



ASSOCIATED --- GROUP

CAST ACRYLIC SHEETS



ABOUT US

Associated Plastics was founded by Mr. Net Ram Gupta in 1972 on his vision of hard work, integrity and excellence. Initially, he managed the company himself and later he encouraged his sons to take over the responsibility of the company and guide it towards a new direction. The family values are deeply embedded in every aspect of the organization and continue to build a favorable reputation for the company till date. We started our operations in 1972, by manufacturing acrylic sheets using recycled scrap. In 1998, as India was developing and the demand for better quality products was growing, we began to import superior quality products from companies all around the world along with Mr. Praveen Somani. Hence, our group was blessed with the first mover advantage in the imported acrylic sheet business.

Associated Plastics was driven by Mr. Net Ram's passion to excel and provide value for money acrylic sheets to his customers and building long lasting relations in the process. His values are carried forward to the company till date and are the reason for our success and goodwill. Our operating motive is "**customer is god**".

Vision: To provide international standard high quality environment friendly acrylic sheets, through our distribution network across India.

Mission: Committed to continued learning, improving our products and providing value to our customers. Work closely with our distributors, so together we can learn and grow in the industry.



Competencies

We cater the need of our customers by better understanding their requirements and obtaining relevant feedback. Associated Group arranges personal meetings with their dealers on a regular basis. In their feedback, our dealers request customization of products to suit the needs of diverse Indian markets. We forward these requirements to our overseas manufacturers and try our best to close the gap between our customers and suppliers. We also print a company newsletter annually that beholds our vision, mission & values; and is forwarded to all our customers and manufacturers. Customers are encouraged to personally visit our storage facility, spread over 50,000 square feet to access our stock of over 1,000 metric tonnes for the quality and availability.

Associated Plastics specializes in the trading of prime grade cast acrylic sheets which is customized to the customer specified thickness, colors & sizes. The company aims to provide innovative cost effective acrylic products while maintaining high quality standards. One of our suppliers, **UB Acrylic** is a major acrylic sheet manufacturer in Malaysia, specializing in Opal white sheet which is the best selling product in India. The company also enjoys the privilege of short shipping time to India, due to geographical advantage. Our other major supplier, **Sumipex** Thailand, is a subsidiary of a very versatile public listed group from Japan called Sumitomo which is one of the biggest manufacturers of MMA across the globe. Sumipex products adhere to Japanese standards as their pigments are heavy-metal free and environment friendly.

Associated Group is the sole selling agent for **UB Acrylic** and **Sumipex** with long term contract for republic of India.





Marketing

We prefer to rely on our talented sales team to extract the customer's requirement and then develop an initial sample within the budget specified by the customer. The sample is then finished and put through quality control and finally sent to the customer to obtain feedback. This feedback is thoroughly studied and the relevant changes are implemented. This process allows the company to create a highly customizable product which would otherwise be standardized for all customer alike.

Associated Group has successfully featured itself on online marketplaces such as Indiamart which has allowed them to attract new customers that would otherwise be difficult to capture. As a result, the company receives enquiries from different regions of the country that has allowed us to increase its knowledge & database.

We also maintain a tradition on regularly showcasing their products in various exhibitions all over India. During these exhibitions many enquiries are received which gives us an opportunity to harvest this knowledge and better customize our products specifically to cater the needs of the market.

To increase customer satisfaction, we keep good volume of stock for all thicknesses (1.8mm - 50mm), colors and sizes ready in our warehouse. Also, we provide our customers with good terms when it comes to delivery and payment plans.



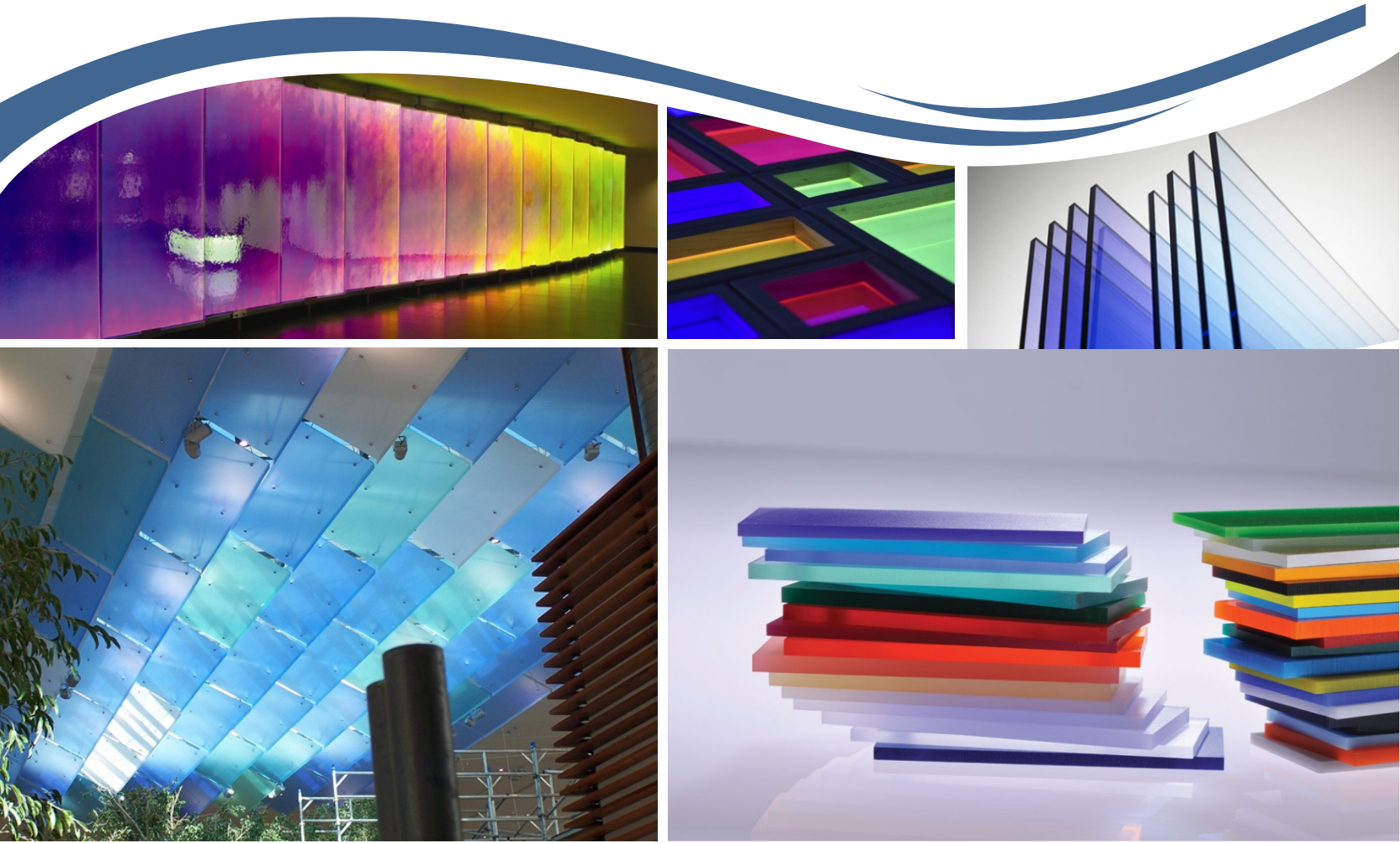


Facts

Acrylic sheet (including cell-cast and continuous-cast sheet) accounted for 32% of the world consumption of acrylic resins and plastics in 2015. Major applications include sanitaryware (spas, shower units, tubs, and sinks), signs, merchandising displays, glazing, and large aquariums. World consumption of acrylic cast sheets is forecasted to grow over 3% CAGR during 2015–20.

Asia (including Oceania) continues to be the largest market for acrylic resins and plastics, accounting for 59% of world consumption in 2015. US demand for acrylic resins and plastics is expected to grow moderately, at an average annual rate of about 2% during 2015–20.

Western European consumption of acrylic resins and plastics is forecast to grow at an average annual rate of almost 2% during 2015–20. Japanese consumption is forecast to experience only slight growth during 2015–20, largely because of lower automotive manufacturing. Chinese and Other Asian demand, excluding Japan and Taiwan, is expected to grow at 4% and 3% annually, respectively, during the same period. African consumption of acrylic resins and plastics is forecast to grow the fastest, at an average annual rate of about 4.5% during 2015–20, but from a small base largely as the result of increased imports mainly for automotive, construction, and sign/display markets. Factors sustaining this average include some prominent continued recovery in world construction markets, as well as a healthy automotive industry, on a global level. In addition, increased disposable income, increased use in construction/architecture and new LED lighting introductions, and use in electronics will push up demand. In the longer term, acrylic resins, sheet, and film should offer more solutions for the solar industry and other electronic devices.





sumipex[®] TL

Sumipex (Thailand) Co. Ltd. as a leading manufacturer of Cast Acrylic Sheet, they are BOI privileged Company, incorporated in 2002 under a collaboration between Sumitomo Chemical Co. Ltd. and ITOCHU Corporation by acquiring a local cast acrylic manufacturing plant.

In 2006 they have expanded our production lines to reach production capacity of 12,000MT/year and employees approximately 300 employees. As a global company, they have applied international standards, which are; ISO9001 accreditation, ISO14001 accreditation, and OHSAS18001 accreditation. Furthermore, they are following with RoHS and REACH compliance to ensure the customers that our products are harmless to health and environment.

As Sumipex TL is a part of Sumitomo Chemicals, one of the major global supplier of Methyl Metha Acrylate (MMA), the Thailand production facility is assured of constant stable supply of key raw material.

STANDARD SIZE & THICKNESS

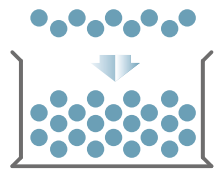
Surface Type	Cutting Size(mm.)	Thickness (mm.)																										
		1.0	1.5	1.8	2.0	2.5	2.8	3.0	4.0	4.5	4.76	5.0	5.5	6.0	8.0	9.0	10.0	12.0	15.0	18.0	20.0	25.0	30.0	35.0	40.0	45.0	50.0	
Gloss Surface	1000 x 1250	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	970 x 1870	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	1010 x 2010	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	1090 x 2090	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	1280 x 1880	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	1230 x 1840	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	1280 x 2480	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	1230 x 2450	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	1310 x 2450	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	1280 x 2540	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	1340 x 2770	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	1570 x 1570	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	1650 x 1650	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	1330 x 2110	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	1200 x 2000	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	1350 x 2000	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	1510 x 2510	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	1400 x 2670	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	1830 x 1830	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	1890 x 1890	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	1600 x 1700	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	1600 x 1800	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	1720 x 1810	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	1700 x 2400	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	1800 x 1900	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	1800 x 2900	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	1850 x 3050	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	2150 x 2700	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	1510 x 3000	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	2150 x 2350	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	1280 x 3050	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	1525 x 2450	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	1830 x 2450	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
1880 x 2490	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
2030 x 3050	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
1880 x 3050	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
1570 x 3050	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
2030 x 4050	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
Orange Peel Surface	1230 x 1840	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
	1230 x 2450	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
Matt Surface	1230 x 2450	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
	1525 x 2450	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
	1830 x 2450	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
	2030 x 3050	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
Sanitary	Any sheet size	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	

Remark | ○ | Standard | ■ | Not standard thickness but may be possible to produce
 | ★ | Special thickness and cut size consult with sale before. | ■ | Not applicable

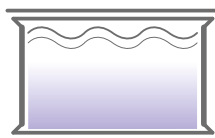


Production Process

1 Prepolymerization



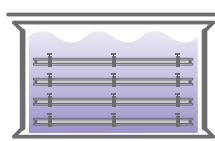
2 Syrup Preparation



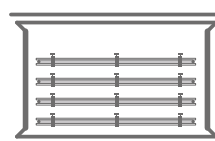
3 Pouring



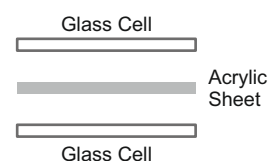
4 Polymerization by Water Pool



5 Polymerization by Air Oven



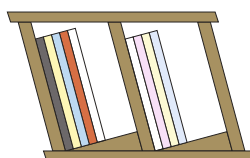
6 Peeling



7 Masking & Cutting



8 Warehouse



9 Delivery



Property	Method	Unit	Value				
			GP-grade	SA-grade	SJ-grade	SN-grade	VA-grade
Coefficient of thermal linear expansion	ASTM D696	°C ⁻¹	8x10 ⁻⁶	8x10 ⁻⁶	8x10 ⁻⁶	9x10 ⁻⁶	8x10 ⁻⁶
Deflection temperature under load 0.45MPa	ISO 75-1 Edgewise direction	°C	101	104	103	108	108
Deflection temperature under load 1.80MPa	ISO 75-1 Edgewise direction	°C	92	96	94	99	99
Tensile strength	ISO 527-1	MPa	72	66	72	74	75
Elongation at break	ISO 527-1	%	5.0	4.3	5.6	5.4	5.3
Flexural strength	ISO 178	MPa	118	115	104	1184	119
Flexural modulus	ISO 178	MPa	3210	3157	3242	3179	3435
Charpy Impact strength	ASTM D256	J/m	28.6	28	27.5	28.3	28
Rockwell hardness	ISO 2039-2	HRM	95	98	97	99	99
Surface	ASTM D257	Ω	4x10 ¹⁹	1x10 ¹⁹	3x10 ¹⁹	2x10 ¹⁹	7x10 ¹⁹
Volume resistivity	ASTM D257	Ω.cm	9x10 ¹⁹	9x10 ¹⁹	4x10 ¹⁹	5x10 ¹⁹	2x10 ¹⁹
Dielectric breakdown	ASTM D149	kV	49	52	50	48	51
Dielectric strength	ASTM D149	kV/mm	16	16	16	16	16
Specific gravity	ISO 1183	–	1.19	1.19	1.19	1.19	1.19
Water absorption (23. C.24h)	ISO 62	%	0.2	0.2	0.2	0.2	0.2

The above data are typical Laboratory values and are Intended to serve as guide only (not guarantee)



UB was established in 1987 and specialise in manufacturing A grade cell casting acrylic sheet and dedicated to offering the best, superior quality of cast PMMA.

Owing for supplying the top quality sheet, UB insists on purchasing and using 100% virgin M.M.A to produce their sheets. Besides, the sophisticated machinery, equipment, moulds were procured from best of manufacturers.

Attributing to the fierce development of petrochemical industry, their acrylic sheets consist of numerous excellent, superior characteristics, such as non-toxicity, light weight, high impact resistance, easy for molding and thermoforming, good weather resistance, illustrious electrical insulation that makes their sheets unique and widely used by worldwide customers. UB acrylic emphasize on every details of production to make sure customer gets the perfect products.

DIMENSIONS Based on 3 mm (1/8")

Standard Sizes in

- | | | |
|----------------------------------|----------------------------------|----------------------|
| 1. 1220 mm x 1830 mm (48" x 72") | 3. 1830 mm x 2440 mm (72" x 96") | 5. 1000 mm x 2000 mm |
| 2. 1220 mm x 2440 mm (48" x 96") | 4. 1350 mm x 2000 mm | |

PROPERTIES (Average value) 3m/m (1/8)

Colorless/Transparent

Specific Gravity	1.19
Rock Well Hardness	M100
Water Absorption (24hrs.)	0.3%
Compressive: Yield	1260 kg/cm ²
Modulus of Elasticity	3 x 10 ⁴ kg/cm ²
Tensile: Rupture	560kg/cm ² & up
Elongation	3 – 7%
Flexural: Strength	1050 kg/cm ²
Shear Strength	630 kg/cm ²
Impact Strength: (200 gr. steel ball)	0.4 m
Refractive Index	1.49
Light Transmittance	91% & up
Heat Distortion Temp.	85°C
Coefficient of Thermal Conductivity	4-6×10 ⁻⁴ cal/sec/cm ² /°C/cm
Coefficient of Thermal Linear Expansion	7×10 ⁻⁵ cm ² /cm/°C
Max. Recommended Continuous Service Temp.	85°C
Hot Forming Temp.	140-160°C
Specific Heat	0.35cal/gr.°C
Dielectric Strength	20kv/mm
Volume Resistivity	>10 ¹⁵ ohm-cm



Chemical Resistance

Sulfuric acid	30%	0	0	70% X
Hydrochloric acid	10%	0	0	36% X
Nitric acid	10%	0	0	100% X
Acetic acid	10% (of)	0	30% (of) 0	98% X
Hydrofluoric acid (conc.)		Δ	Δ	
Sodium Hydroxide		0	0	
Ammonia Water	10%	0	28% 0	

Effects of solvents

Unattached at normal temperature: Hexane, Octane, Formaline 40%, Glycol, Methyl Alcohol, Ethyl Alcohol.

Insoluble but swelled or crazing: Butyl Alcohol, Isopropyl Alcohol, Carbontetrachloride.

Soluble at normal temperature: Acetone, Benzene, Toluene, Xylene, Ethylenedichloride, Chloroform, Ethylacetate.

Colors

UB Arcylic is transparent, but it can be tinted in various attractive colours to meet any specified requirement. More than 50 colours are currently available, including transparent, translucent, and opaque.

Thickness

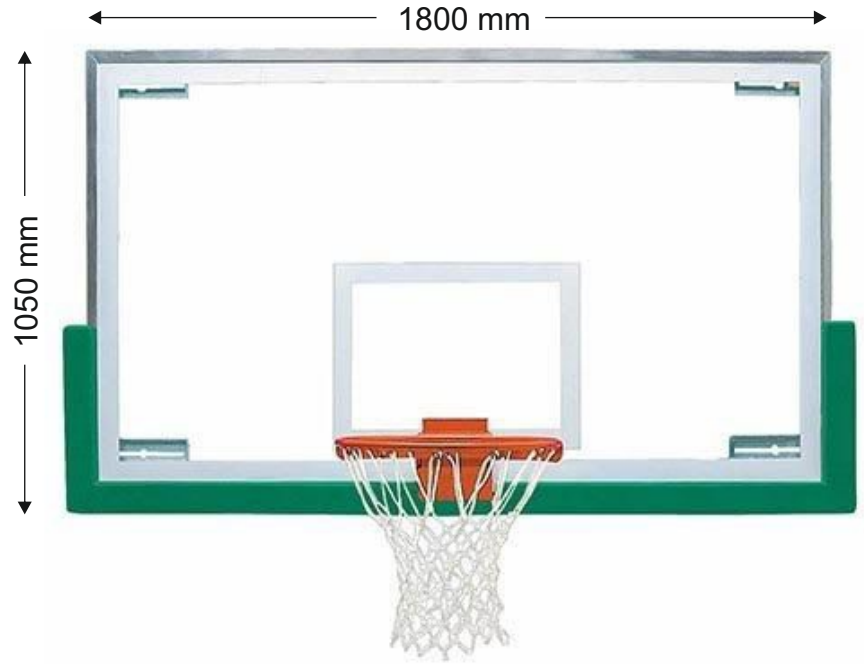
Standard sheet thickness run from 2 mm to 30 mm.

Thickness Tolerance

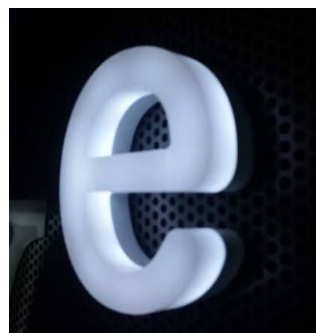
Thickness (m/m)	Tolerance(m/m)
2.0	± 0.3
2.3	± 0.3
2.5	± 0.3
2.8	± 0.3
3.0	± 0.4
3.8	± 0.4
4.8	± 0.5
5.0	± 0.5
5.8	± 0.6
6.0	± 0.6
7.8	± 0.8
8.0	± 0.8
9.8	± 1.0
10.0	± 1.0
12.0	± 1.0
15.0	± 1.2
18.0	± 1.3
20.0	± 1.5
25.0	± 1.5



Specialised Products



UB Acrylic, Malaysia - Basketball Board.
Available thicknesses : 18mm, 20mm, 25mm & 30mm



Acrylic Sheet for Backlit Solid Letters.
Available sheet thicknesses : 15mm, 18mm, 20mm & 25mm.



Gallery



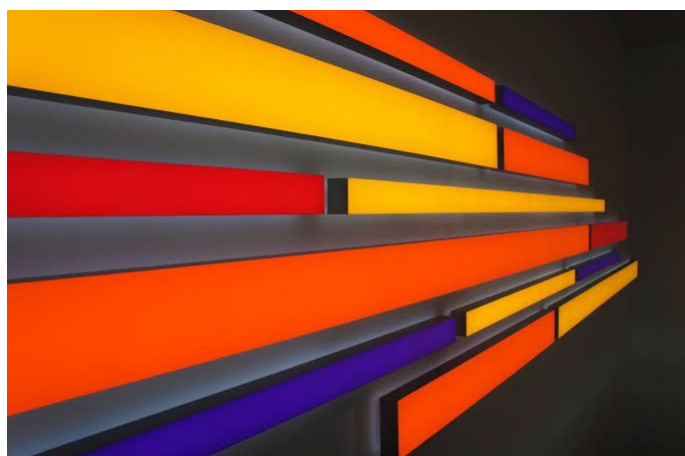
UB Acrylic, Malaysia - Signage for Asia's Largest Liquor Botique, Bangalore, India.



Exhibition at MediaExpo 2020, Delhi.



Exhibition at Sign India 2022, Chennai.



Sumipex, Thailand - LED Grade Cast Acrylic Sheets for Backlit Signages.

OUR CONCERNS

SS GLOBAL – IMPORTERS & WHOLESALERS OF ACRYLIC SHEETS & NATURAL RUBBER THREAD

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