

NEXT GENERATION Sheets



AAA Plastics

“We produce the finest sheets in our world-class facilities, backed by 35 years of expertise.

Superior quality

State of the art

Logistic advantage



Satish C Gadoya
Chairman



Polycarbonate

AAA Polycarbonate sheets from Sabin Engineering provide several benefits such as high optical quality and strength. They are also highly resistant to impact and fire. The sheets are used in both interior and exterior applications, and help in converting an architect's vision into reality.

Polycarbonate



High impact strength



UV protection



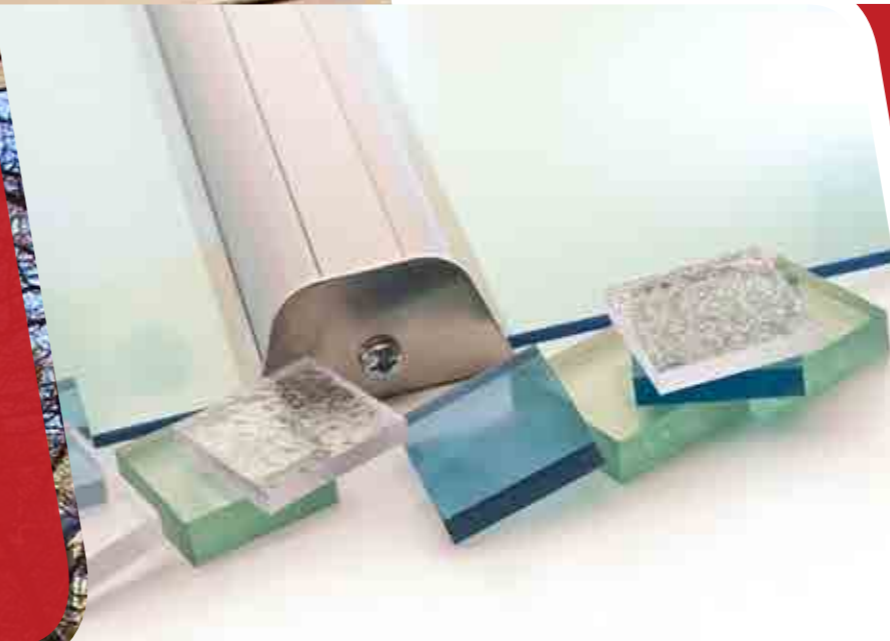
Recyclable



High transparency



Good light transmission



Bulletproof windows



Gates, ceilings and roofs



Signage applications



Sound absorbing barriers



Features

High transparency
Clean surface finish
UV resistant
Thermoformable

Low weight and high stiffness
High impact strength
Thermal insulation
High shatter resistance

Standard product availability

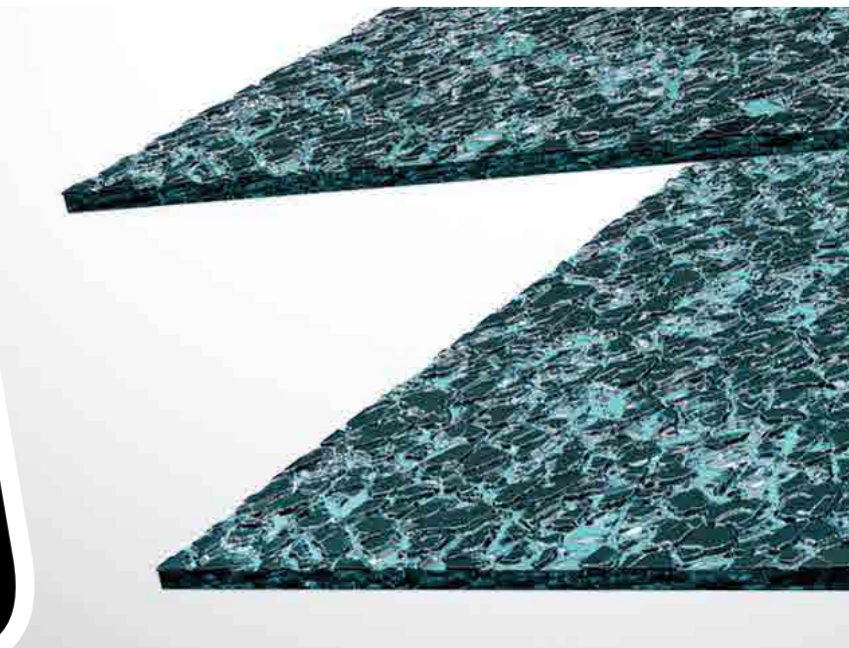
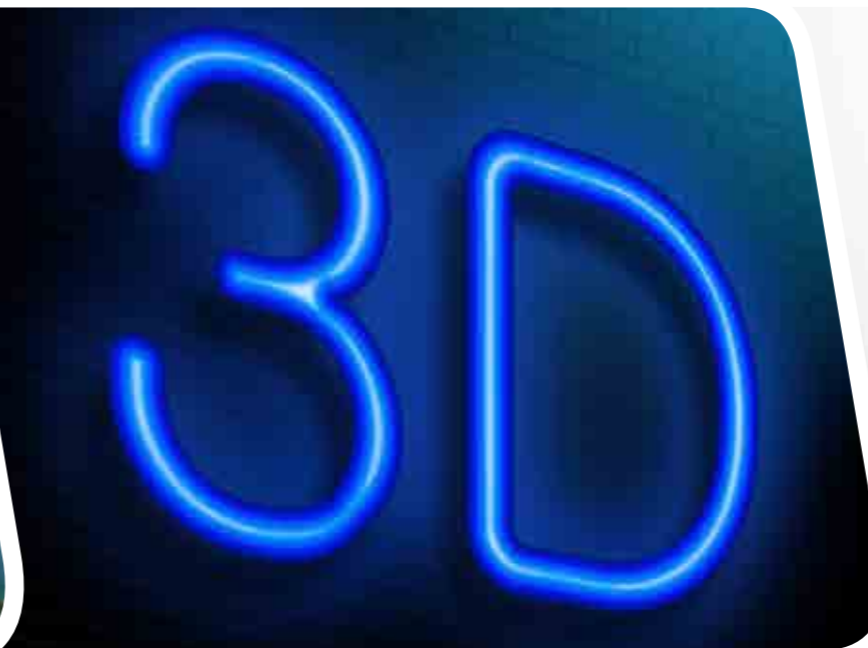
Coating	AAA 2UV / AAA 1UV / AAA Non-UV
Finish	Flat / Matte / Embossed / Crystal / Prismatic
Color	Clear / Opal white / Green / Blue / Bronze
Thickness	1.5 to 20.0 mm
Sizes	1220x1830, 1220x2440, 1250x2050, 2050x3050 mm Custom sizes and colours available on order

Signage and lighting applications

AAA Polycarbonate sheets are of high optical quality. They can be used in signage products for a variety of advertising applications such as POS stands, signboards, POP display boards in shops and outdoor poles. AAA Polycarbonate sheets are also available in a variety of textures and surface patterns for the lighting industry.

Construction applications

AAA Polycarbonate sheets used in building construction effectively block UV radiation and infrared heat waves. The sheets achieve good sound insulation while allowing good light transmission to conserve energy. AAA's UV coated Polycarbonate sheets are also resistant to yellowing caused by aging. Additional details are available in the product warranty card.

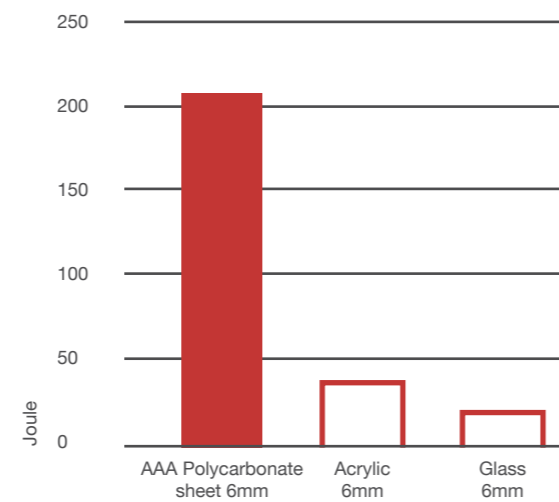


Characteristics

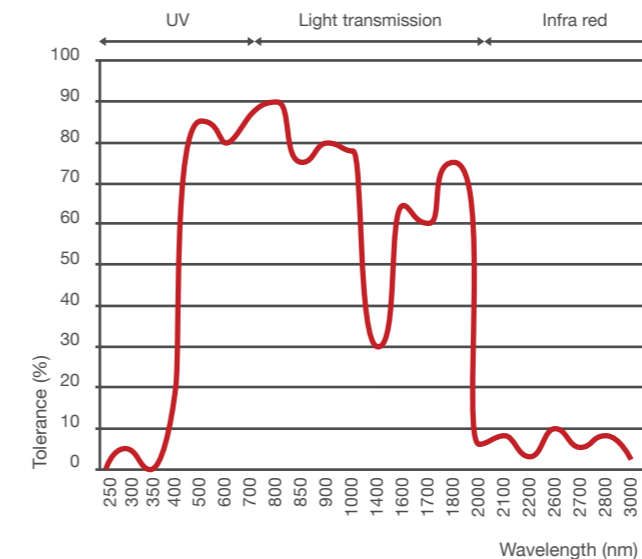
AAA Polycarbonate sheets can be easily cold formed into gentle curves up to 175 times the sheet thickness. They can also be bent up to 90 degrees by workshop tools. The sheets weigh 1.2 kg/m²/mm whereas glass weighs 2.5 kg/m²/mm; hence, these sheets are lighter than glass by 50%.

The sheets can further be thermoformed without losing their UV resistance property. They are 250 times stronger than regular glass and 30 times stronger than acrylic. The service temperature of the sheets ranges between -40 to +120°C.

High impact strength



UV resistant



Light weight

Thickness mm	Polycarbonate kg/m ²	Glass kg/m ²
2	2.4	5
2.4	2.8	5.9
3	3.6	7.8
4.5	5.4	11.7
6	7.2	15.6
9.5	11.4	23.4

Polycarbonate technical properties

Feature	Method	Value	Unit
Mechanical			
Tensile modulus	ISO 527-1-2	2349	MPa
Yield stress	ISO 527-1-2	>60	MPa
Yield strain	ISO 527-1-2	6	%
Charpy impact strength	ISO 179-leU	No breakage	kJ/m ²
Charpy impact strength	ISO 179-leA	79 P	kJ/m ²
Nominal strength at break	ISO 527-1-2	>49	%
Flexural modulus	ISO 178	2349	MPa
Flexural strength	ISO 178	89	MPa
Physical			
Density	ISO 1183	1.20	g/cm ³
Water absorption equilibrium	ISO 62, 23°C, 50% relative humidity	0.13	%
Water absorption saturation	ISO 62, 23°C	0.34	%
Mould shrinkage	Sabin Engineering test	0.6-0.8	%
Thermal			
VICAT softening temperature	ISO 306, 50 N, 50°C/h	147	°C
Thermal conductivity	ISO 8302	0.2	W/m°C
Coefficient of linear thermal expansion	ISO 11359-2, 23-80°C	7	x10 ⁻⁵ /°C
Temperature of deflection under load	ISO 75-1-2, 1.80 MPa	127	°C
Temperature of deflection under load	ISO 75-1-2, 0.45 MPa	141	°C

These data correspond to raw material values



Polymethyl methacrylate

Poly methyl methacrylate or PMMA is a transparent thermoplastic. AAA PMMA sheets are able to withstand harsh weather conditions, including UV radiation. These sheets maintain their optical properties for several years and are suitable for industries such as construction and signage. PMMA's mechanical and optical properties make it an excellent replacement for glass.

PMMA



High transparency



Harsh weather resistant



Good light transmission



High impact strength



Light weight

Advertising and signage applications



POP display and shop fixtures



Architecture



Furniture and accessories

Features

Excellent transparency
Surface suitable for buffing
Bright, colourless and rigid
Fixed 92% light transmission

Easily moulded
Elevated hardness
Good mechanical strength
Resistant to harsh weather

Standard product availability

Finish	Glossy / Matte / Textured / Embossed / Crystal / Prismatic
Color	Clear / White / Green / Blue / Bronze
Thickness	1.5 to 20.0 mm
Sizes	1220x1830, 1220x2440, 2000x3000 mm Custom sizes and colours available on order

Special products



Anti-glare

Anti-glare sheets are shatter resistant, lightweight and ideal for glazing. They are suitable for signage, silk-screening and POP displays.



Anti-scratch

Scratch resistant sheets provide good protection against scratches. They are suitable for retail displays, table tops and door panels.



High impact strength

Acrylic sheets modified for high impact strength are much harder than normal acrylic sheets or glass sheets of the same thickness. These sheets are suitable for signage, displays, skylights and other transportation purposes.

PMMA technical properties

Feature	Method	Value	Unit
Physical			
Density	ASTM D-792	1.19	g/cm ³
Mechanical			
Tensile strength at yield	ASTM D-638	78	MPa
Tensile strength at breakage	ISO 527	82	MPa
Elongation to breakage	ISO 527	4.8	%
Tensile modulus of elasticity	ISO 527	3,200	MPa
Flexural strength	ISO 178	120	MPa
Charpy impact strength notched	ISO 179	0.5	kJ/m ²
Charpy impact strength un-notched	ISO 179	20	kJ/m ²
Rockwell hardness, M / R scale		92	
Ball pressure hardness	ISO 2039	185	MPa
Optical			
Light transmission	ASTM D-1003	91	%
Refractive Index	ASTM D-542	1,489	
Thermal			
Maximum Service temperature		79	°C
VICAT Softening temperature	ISO 306, 10 N	115	°C
VICAT Softening temperature	ISO 306, 50 N	107	°C
Heat deflection temperature, HDT A	ISO 75-2, 1.8 MPa	98	°C
Heat deflection temperature HDT B	ISO 75-2, 0.45 MPa	102	°C
Coefficient of linear thermal expansion	ISO 75-2	7	x10 ⁻⁵ /°C

These data correspond to raw material values



Polyethylene terephthalate glycol

AAA PETG sheets are easily processed and can be moulded into different pieces and shapes. They are easily thermoformed, even in thick gauges up to 12 mm unlike Polycarbonate. PETG sheets do not require pre-drying and can be thermoformed into thicknesses greater than those of PMMA. They can be cold bent and laser-cut.

PETG



High transparency



Reduces noise transmission



Recyclable



High impact strength



Resistance against fire



Industrial protection



POP display and shop fixtures



Signage applications



Protective shields



Features

Resistance to breakage
Surface brightness
High impact strength
Excellent transparency

Excellent chemical resistance
Excellent fire resistance
Easily thermo-formable
High ductile strength

Standard product availability

Finish	Glossy / Matte / Textured / Embossed / Crystal / Prismatic
Color	Clear / White / Green / Blue / Bronze
Thickness	1.5 to 12.0 mm
Sizes	1220x1830, 1220x2440, 2000x3000 mm Custom sizes and colours available on order

Acrylonitrile butadiene styrene

AAA ABS sheets have good impact strength, formability and high rigidity. The sheets are also resistant to environmental stress cracking and chemicals. They are available in two main grades: engineering grade ABS sheet and vacuum-forming grade ABS sheet.

ABS



Recyclable



Suitable for thermoforming



Good electrical resistance



Stability under stress



Can be painted



Automotive parts



Appliance covers



Instrument panels



Automobile glazing

Features

Recyclable
Can be painted
Good electrical resistance
Suitable for thermoforming

High surface gloss
Good for chrome plating
High mechanical strength
Dimensional stability under stress

Standard product availability

Finish Glossy / Matte / Textured / Embossed / Crystal / Prismatic
Color Clear / White / Green / Blue / Bronze
Thickness 1.5 to 12.0 mm
Sizes 1220x1830, 1220x2440, 2000x3000 mm
Custom sizes and colours available on order

General purpose Polystyrene

AAA GPPS sheets are made from Polystyrene particles. They are characterized by a high degree of light transmission and high transparency, which makes them ideal for glazing frames and ceiling lights. GPPS is a low maintenance and lightweight thermoplastic which comes with high gloss and sparkling clarity due to its amorphous nature. It is widely used in fabrication and gives exceptional results.

GPPS



High transparency



Low water absorption



High brightness level



Good light transmission



Dimensional stability to heat



Bath and shower screens



Poster and photo frames



Storage containers



Lamps and ceiling lights

Features

90% light transmission
 High brightness level
 Low water absorption
 High rigidity

No spread of micro-organisms
 Excellent dimensional stability to heat
 High transparency
 Food grade

Standard product availability

Finish	Glossy / Matte / Textured / Embossed / Crystal / Prismatic
Color	Clear / White / Green / Blue / Bronze
Thickness	1.5 to 12.0 mm
Sizes	1220x1830, 1220x2440, 2000x3000 mm Custom sizes and colours available on order



High impact polystyrene

High impact Polystyrene (HIPS) sheets are special lightweight plastics used to accommodate lightweight products. AAA HIPS sheets have marginal resistance to impact and tearing. They are inexpensive and lightweight compared to all other plastic sheets. They are widely used for both single side and two side printing.

HIPS

- Recyclable
- Good insulation
- High impact strength
- Good heat resistance
- Durable



- Signage applications
- Moisture barriers
- Thermoforming
- Medical trays



Features

- Good heat resistance
- Good insulation
- Recyclable
- Durable
- Easy to fabricate
- Good machinability
- High impact strength
- Good chemical resistance

Standard product availability

Finish	Glossy / Matte / Textured / Embossed / Crystal / Prismatic
Color	White / Green / Blue / Bronze
Thickness	1.5 to 20.0 mm
Sizes	1220x1830, 1220x2440, 2000x3000 mm Custom sizes and colours available on order

State of the art

AAA Plastics' production facility uses state-of-the-art German technology and virgin raw materials to produce the highest grade of sheets. Our facilities have a production capacity of 8,000 tonnes per year with a unique manufacturing process that minimizes wastage.

Superior quality

AAA Plastics specializes in producing superior quality sheets, backed by 35 years of expertise in the industry and state-of-the-art production facilities. Our dedicated team of engineers also constantly align our production processes to meet current industry demands.

Logistic advantage

AAA Plastics is situated in the Sharjah Airport International Free Zone in the UAE, which offers excellent connectivity by land, sea and air to the GCC, Indian subcontinent, far east Asia, Africa and Europe. Our strategic location ensures smooth clearance and timely delivery.

Find out more



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