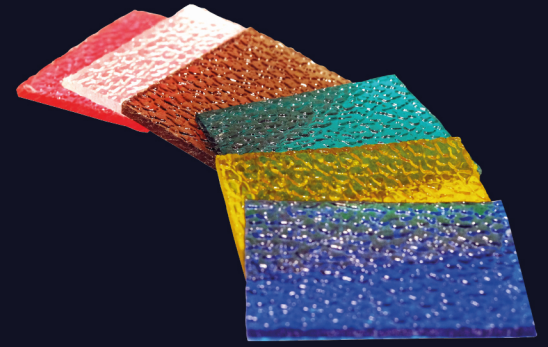


IQ MADEN
Plastic Sheets Factory



POLYCARBONATE SHEETS

Catalogue



About Us: IQ MADEN FACTORY

In 2020,IQ Maden Factory Company For trade and Industry,Became Active in the World market of **POLYCARBONATE** Sheets with its trademark **LEXAN** Since then IQ Maden makes production without making concession on quality by using advanced technology and continues with the principle to increase its success constantly.



Raw Materials:

All our raw materials polycarbonate are from Sabic 100% pure raw materials.

سابك
مادة

Polycarbonate Solid & Embos Sheets:

1

Solid Sheets:

Solid Sheets combine Ultra-high impact resistance with transparency and are the materials of choice by demanding construction applications. Under normal conditions, They are virtually unbreakable transparent as glass and less than half the weight of glass. Solid PC Sheets can be bent cold and ideal for barrel vault roofing skylights, architectural roofing and also very suitable as machine guards, Sound barriers, Anti-Vandal and safety glazing materials.

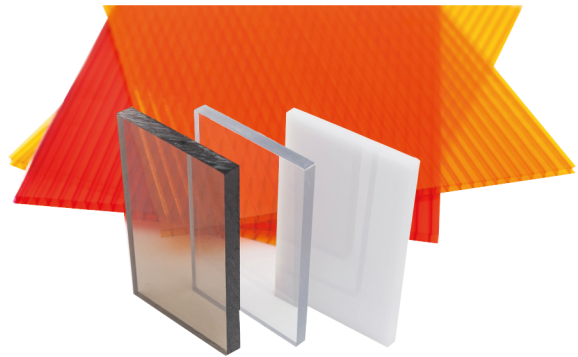
Our Embossed PC Sheets that are similar to Solid sheets have a texture diffusing the natural light streaming in, ensure uniform dispersion of light over a large area and prevent glare.

Furthermore, Embossed sheets have ability to perform in wide range of temperature and make the sheets excellent for light fixtures that heat up after long usage.

2

Main Benefits:

- High impact resistance – Virtually unbreakable.
- High clarity and light transmission
- Weather and UV resistant
- Wide service temperature range
- Blocks harmful UV radiation
- Good acoustical insulation
- Light weight
- Easy to handle and install
- Versatile, formable, and machinable
- A 10 year, limited warranty that guarantees no yellowing light transmission and mechanical properties



3

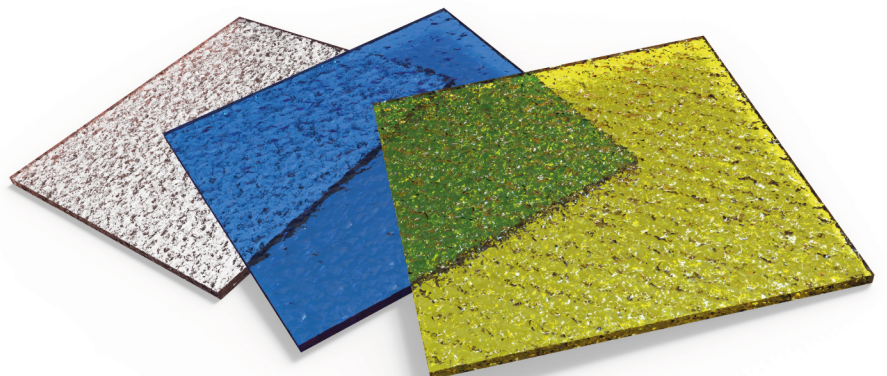
Typical Applications:

- **Architecture:** Transparent acoustic barriers, sport venues, skylights, shopping centers, covered walkways.
- **Construction:** Sun rooms and conservatories, pergolas and covered patios.
- **Safety and Security Glazing:** Safety glazing, machine guards, bus stops and telephone booth.
- **Shields for police And security forces:** Glazing in public transportation, Safety windshields for cars, eye protection visors for helmets.

4

Decorative Solutions:

In the last years, Polycarbonate has become the most used material being used in many markets extensively. Especially through its physical and chemical specifications, it succeeds to gain various advantages in each field. Polycarbonate materials have a quite flexible structure and under favour of that, one can form them as required by bending them cold or hot. With various colours and designs, Polycarbonate sheets bring an aesthetic and modern look to places.



Polycarbonate Sheet Advantages

Polycarbonate Sheet is one of the most special and perfect gifts presented to construction sector by the New Generation Product Solutions, because of its countless advantages on side plating and skylights. It is much more stronger, much more aesthetic and has a much more easier application property. The reasons for preference are its economical price and long-lasting life. With the partnership of General Electrics and BAYER, the synthesizing of Polycarbonate was realized the first time and its international abbreviation is PC.

Because of being normally a transparent plastic, its light transmission is close to the one of glass. Its resistance is high against very hot and very cold temperature, chemical materials and scratching. It is suitable for thermoforming and cold bending. It has a protection against the ultraviolet effect and is not affected by outdoor conditions. **It is much lighter and 250 times stronger than glass, because it is produced with high-quality raw material.**

PC sheets are materials in various thicknesses. Through lightings of big places in vault, cornered, pyramide, dome forms and other architectural innovation possibilities, they became an irreplaceable part of the Modern Production Market.



Applicant Exampels:



Canopies made of polycarbonate sheets gain living places with brighter and more decorative appearance.

Another feature of the Polycarbonate sheets is that they can not only protect your woodwork and home appliances but also prevent colour fading by filtering 100%ly the UV shines of the sun.



One of the main materials by pool cover systems are the PC sheets.

The most important advantage for using them is that they do not need any maintenance and repair for years. The other extra properties of them are thermal insulation 90% of light transmission and protection against harmful UV rays. furthermore, the PC sheets decrease the pool chemical wastage to minimum level, because their pool cover avoids the polution of the pool. In case of wishes not to be "seen inside, they also provide differentiation and specialisation with color alternatives through special designed.

For the coverage,one can use transparent multiwall sheets and by demand, one can applicate acrylic and solid sheets at the side and top walls.



Noise is one of the external factors that affect human health negatively.

Polycarbonate sheets are used by professionals as pitches being one of the economic and decorative options.

PC sheets with UV protection on both surfaces are widely used as sound insulation at noisy places like highways,

Urban secondary, roads, railways, airports environment and near to residential areas.



Another area for PC sheets are the public transport stops mainly because they are light, flexible, durable and can be bended hot and cold.

Besides, they have positive effects on human health by reflecting back the harmful sun rays owing to UV protection. The light transmission values change according to the thicknesses and colors of the sheets, but with a light transmission of 90%, they are an unrivaled product.



Polycarbonate Sheets

SPECIFICATIONS

| Typical Properties | Unit | Value | Test Method |
|-----------------------------------------|---------------------|------------------------|-------------------------|
| GENERAL | | | |
| Density | gm/cc | 1.2 | ASTM D 972 |
| Flammability | mm | 148 | UL 94 |
| Oxygen Index | % | 28 | ASTM D 2863 |
| Water Absorption | % | < 0.45 | ASTM D 570 |
| MECHANICAL | | | |
| Tensile Strength at Yield | Mpa | 60 | ASTM D 638 |
| Tensile Strength at Break | Mpa | 70 | ASTM D 638 |
| Elongation at Yield | % | 6 | ASTM D 638 |
| Elongation at Break | % | 125 | ASTM D 638 |
| Tensile Modulus | Mpa | 2400 | ASTM D 638 |
| Flexural Strength | Mpa | 100 | ASTM D 790 |
| Taber Abrasion | mg/1000 cycles | 10 | ASTM D 1044 |
| Charpy Impact Notched | kJ/m ² | 40 | ASTM D 256 |
| Izod Impact Notched | kJ/m ² | 75 | ASTM D 256A |
| Impact Resistance | joules | 72 | ASTM F 736 |
| THERMAL | | | |
| Vicat Softening Point | °C | 148 | ASTM D 1525 |
| Heat Deflection Temperature | °C | 132 | ASTM D 648 |
| Thermal Index-Electrical Properties | °C | 100 | UL 746 B |
| Thermal Index-Mechanical Properties | °C | 120 | UL 746 B |
| Coefficient of Linear Thermal Expansion | mm/m°C | 0.065 | ASTM D 696 |
| Shrinkage | % | < 3 | BS EN ISO |
| ELECTRICAL & OPTICAL | | | |
| Volume Resistivity | Ohm.cm | > 1.E+15 | ASTM D 257 |
| Dielectric Strength | kv/mm | 30 | ASTM D 149 |
| Dissipation Factor 1 MHz | | 0.01 | ASTM D 150 |
| Light Transmission | % | > 85 | ASTM D 1003 |
| Haze | % | < 1 | ASTM D 1003 |
| Refractive Index | | 1.59 | ASTM D 542 |
| CHEMICAL | | | |
| - Acetone | - Alcohol (96 %) | + Allyl Alcohol | + Ammonium Chloride |
| x Aniline | + Arsenic Acid | - Ammonia (25%) | x Aldehyde |
| x Benzene | - Benzene | - Bromine Vapors | x Chlorine Vapors |
| + Chromium Acid (20%) | + Ester | x Fluorine Vapors | + Formaldehyde (10-40%) |
| x Glycerine | + Iodine | x Hexene | + Ketones |
| - Phenole | + Lanolin | - Methanol | + Water |
| - Fuel Mixture | + Mineral Oil | - Sodium Hydroxide | - Phosphoric Acid (85%) |
| - Hydrochloric Acid | x Acids (up to 20%) | - Carbon Tetrachloride | |

*+= no change, "x" = conditionally resistant, "-" = not resistant

Polycarbonate Sheets



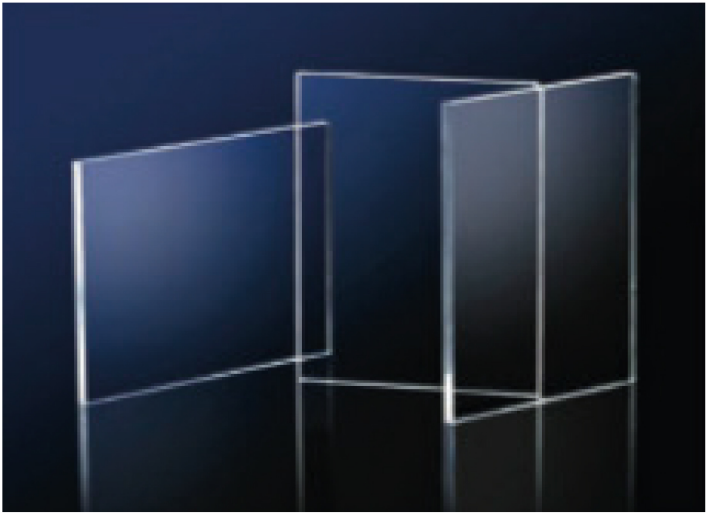
| PC SOLID SHEETS | | | | | | | | | | |
|-----------------|-----------------------------|-----------|-----------------|--------------------------|---------------------|---------|---------------------|--------|--------|------------------------------|
| Thickness | Overall Thickness Tolerance | Max Width | Standard Length | Width & Length Tolerance | | | Light Transmittance | | | Color |
| | | | | | Min. Bending Radius | U Value | Clear | Bronze | Opal | |
| 1 | {+/-}0,15 | 1250 | 3050 | {-0,1%;+0,3%} | 180 | 5,72 | 92 % | | | Any Color Can be Customized. |
| 1,5 | {+/-}0,15 | 1250 | 3050 | | 270 | 5,64 | 92 % | | | |
| 2 | {+/-}0,2 | 2100 | 3050 | | 360 | 5,56 | 92 % | | | |
| 3 | {+/-}0,3 | 2100 | 3050 | | 540 | 5,41 | 92 % | 45-50% | 30-35% | |
| 4 | {+/-}0,3 | 2100 | 3050 | | 720 | 5,27 | 92 % | 45-50% | 30-35% | |
| 5 | {+/-}0,3 | 2100 | 3050 | | 900 | 5,13 | 92 % | 40-50% | 25-35% | |
| 6 | {+/-}0,3 | 2100 | 3050 | | 1080 | 5,00 | 90 % | 40-50% | 25-30% | |
| 8 | {+/-}0,4 | 2100 | 3050 | | 1440 | 4,76 | 88 % | | | |
| 10 | {+/-}0,4 | 2100 | 3050 | | 1800 | 4,55 | 80 % | | | |
| 12 | {+/-}0,4 | 2100 | 3050 | | 2160 | 4,35 | 80 % | | | |

| PC SOLID SHEETS | | |
|-----------------|----------------------|---------------------------|
| Sheet Thickness | (kg/m ²) | Glas (kg/m ²) |
| 1 | 1,2 | 2,5 |
| 1,5 | 1,8 | 3,75 |
| 2 | 2,4 | 5 |
| 3 | 3,6 | 7,5 |
| 4 | 4,8 | 10 |
| 5 | 6 | 12,5 |
| 6 | 7,2 | 15 |
| 8 | 9,6 | 20 |
| 10 | 12 | 25 |
| 12 | 14,4 | 30 |

| ACOUSTIC VALUES (EN14388) | |
|---------------------------|-----------------|
| Thickness | Sound Reduction |
| 8 mm | 28 |
| 10 mm | 31 |
| 12 mm | 34 |

LEXAN Polycarbonate Solid Sheets Application Places

- * As Building Windows
- * As Roof Skylights & Wall Panels
- * Clear Room Panels
- * As Panels at Places Open To The Public, Stadiums, Sport Center, Esplanades Open to Traffic
- * In Lighting and Electricity Sectors; on Billboards at Bus Stops, On Stand Panels
- * On Electricity and Lighting Fittings
- * On each Kind of Windows and Translucent Sections (train, bus, vessel, yacht, air vehicles, car sunroof,...)





Polycarbonate Sheets

| PC EMBOSSED SHEETS | | | | | | |
|--------------------|----------------|---------------------|-----------------|----------------------|--------------------------|-----------------------------|
| | Thickness (mm) | Thickness Tolerance | Max. Width (mm) | Standard Length (mm) | Width & Length Tolerance | Color |
| Diamond | 1,5 mm - 10 mm | (+/-) 0,3 | 2100 | 3050 | (-0,1%;+0,3%) | Any Color Can Be Customized |
| Rain Drop | | | | | | |
| Matt | | | | | | |



Perfect Heat
Insulation



Protection
Against UV



Sound
Insulation



Resistance
Against Cracking



Protection Against
Natural Conditions



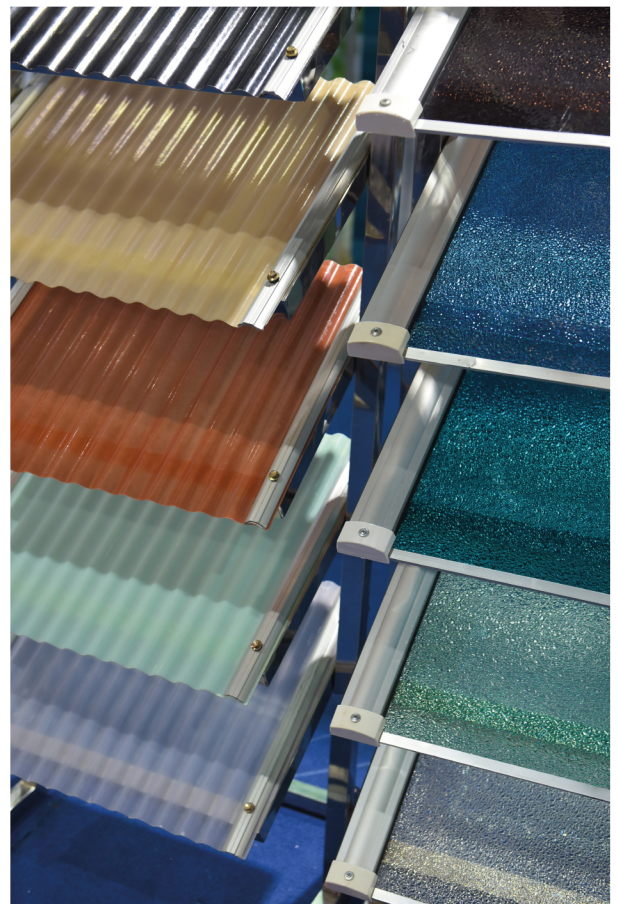
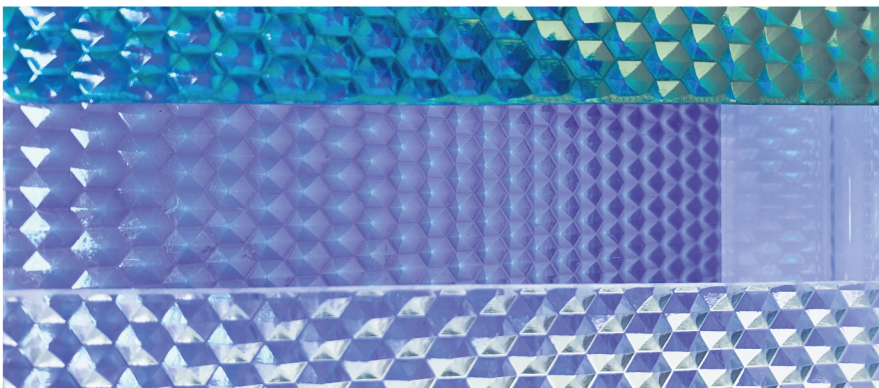
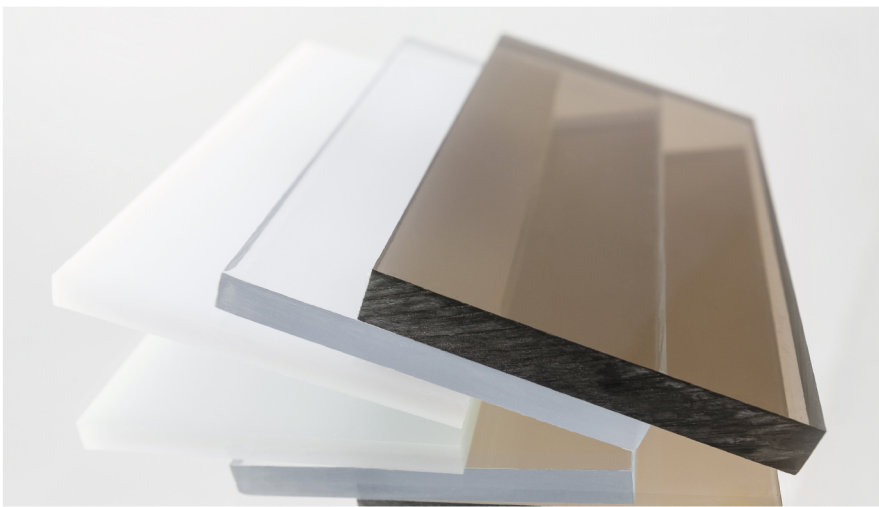
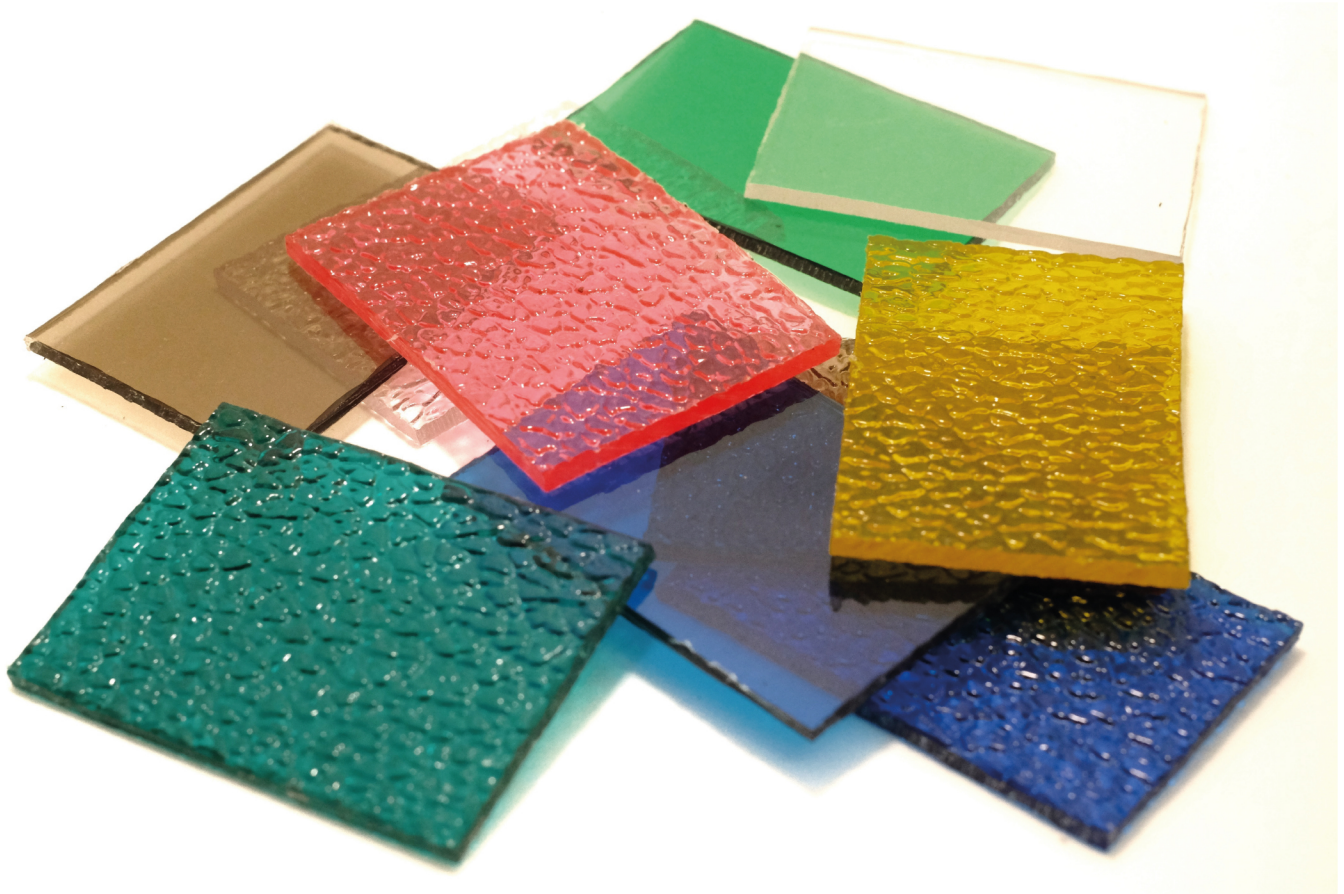
Diffuse
Reflection



Blocking The IR

Applications

10
Year
Warranty





Application





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