through resistance to break-ins, weather damage and vandalism; lower utility costs from better heat management; and less need for replacement due to weathering and breakage.

Most of these products are covered by a minimum ten-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 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 performance, flexible design and assorted aesthetics, LEXAN PC 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 products deliver a creative, easy-to-install interior and exterior applications that are built to last.



APPLICATIONS

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

APPLICATIONS

RESIDENTIAL GLAZING AND CONSERVATORIES

The wide range of LEXAN™ PC glazing materials provides architects with broad design flexibility in applications for both inside and outside the home. Applications include everything from intelligent glazing materials for conservatories that reflect heat and cut down on glare, to robust glazing with double-sided UV protection for porches and carports that can withstand high wind and snow loads and 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 SABIC LEXAN 90355 sheet 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

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.

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

APPLICATIONS

SWIMMING POOL COVERS

LEXAN™ THERMOCLEAR PLUS™ sheets and easy clean PC 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 surface treatment on both sides designed to protect the sheet against the degrading effects of ultra-violet radiation in natural sunlight.

The sheet can be economically cut to 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.

"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's LEXAN THERMOCLEAR sheet was chosen as it exhibited outstanding formability and bonding compatibility that met all of our requirements."

- THÉRÈSE AND SERGE CHAPUS, CREATORS OF ABRISUD.

Swimming pool shelters with LEXAN THERMOCLEAR PLUS sheet demonstrate extreme endurance in Abrisud's low profile pool cover

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

INDUSTRIAL GLAZING

Across a wide range of industrial glazing applications, LEXAN™ PC 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 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 PC 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.

APPLICATIONS

STADIUM AND ARENA APPLICATIONS

For over a quarter of a century, polycarbonate LEXAN™ sheet 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. Specialty Film & Sheet worked together with HOK architectural company on the Sydney Olympic stadium project, where 27,000 m² of 16 mm LEXAN THERMOCLEAR™ sheet was used for the most challenging engineering feature of the stadium, the 300-meter span roof structure.

Suspended from a huge arch structure, the roof is constructed from a translucent grade of LEXAN PC to help minimize any shadows and patches of direct sunlight on the sporting area.

The roof provides spectators with protection from the weather, while reducing the wind resistance for the participants on the field. The roof's combination structural weight is 85 kg/m² (the sheet weight is only 3 kg/m²).

Separation walls

Dugouts

Bowl cladding

LEXAN THERMOCLEAR sheet was used by Chongqing Urban Development Co. Ltd. for the roof glazing of the first stadium in Chongqing, West China. The stadium accommodates 60,000 spectators. They are all protected from the changing weather conditions by the LEXAN THERMOCLEAR sheet roof, which covers an area of 36,000 m².

Sydney Olympic stadium

Porto Dragão stadium

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

In 2003, 74,000 m² of LEXAN™ THERMOCLEAR™ sheet (with UV protection on both sides) was installed at the six stadiums in Portugal. SABIC's remarkably tough, lightweight and transparent LEXAN sheet materials are the top choice of architects to create the world's largest and most impressive sports stadiums in many nations. These materials have been used in more than 50 stadiums over the world, including the FIFA World Cup™ stadiums in South Africa, Olympic Stadium in Sydney, Australia, Barcelona, Spain and Chongqing, China, and UEFA European Football Championship Euro 2004™, Euro 2008™, Euro 2012™ stadiums in Portugal, Austria, Switzerland, and Poland.

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

APPLICATIONS

TRANSPORTATION INFRASTRUCTURE

In bus, train and bicycle shelters, LEXAN™ PC 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 m^2 of a new tailor-made LEXAN THERMOPANEL™ sheet is currently installed for the roof of the Shanghai south railway station. 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.

Not only does this ambitious construction project represent one of the largest buildings to use the PC sheet, but more importantly underscores SABIC's commitment to help revitalize the Chinese infrastructure with some of the world's most advanced materials technologies.

SABIC is utilizing a global team of experts from SABIC in China and 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

In sound wall and barrier applications, LEXAN™ 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 eliminating the need for a supporting profile. This enhances sheet deflection and sound reflection, while simplifying installation and widening the field of vision.

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

APPLICATIONS

GREENHOUSES

LEXAN™ corrugated sheet is made in high performance polycarbonate with excellent light transmission and high impact resistance especially for greenhouse applications. In commercial greenhouses around the world, the use of LEXAN sheet provides rigid, lightweight glazing that resists UV degradation and provides long-term light transmittance as well as good flame retardant properties.
LEXAN THERMOCLEAR™ Dripgard sheet offers a specially developed coating on the inner surface that reduces the formation of condensation while maintaining the excellent light transmission of the material. This condensation control prevents water droplet formation, and protects crops from plant diseases and spoilage.

Water droplets can cause crop spoilage and loss of light transmission. Dripgard can protect commercial greenhouses from these issues.

SECURITY GLAZING

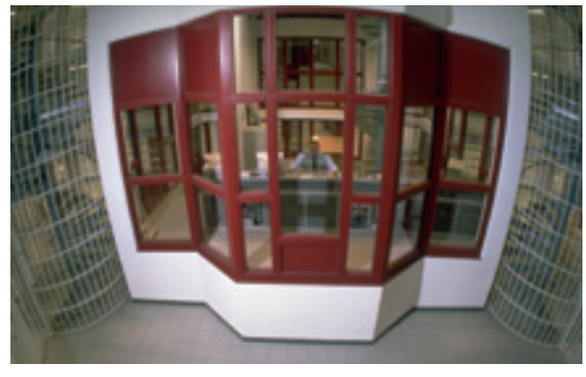
Burglary, terrorism, violence and natural disaster are an all too familiar threat to the everyday lives of people in all walks of life. The risk of harm is made much greater for properties using unprotected glass - the consequences of shattered glass can be devastating.

SABIC's MARGARD™ sheet used in PC/glass lamination helps provide ballistic, bomb blast, natural disaster and forced entry protection for a wide variety of customers and applications. MARGARD sheet has the potential to provide exceptional heat and impact resistance along with significant energy absorption, lightweight durability and anti-spalling qualities.

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.

BENEFITS OF LEXAN™ SHEET INCLUDE:

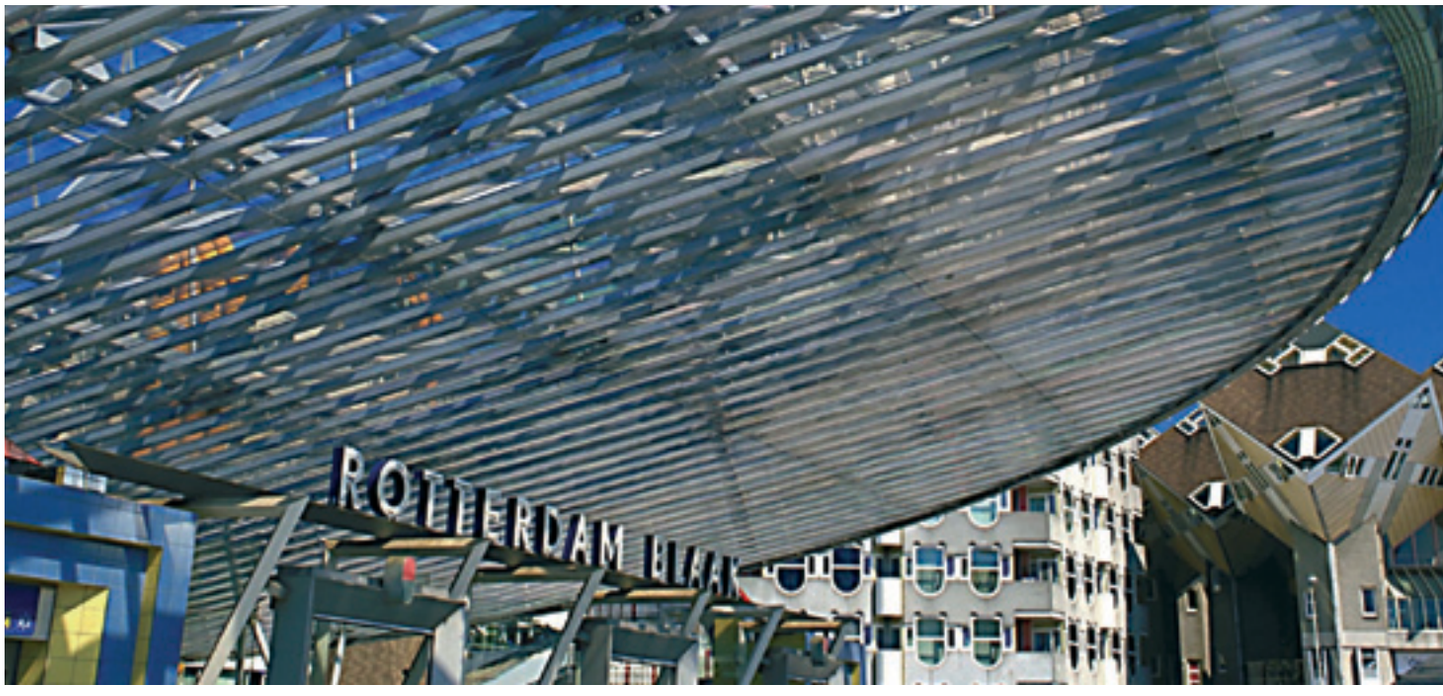
- High impact resistance over a wide temperature range, helping to minimize the risk of damage by accidents or vandalism
- Long-term UV protection on both sides. LEXAN sheet is highly resistant to yellowing and loss of performance due to weathering
- Virtually no contribution to the spread of fire and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



VERSATILITY

From specialty products offering weatherability, self-cleaning, or anti-drip properties, to grades providing enhanced impact, heat, or graffiti resistance, the versatility of LEXAN™ sheet materials delivers glazing with imagination.

LEXAN EXELL™ D sheet is used for the roof of the entrance to this metro station in Rotterdam, the Netherlands.



LEXAN™ 9030 SHEET

LEXAN 9030 sheet is the standard grade of LEXAN PC 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 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. Instead of expensive and fragile coatings, LEXAN Solar Control IR multiwall sheet uses resin additives to manage heat.

Because the proprietary resin technology is inherent, solar control properties are permanent and is UV protected on both sides. Furthermore, its backed by a ten-year limited 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.

VERSATILITY

LEXAN™ MARGARD™ SHEET

In addition to the inherent characteristics of a PC 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-year limited written warranty against loss of light transmission and coating failure - and by a ten-year 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 MARGARD sheet will not shatter or splinter. Available clear or bronze tinted, it can be used for both flat and curved glazing.

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 resistance to abrasions and 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.

SABIC's LEXAN SOUNDGLAZE SC sheet was chosen for the ski jump barriers of the 2006 Olympic Winter Games. More than 1,700 m^2 LEXAN PC sheet is used as ski jump barriers for two ski jumps – HS140 (125 m) and HS106 (95 m) in Pragelato.

VERSATILITY

LEXAN™ THERMOCLEAR™ SHEET

A well-established brand name for over 25 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

SUPERIOR WEATHERABILITY - LEXAN THERMOCLEAR SHEET

In addition to the inherent properties of LEXAN sheet, these products offers UV protection on both sides, but with even higher resistance to UV radiation, yellowing and loss of light transmission. This exceptional material includes a 15 year limited written warranty to further protect against yellowing and light transmission performance.

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.

The UV 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.

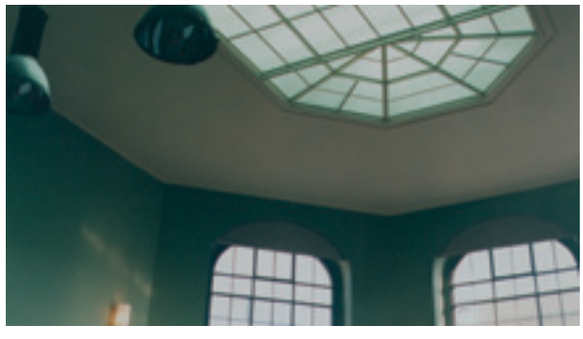
HEAT MANAGEMENT - LEXAN SOLAR CONTROL IR SHEET

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.

LEXAN THERMOCLEAR sheet glazing of Wankdorf stadium, Switzerland

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

DOUBLE-SIDED UV PROTECTION- LEXAN™ THERMOCLEAR™ SHEET

UV-protected on both surfaces, LEXAN THERMOCLEAR 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.

SELF-CLEANING - LEXAN THERMOCLEAR EASY CLEAN SHEET

This is the world's first self-cleaning PC 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 PC 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.

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™ SHEET

Developed in 1953, LEXAN resin is a polycarbonate, amorphous engineering thermoplastic, which is characterized by high levels of mechanical, optical, electrical and thermal properties. LEXAN resin which is used to made LEXAN sheet, 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 LEXAN SHEET INCLUDE

- Inherent "water-clear" transparency
- Dimensional stability at elevated temperatures
- Flame resistance
- Formability
- Weatherability (Figure 1)
- Light weight (Figure 2)
- High impact resistance (Figure 3)

LEXAN THERMOCLEAR™ multiwall sheet has multiple side proprietary UV-protected surface, giving superior resistance to outdoor weathering. This protection helps to provide long-term optical quality under intensive UV exposure, and maintains the toughness of the PC material in comparison to other thermoplastic glazing.

GLAZING SHOULDN'T CHANGE COLOR

According to accelerated 4,000 hours weathering tests (Figure 1) (DIN53387 / ASTM G26) that have been carried out at SABIC laboratories, LEXAN THERMOCLEAR sheet is superior to other available PC 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.

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

FIGURE 1 YELLOWNESS INDEX (YI) THROUGH WEATHERING

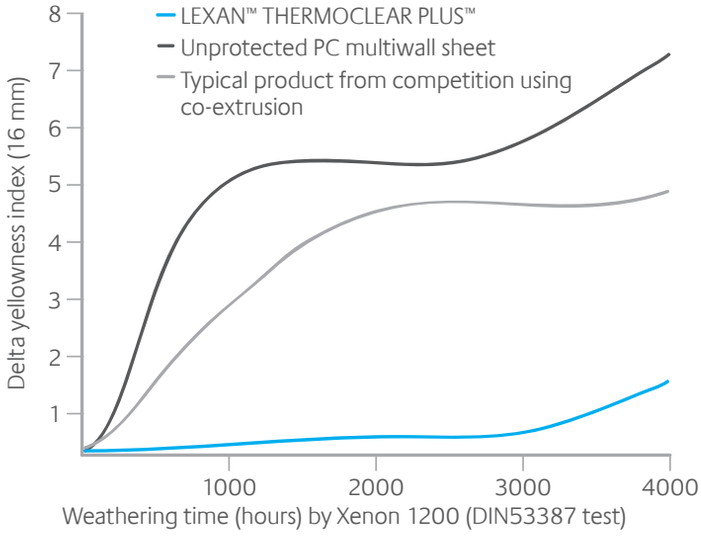
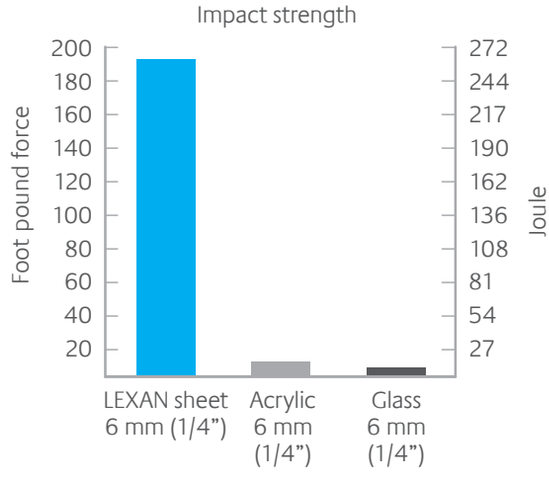


FIGURE 2 WEIGHT

Thickness mm	Thickness inch	PC sheet kg/sq.meter (lbs/sq.ft)	Glass kg/sq.meter (lbs/sq.ft)
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	0.117	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 IMPACT RESISTANCE

Falling dart impact test 5 pounds (2.3 kg.) steel dart 1 inch (25.4 mm) diameter dip

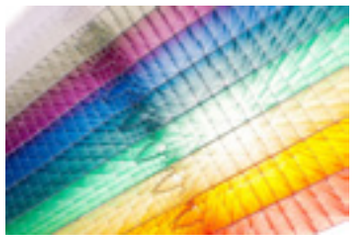


LEXAN™ SHEET SYSTEMS

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.

LEXAN THERMOROOF sheet system

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



LEXAN THERMOCLICK sheet system

LEXAN THERMOROOF™ sheet system for tailor-made, fully insulated rooflight without any cold bridges. LEXAN THERMOROOF 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.

LEXAPANEL Standing Seam sheet system

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 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 sheets have a four-wall construction, which provides excellent thermal insulation, high stiffness and high light transmission.

LEXAPANEL™ standing seam sheet system gives architects and builders exceptional flexibility to create sustainable and beautiful translucent roofing and other glazing elements for applications such as skylights, barrel vaults, fenestrations, conservatories, and commercial buildings. Compared with other standing seam solutions, it provides customers with far more glazing options, including a custom width optimized to their load requirements as well as a choice of thickness, coating, color, structure and type of connection. What's more, LEXAPANEL sheet delivers the strength, weatherability, clarity and thermal insulation of SABIC's renowned LEXAN THERMOCLEAR™ sheet.

TECHNICAL SUPPORT

For architects, contractors and installers around the world, 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 offers customers state-of-the-art technical support that extends from glazing material selection to profile design and installation guidelines.

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, 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.

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LEXAN™ Tough Virtually Unbreakable
Polycarbonate Film

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