CAST acrylic sheets with one side matt and one side glossy.

Technical conditions:
Our sheets are produced in accordance to ISO 7823-1.

Tolerances on size:
The Tolerances are as follows:
- standard sizes: 0/+ 10mm.
- cut to size +/- 1mm/lm

Squared cutting:
On request we can supply squared cuttings.

Untrimmed sheets:
Our cast acrylic sheets can be supplied on request untrimmed. Minor defects may occur in the oversize. Only net dimensions will be charged to the customer. The untrimmed size of the sheets is roughly 40mmbigger then the trimmed one.

Color formulation:
Slight differences may occur in shade between different production batches of the same color, caused bydifferent pigments batches, although every care has been put in production.
It is recommended not to use different production batches for the same fabrication.

Out of standard items:
Other thicknesses, dimensions and colors can be produced on request with minimum quantities.The order is accepted for the smallest production batch.
We have a large number of color formulation ready, don’t hesitate to contact us for information aboutcolor matching.

Light transmission:
The light transmission remains constant from 3mm to 10mm.

Storage:
The correct way to store acrylic sheets is to place them horizontally, on the supplied flat bulk skids, in a wellventilated, consistent temperature area. Avoid storing acrylic sheets where extreme variations in temperature may occur. Extreme temperature changes expand or contract the acrylic sheets.
Special vertical racks can be used to store the sheets vertically. The rack should allow the sheets to leanapproximately 10° (gradient).

Standard protection:

The side with printed logos identifies the side to be used as view side (guaranteed side).
The film is thermoformable for all Setacryl® sheets (glossy surface), but customers should perform a trialbefore use.
The film protecting Polarlite®, Satinlgas®, Stone®, Chroma®, Metallic Matt® and Seta-LETTER®, (satinsurfaces, also in their Green Cast® version) is not suitable for thermoforming.
All protection films are suitable for laser cutting.
In order to preserve the sheet from scratches, avoid sliding sheets across work surface debris. Dirt canpenetrate the masking, scratching the sheet.

Cleaning:

Acrylic sheets can be cleaned using a mild soap solution or a specific plastic cleaner, combined with a lintfree cloth.
To remove grease, oil, or tar use hexane or kerosene followed by a mild soap solution.Avoid cleaners containing alcohol or ammonia.

Safety:

Acrylic is a combustible thermoplastic that will ignite when in contact with any source of ignition. Unlike other polymers, does not produce toxic or corrosive gases and produces very little smoke. Production ofmolten droplets is reduced compared to extruded sheets.
When storing acrylic sheets, be aware of the material properties.Madreperla acrylic sheets classify:

- HB according to UL94
- E according to EN 13501

Thickness tolerances:

The sheets are produced upon ISO 7823-1.

Formula to calculate the thickness tolerance. The thickness can vary within the same sheet:

+/- (0,4 + (0,1 x s))

Where “s” is the nominal thickness in mm

Following the formula, the following thickness tolerances are accepted for cast acrylic sheets:

spess. in mm	3 mm	4mm	5mm	6mm	8mm	10mm	12mm	15mm	18mm	20mm	25mm
TOL.	+/- 0,7	+/- 0,8	+/- 0,9	+/- 1	+/- 1,2	+/- 1,4	+/- 1,6	+/- 1,9	+/- 2,2	+/- 2,4	+/- 2,9

GENERAL PROPERTIES

General properties	MM	Test standard	Unit	Typical value
Density		ISO 1183	g/cm3	1,19
Water absorption after 24 h	4	ISO R 62/DIN 53495	%	0,3
Water absorption after 8 days	4	ISO R 62/DIN 53495	%	0,5
Max. Water absorption after 1200h	3	Internal	%	1,75
Mechanical properties	**MM**	**Test standard**	**Unit**	**Typical value**
Poisson's ratio	4	ISO 527 – 1		0,39
Tensile strength at 23°C	4	ISO 527 – 2/1B**/5**	Mpa	76
Modulus of elasticity at 23°C	4	ISO 527 – 2/1B/1	MPa	3300
Elongation at break at 23°C	4	ISO 527 – 2/1B/5	%	6
Flexural strength	4	ISO 178	MPa	130
Notched impact strength (Izod)	4	ISO 180/1A	KJ/m2	1,4
Impact strength (Charpy)	4	ISO 179/1	KJ/m2	12
Rockwell hardness M scale	4	ISO 2039-2		100
Compressive yield stress	4	ISO 604	Mpa	130
Electrical properties	**MM**	**Test standard**	**Unit**	**Typical value**
Dielectric strength		DIN 53481	KV/mm	20 to 25
Volume resistivity		DIN 53482	Ohm x cm	>10 15
Dielectric constant to 50Hz		DIN 53483		3,7
Dielectric constant to 1 MHz		DIN 53483		2,6
Optical properties	**MM**	**Test standard**	**Unit**	**Typical value**
Transmittance	3-10	ISO 4892-1 / DIN 5036	%	>92
Haze (on colorless material)		ASTM D 1003	%	<0,5
Refractive index (on colorless material)		ISO 4892 / DIN 53491		1,492
Thermal properties	**MM**	**Test standard**	**Unit**	**Typical value**
Coefficient of linear expansion		ISO EN 2155-1	mm/m/°C	0,065
Thermal conductivity		DIN 52612	W/m/°C	0,17
Specific heat		ASTM C 351	J/g/°C	1,35
Softening temperature (Vicat)		ISO R 306 Method B50	°C	>108
Heat deflection temp. under load (HDT)		ISO 75/A	°C	102
Dimensional change at heating (shrinkage)			%	2,5
Permanent service temperature			°C	80

Thermoforming parameters	MM	Test standard	Unit	Typical value
Forming oven temperature			°C	130-190
Max. heating temperature			°C	200
Max. linear shrinkage after heating thick <3mm			%	2

Flammability test	MM	Test standard	Unit	Typical value
Ignition temperature	BRD	DIN 51794	°C	450 approx
Fire rating	BRD	DIN 4102		B2, normally flammable
	FR	NF P 9250		M4
	UK	BS 476 Part.7		class 3
	EU	EN 13501-1-2009		E
	USA	UL 94		HB
Melt behavior when burning	FR	NF P 92505		Non dripping 3mm

The trials have been done on random samples and the values are not strictly binding.
The data and information given are intended as a general guide to the use of our products.
Madreperla S.p.A may not be held liable in regard to the product description and the suitability of aproduct for a particular application or purpose.