



PT. MARGACIPTA WIRASENTOSA

Cast Acrylic Sheet & PVC Hose Manufacturer

Jl. Raya Serang Km. 16.8 Desa Telaga, Kec. Cikupa, Tangerang - Indonesia

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Certificate Number : ID02/00020



1. IDENTIFICATION OF THE SUBSTANCE/ PREPARATION AND COMPANY/ UNDERTAKING

Product Name : CAST ACRYLIC SHEET & ACCESSORIES (ACRYLIC RODS and TRIANGLE)

2. COMPOSITION/ INFORMATION ON INGREDIENTS

PRODUCT DESCRIPTION

A high molecular weight acrylic sheet used in a wide range of applications.

Methyl methacrylate : greater than 90%.

HAZARDOUS INGREDIENT (S)

No classifiable hazardous ingredient (s)

CAS No. EC No. EC Classification

3. HAZARDS IDENTIFICATION

Low toxicity under normal conditions of handling and use. Thermal decomposition will evolve toxic, irritant and flammable vapours. Care should be taken during thermoforming to ensure that the product is not exposed to temperatures exceeding 200°C.

Certain machining operations eg. Laser cutting, can give rise to toxic and corrosive fumes. Adequate ventilation MUST be used.

4. FIRST AID MEASURES

Ingestion:

Material is not expected to be harmful by ingestion. No special first aid measures are required.

Skin Contact:

Wash immediately with plenty of water and soap.

Eye Contact:

Rinse immediately with plenty of water for at least 15 minutes.

Inhalation:

Material is not expected to be harmful if inhaled. Remove to fresh air.

5. FIRE - FIGHTING MEASURES

Extinguishing Media:

Use water spray or fog, carbon dioxide or dry chemical.

Protective Equipment:

Firefighters, and other exposed, wear self - contained breathing apparatus.

Fire Rating:

Classed as DIN4102 : B2, with no burning droplets

NF92500+ : M4(no droplets)

BS476 Part 7: Class 3

BS2782 method 508A: TP(b)

UL Flammability: UL94HB

6. ACCIDENTAL RELEASE MEASURES

Offcuts, swarf or dust should be collected and disposed of in a safe way.

7. HANDLING AND STORAGE

7.1 HANDLING

These sheets are heavy and unwieldy. They should be handled with care, particularly in windy locations or outdoors.

If broken or chipped the resultant edges can be sharp and cause cuts to skin and eyes.

Take precautionary measure against static discharges.

Process Hazards

All polymers degrade to some extent at their processing temperature, an effect which increases with increasing temperature.

Under normal conditions where thermoforming temperatures will not exceed 200°C thermal decomposition product will include methyl methacrylate.

Certain machining operation eg laser cutting can give rise to toxic and corrosive fumes. Adequate ventilation **MUST** be used.

7.2 STORAGE

Keep away from heat. Store vertically on A-frames

Storage Temperature : Below 40°C

8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

Provide adequate ventilation, including appropriate local extraction if dusts, fumes or vapours are likely to be evolved.

Consideration should be given to the work procedures involved and the potential extent of exposure as they may determine whether a higher level of protection is required.

Local extraction close to the cutting head must be used when laser cutting. When suitable engineering controls are not fitted or are inadequate, wear suitable protective equipment.

The following information is given as general guidance.

Respirators: **NORMAL HANDLING:**
Not normally required.
PROCESSING:
Dust: A suitable dust mask or dust respirator with filter type P may be appropriate. (EN141/EN143).
Vapour: If high levels above the Occupational Exposure Limit are likely - A suitable mask with filter type A may be appropriate. (EN141/ EN143).

Eye Protection: Wear eye/ face protection. Safely spectacles/ goggles/ full face shield.

Gloves: Sharp edges may cause cuts. Wear Suitable gloves.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form:	Sheet
Colour:	Clear or Coloured
pH (Value):	Not applicable
Boiling Point (°C):	Not applicable
Melting Point (°C):	Not applicable
Flash Point (°C):	11.5 (MMA). Sheet has no flash point.
Flammable Limits:	Not applicable
Auto Ignition Temperature (°C):	421 (MMA)
Explosive Properties:	Not explosive
Oxidising Properties:	Not oxidising
Vapour Pressure (mm Hg):	Not applicable
Vapour Pressure (Pascals):	Not applicable
Density:	1.19

Solubility (Water):	insoluble
Solubility (Other):	soluble in most organic solvents, acetone and chlorinated hydrocarbons
Partition Coefficient:	Not applicable
Decomposition Temperature (°C):	Will not decompose below 200°C
Freezing Point (°C):	Not applicable
Softening Point (°C):	>100
Viscosity (mPa.s):	solid

10. **STABILITY AND REACTIVITY**

Hazardous Reactions: None known
Hazardous Decomposition Product (s): Methyl methacrylate, traces of Acrolein.

11. **TOXOLOGICAL INFORMATION**

Inhalation
Unlikely route of exposure.

Skin Contact
No evidence of irritant effects from normal handling and use. Sharp edges may cause cuts.

Eye Contact
Swarf or dust may cause irritation. Sharp off-cuts may cause eye damage.

Ingestion
Unlikely to be hazardous if swallowed.

Long Term Exposure
No known hazards are associated with the use of this material.

12. **ECOLOGICAL INFORMATION**

Environmental exposure from substances of this preparation are limited due to the physical form of the product.
This material is not classified as dangerous for the environment.

13. **DISPOSAL CONSIDERATIONS**

Disposal should be in accordance with local, state or national legislation. Incineration may be used to recover energy value. Bury on an authorised landfill site or incinerate under approved controlled conditions, using incinerators suitable for the disposal of noxious chemical waste.
Large quantities of waste may be recoverable.

14. **TRANSPORT INFORMATION**

Not Classified as Dangerous for Transport.

15. **REGULATORY INFORMATION**

Not Classified as Dangerous for Supply/ Use.
EC Classification: Under the Classification, Packaging and Labelling of Dangerous Substances Regulations, 1984, this material is not dangerous for supply or conveyance.

16. This information has been compiled from sources considered to be dependable and is, to the best of our knowledge, accurate and reliable as to the data compiled. However, no guarantee or warranty is made to its accuracy, reliability and/ or completeness. It is the user's responsibility to satisfy himself as to the fitness or suitability of the product for the intended particular purpose or use. All risk of the use of the product are therefore assumed by the user. Appropriate warnings and safe handling procedures should be provided to handlers and users.

Jakarta, February 23, 2017



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Product Overview

MC[®] Cast Acrylic Sheet is the brand name of the general purpose cell cast acrylic sheet manufactured by PT. Margacipta Wirasentosa. The raw material, methyl methacrylate (MMA) is polymerized into MC[®] cast acrylic sheet. MC[®] cast acrylic sheet is produced in batches between two sheets of superior quality glass. The finished product offers strength and superior top qualities not available in other types acrylic sheet.

Cast Acrylic Sheet		
Dimension	Inch	Mm
	36.2 X 72	920 X 1830
	48 X 72	1220 X 1830
	48 X 96	1220 X 2440
	54.3 X 72	1380 X 1830
	39.4 X 78.8	1000 X 2000
	42.9 X 86.2	1090 x 2190
	50.8 X 98.8	1290 X 2510
	48 x 120	1220 X 3050
	53.2 X 78.8	1350 X 2000
	51 x 100	1300 X 2540
	62 x 98	1580 X 2490
	74 X 98	1880 X 2490
	60 x 120	1525 X 3050
	72x120	1830 X 3050
	80 x 120	2030 X 3050
Thickness	0.06 – 2	1.5 – 50
Finish	Clear, Opal, Transparent (tint), Intransparent (opaque/ matted), Fluorescent (Spotlight), Satin	
Acrylic Rod/ Square		
Length	47.25 – 78.74	1200 - 2000
Thickness	0.2 – 1.5	5 – 38
Acrylic Hinge		
Length	0.79, 1.18, 1.77	20, 30, 45
Acrylic Round Tube		
Length	78.74	2000
In-Out Diameter		6x8; 8x10; 8x12; 16x20; 21x25; 26x30; 31x35; 36x40; 41x45; 46x50; 56x60
Acrylic U Profile		
Length	47.25 – 78.74	1200 – 2000
Channel Size	0.08 – 0.2	2, 3, 4, 5
Acrylic Triangle		
Length	47.25 – 78.74	1200 - 2000
Thickness	0.125 – 0.315	3 - 8



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Cast Acrylic Sheet Thickness Tolerance

Thickness Inch	Mm	% Tolerance		
		standard size	large size	Extra large size
0.08	2	12%		
0.10	2.5	10%		
0.12	3	10%	14%	17%
0.16	4	8%	12%	14%
0.20	5	6%	10%	12%
0.24	6	6%	10%	12%
0.31	8	5%	8%	10%
0.39	10	4%	6%	8%
0.47	12	4%	6%	8%
0.59	15	4%	6%	8%
0.71	18	4%		
0.79	20	4%		
0.98	25	4%		
	above	4%		

*Note: Large size = 1300mmX2540mm, 1580mmX2490mm, 1880mmX2490mm
 1220mmX3050mm*

Extra large size = 1525mmX3050mm, 1830mmx3050mm, 2030mmX3050mm

Standard size = other sizes

Cast Acrylic Sheet Chemical Features (Resistant Properties to Chemical Agents)

Sulfuric Acid	60° C	Stabile to 60%
Hydrochloric Acid	60° C	Stabile to 30%
Nitric Acid	60° C	Stabile to 20%
Caustic Soda	60° C	Stabile to 50%
Aqueous Ammonia	60° C	Stabile to 18%
Acetic Acid	60° C	Dissolve
Ethyl Acetate		Dissolve
Toluene		Dissolve
Ethylene Dichloride		Dissolve
Benzene		Dissolve
Methyl Alcohol		Dissolve
Diemethyl Formamide		Dissolve
Acetone		Dissolve
Aniline		Dissolve



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Cast Acrylic Sheet Average Physical Properties

PROPERTIES	UNIT	
Specific Gravity (ASTM D792)		1.19
Hardness		HNC – 96
Water Absorption (ASTM D570)	%	0.35
Tensile Strength: (ASTM D638)		
Tensile strength at yield	Kg/cm ²	709
Tensile strength of break	Kg/cm ²	696
Tensile modulus	Kg/cm ²	29,532
Elongation at break	%	8
Bending Strength: (ASTM D790)		
Flexual Strength	Kg/cm ²	1.052
Flexual Modulus	Kg/cm ²	31,264
Impact Strength (ASTM D256)	Kg/cm ²	1.1
Shear Strength (ASTM D732)	Kg/cm ²	600 – 650
Transmittancy: (ASTM D1003)		
Full rays	%	93.3
Parallel rays	%	HAZE=
		0.27
Specific Heat	Cal/g/°C	0.35
Heat Distortion Temperature (4.6kg/cm) (ASTM D648)	°C	100
Coefficient of Heat Conductivity	Cal/s.cm ²	4.5 X 10 ⁻⁴
Coefficient of Linear Expansion (ASTM D696)	Cm/cm/°C	6.5 X 10 ⁻⁵
Ultimate Temperature of Continuous Operation	°C	60 – 90
Flammability (ASTM D635)	Mm/ min	33
Surface Resistivity at 28°C	Ohm	> 10 ¹⁶
Volume Resistivity (ASTM D257)	Ohm cm	> 10 ¹⁵
Thermoforming Ranges	°C	140 – 180
Dielectric Strength (ASTM D149)	Kv/Mm	20

Cast Acrylic Sheet Fire Rating

Cast Acrylic Sheet burn with little smoke generation. Its combustions gases are non toxic and non corrosive. It is classed as:

- Classification E according to Euro Norm (DIN EN SO 11925: 2: 2002-07)
- B2, with no burning droplets, according to DIN 4102
- M4(no droplets) according to NF 92500+
- Class 3 classification according to BS476 part 7
- Category TP (b) according to BS 2782, method 508A for thermoplastics material as defined by Building Regulations
- UL 94HB