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Plazcryl range:

Plazcryl - PMMA sheets.

Standard Sizes

Thickness:	1.5 –	mm
	30.0	
Width:	1000 –	mm
	2140	
Length:	600 –	mm
	7000	

Technical Properties

	<i>Properties</i>	<i>ASTM</i>	<i>ISO</i>	<i>UNITS</i>	<i>Plazcryl</i>
	General				
1	Flammability	UL 94		Class	HB
2	Density	D-792	R-1183	g/cm ³	1.19
3	Water absorption	D-570	R-62	%	0.3
4	Mould shrinkage	D-955		%	0.2-0.6
	Mechanical				
5	Tensile Strength	D-638	R-527	MPa	72
6	Elongation at break	D-638	R-527	%	4
7	Flexural Strength	D-790	R-178	MPa	110
8	Flexural Modulus	D-790	R-178	MPa	3300
9	Rockwell hardness	D-785	M-scale		95
10	Impact Resistance (charpy unnotched)		R-179-2D	kJ/m ²	11
11	Impact Resistance (charpy notched)		R-179-2C	kJ/m ³	2
12	Impact Resistance (Izod notched)	D-256		J/m	20
	Optical				
13	Refractive Index	D-542	R-489		1.49
14	Light Transmission	D-1003		%	92
15	Haze (max)	D-1003		%	0.4

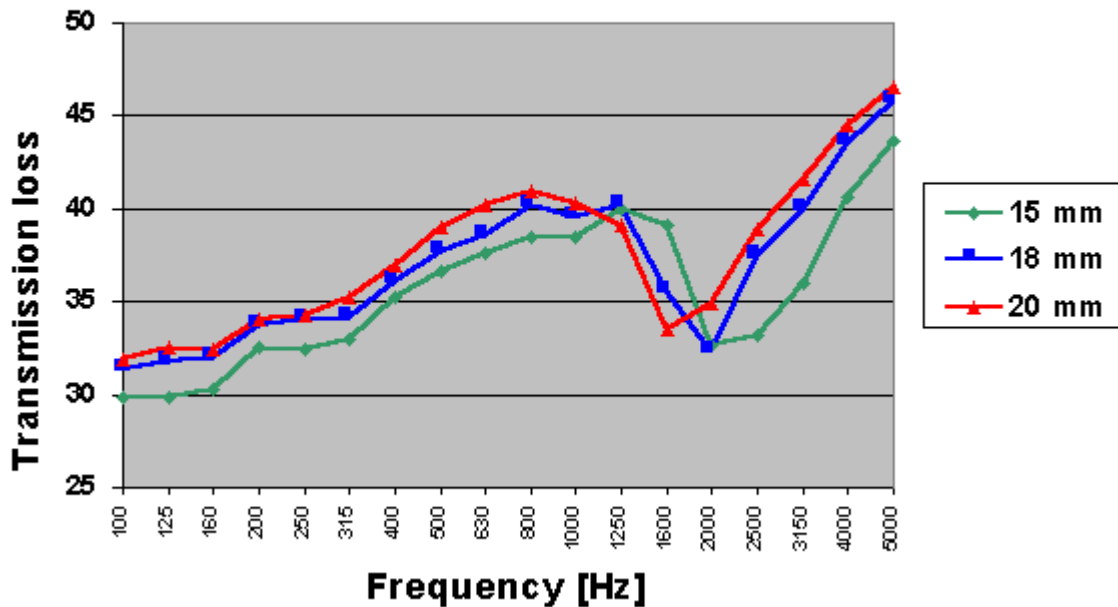
Electrical					
16	Dielectric strength	D-149		Mv/m	19.7
17	Dielectric Constants (50Hz)	D-150			3.7
18	Dielectric Constants (1 MHz)	D-150			0.04
19	Surface Resitivity	D-527		ohm	$>10^{14}$
20	Volume Resitivity	D-527		ohm/cm	$>10^{15}$
Thermal					
21	Vicat Softening (50N)	D-1525	R-306	$^{\circ}\text{C}$	103
22	HDT 1.82 Mpa	D-648	R-75	$^{\circ}\text{C}$	100
23	Coefficient of linear expansion (0-50 $^{\circ}\text{C}$)	D-696		10^{-5}K^{-1}	6.5
24	Glow wire test			$^{\circ}\text{C}$	650

Noise Reduction Properties

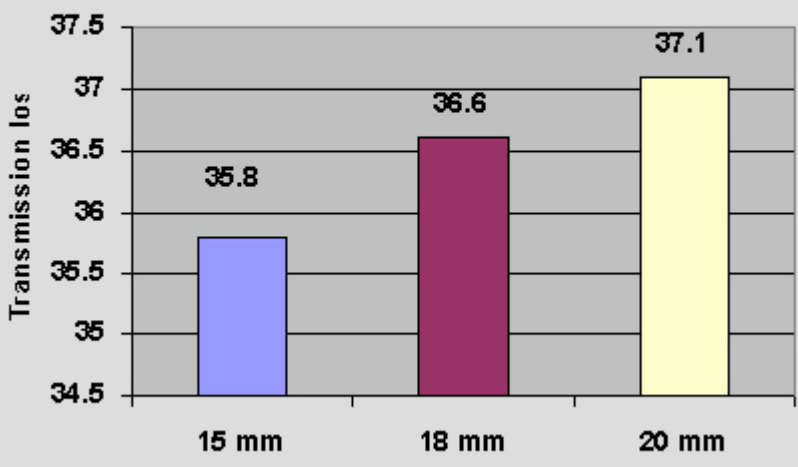
In addition to having excellent optical properties, Plazcryn sheets are also extremely noise absorbent and are now being widely used as noise reduction barriers along roads and highways in Europe.

Plazcryn sheets were tested and approved by numerous tests including ZTV Lsw-88. Certification can be supplied on request

**Graph 1: The transmission loss values for third octave bands .
(Measurement according to ISO 140-3)**



**Graph 2: Single values for the transmission loss
(weighted with a normalized traffic noise spectrum).
(All 3 thicknesses comply with R3 category according to EN 1793-2)**



Chemical Properties

The chemical resistance table gives an indication of the chemical resistance of Plazcryl to a range of common chemicals, judged by visual examination of small unstressed samples immersed in various liquids at 20°C.

This information should be used with some caution since the performance of articles is influenced by stresses applied to the material when machined or thermoformed. In case of doubt, it is recommended that appropriate tests be carried out to simulate the actual service conditions of the intended application.

The chemical resistance table refers only to the effects on Plazcryl resulting from contact with the substances listed. Information on compliance with particular requirements for contact with foodstuffs, potable water, cosmetics or pharmaceutical products should be requested from Plazit.

The resistance of clear Plazcryl sheets is indicated in the table below.

Chemical	Concentration			Chemical	Concentration	
Acetaldehyde		+		Hexane		+++
Acetic acid		+		Hydrochloriacid		+++
Acetic acid	10%	+++		Hydrofluoric acid	90% aqueous	+
Acetic anhydride		++		Hydrogen peroxide	10% aqueous	+++
Acetone		+		Hydrogen peroxide		+
Acetonitrile	Aqueous	+		Isopropyl alcohol	10%aqueous	++
Ammonia		+		Isopropyl alcohol	50%aqueous	++
Ammonium chloride	Saturated	++		Lactic acid		+++
Amyl acetate		+		Lanoline		+++
Aniline		+		Methyl alcohol		+
Benzaldehyde		+		Methyl alcohol	50% aqueous	+++
Benzene		+		Methyl alcohol	10%aqueous	++
Benzyl alcohol		+		Methyl ethyl ketone		+
Butyl acetate		+		Methyl salicylate		+
Butyl alcohol		+		Methylen		+
Calcium chloride	Saturated	+++		Nitric acid	95% aqueous	+
Carbon dioxide		+++		Nitric acid	10% aqueous	+++
Carbon disulfide		+		Nitrobenzene	98% aqueous	+
Carbon tetrachloride		+		Nitrogen		+++
Chlorine	2% aqueous	++		n-octane		++
Chlorine	Gas	+++		Olive oil		+++
Chlorine	Conc.	+++		Oxygen		+++
Chlorobenzene		+		Paraffin		+++
Chloroform	Saturated	+		Phosphoric acid		+
Chromic acid	10% aqueous	+++		Phosphoric acid	10% aqueous	+++
Chromic acid		+		Potassium hydroxide	Saturated	+++

Citric acid		+++		Salt water		+++
Cyclohexane		+		Silicone F110		++
Cyclohexanonl		+		Silicone F130		++
Dibutyl phthalate		++		Silicone R220		++
Dichloride		+		Sodium carbonate	Saturated	+++
Diesel oil		+++		Sodium chlorate	Saturated	+++
Diethyl ether		-		Sodium hydroxide	Saturated	+++
Diocetyl phthalate		++		Sodium thiosulfate	40% aqueous	+++
Epichlorohydrin		+		Sulfuric acid		+
Ethyl acetate		+		Sulfuric acid	30% aqueous	+++
Ethyl alcohol	10% aqueous	+++		Sulfuric acid	10% aqueous	+++
Ethyl alcohol	50%aqueous	++		Tetrahydrofuran		+
Ethyl alcohol		+		Tetraline		+
Ethyl dichloride	90% aqueous	+		Toluene		+
Ethylene glycol		+++		Trichloroethane		+
Formaldehyde	40% aqueous	+++		Trichloroethylene		+
Formic acid	10% aqueous	+++		Turpentine oil		+++
Formic acid		+		Water		+++
Glycerin		+++		Xylene		+

(+++) - Not affected, **(++)** - Affected, **(+)** - Dissolved

Plazcryl Super – PMMA High Impact Sheets

Combining all the qualities of Plazcryl, with added impact resistance, Plazcryl Super is an excellent solution to applications requiring extra strength and resilience.

Standard Sizes

Thickness:	1.5 –	mm
	30.0	
Width:	1000 -	mm
	2140	
Length:	600 –	mm
	7000	

Technical properties

					<i>Hi 25%</i>	<i>Hi 50%</i>	<i>Hi 100%</i>
	<i>Properties</i>	<i>ASTM</i>	<i>ISO</i>	<i>UNITS</i>	<i>R7700</i>	<i>R7500</i>	<i>R7600</i>
	General						
1	Flammability	UL 94		Class	HB	HB	HB
2	Density	D-792	R-1183	g/ ³	1.19	1.18	1.16
3	Water absorption	D-570	R-62	%	0.3	0.3	0.3
4	Mould shrinkage	D955		%	0.2-0.6	0.2-0.6	0.2-0.6
	Mechanical						
5	Tensile Strength	D-638	R-527	MPa	60	59	46
6	Elongation at break	D-638	R-527	%	12	30	40
7	Flexural Strength	D-790	R-178	MPa	95	82	63
8	Flexural Modulus	D-790	R-178	MPa	2600	2250	1850
9	Rockwell hardness	D-785	M-scale		77	75	60
10	Impact Resistance (charpy unnotched)		R-179-2D	kJ/m ²	46	72	91
11	Impact Resistance (charpy notched)		R-179-2C	kJ/m ³	3	4.7	6
12	Impact Resistance (Izod notched)	D-256	R-180-4A	J/m	30	51	64
	Optical						
13	Refractive Index	D-542	R-489		1.49	1.49	1.49
14	Light Transmission	D-1003		%	92	92	91

15	Haze (max)	D-1003		%	< 0.7	< 1	< 1
	Electrical						
16	Dielectric strength	D-149		Mv/m	19.7	19.7	19.7
17	Dielectric Constants (50Hz)	D-150			3.7	3.7	3.7
18	Dielectric Constants (1 MHz)	D-150			0.04	0.04	0.04
19	Surface Resitivity	D-527		ohm	> 10 ¹⁴	> 10 ¹⁴	> 10 ¹⁴
20	Volume Resitivity	D-527		ohm/cm	> 10 ¹⁵	> 10 ¹⁵	> 10 ¹⁵
	Thermal						
21	Vicat Softening (50N)	D-1525	R-306	°C	105	108	103
22	HDT 1.82 Mpa	D-648	R-75	°C	98	95	89
23	Glow wire test			°C	650	650	650

Plazcryl UVT – PMMA UV Transmission

A special grade of sheet for applications requiring UV radiation transmission, as well as UV stability of the sheet.

Standard Sizes

Thickness: 1.5 – 25.0 mm

Width: 1000, 1220 and 2050 mm

Length: 600 – 6000 mm

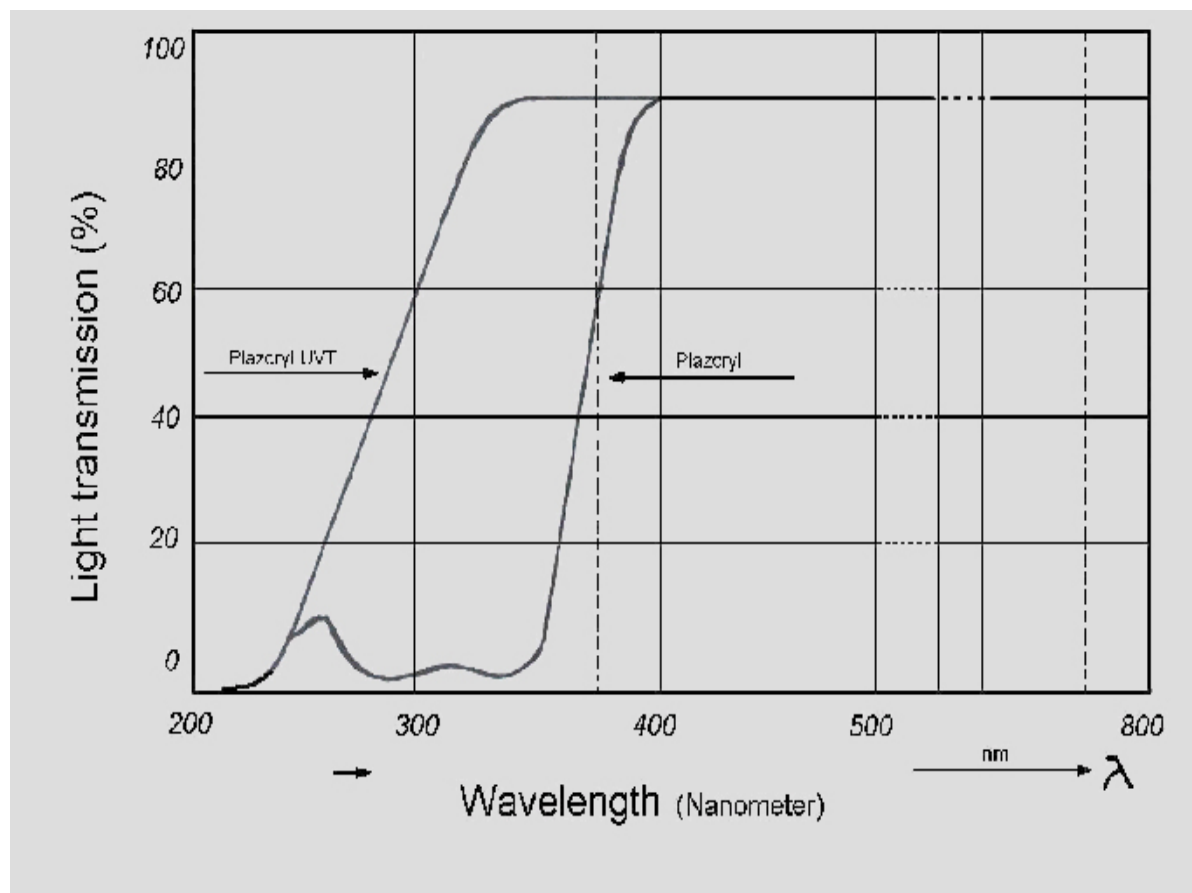
Technical properties

	<i>Properties</i>	<i>ASTM</i>	<i>ISO</i>	<i>UNITS</i>	<i>Plazcryl UVT R7100</i>	
	General					
1	Flammability	UL 94		Class	HB	
2	Density	D-792	R-1183	g/cm ³	1.19	

3	Water absorption	D-570	R-62	%	0.3
4	Mould shrinkage	D955		%	0.2-0.6
	Mechanical				
5	Tensile Strength	D-638	R-527	MPa	72
6	Elongation at break	D-638	R-527	%	3
7	Flexural Strength	D-790	R-178	MPa	115
8	Flexural Modulus	D-790	R-178	MPa	3300
9	Rockwell hardness	D-785	M-scale		95
10	Impact Resistance (charpy unnotched)		R-179- 2D	kJ/m ²	12
11	Impact Resistance (charpy notched)		R-179- 2C	kJ/m ³	1.4
12	Impact Resistance (Izod notched)	D-256		J/m	20
	Optical				
13	Refractive Index	D-542	R-489		1.49
14	Light Transmission	D-1003		%	92
15	Haze (max)	D-1003		%	0.4
	Electrical				
16	Dielectric strength	D-149		Mv/m	19.7
17	Dielectric Constants (50Hz)	D-150			3.7
18	Dielectric Constants (1 MHz)	D-150			0.04
19	Surface Resitivity	D-527		ohm	> 10 ¹⁴
20	Volume Resitivity	D-527		ohm/cm	> 10 ¹⁵
	Thermal				
21	Vicat Softening (50N)	D-1525	R-306	°C	10
22	HDT .82 Mpa	D-648	R-75	°C	100
23	Coefficient of linear expansion (-50°C)	D-696		10 ⁻⁵ K ⁻¹	7
24	Glow wire test			°C	650

UV transmission performance.

Graph A - Light transmission of Plazcryl and Plazcryl UVT



Plazcryl Embossed Sheets

These sheets are available in the following patterns:

1. Cracked ice.
2. Prismatic K12 *
3. Pinspot.
4. Aqua.
5. Mastercarre
6. Non reflect **

Standard Sizes

Thickness: 1.8 – 6.0 mm

1000, 1220

Width:	& 1500	mm
Length:	600 – 6000	mm
*Minimum Thickness:	2.30	mm.
** Thickness:	1.20 – 3.00	mm only

Plazcryn Colors

Naturally colorless and exceptionally clear, Plazcryn sheets can be pigmented to obtain a wide range of tints and colors.

Plazcryn colored sheets maintain the same light transmission percentages for all sheets regardless of thickness.

The light transmission percentages of Plazcryn opal and colored sheet according to the Plazit 2001 color catalogue are listed below.

Light Transmission of PMMA Sheets

Code	Shade	Light transmission (%)
7000	CLEAR	92
7000I	CI	92
7000K	K12	92
7000P	PINSPOT	92
7000N	NR	92
7200	FROSTY	10-12
7048	IVORY	10-12
7062	OPAL	20-25
7063	OPAL	40-45
7064	OPAL	32-36
7065	OPAL	25-30
7066	WHITE OPAC	38-205
7068	OPAL	42-46
7069	DIFFUSER	80-82
7070	DIFFUSER	84-86
7071	DIFFUSER	76-78
7072	DIFFUSER	70-75
7015	LIGHT BLUE	60-64
7017	DARK BLUE	11-15
7019	FLUOR. BLUE	92
7056/7556	SMOKE BLUE	8-12
7021	FOREST GREEN	61-65
7022	LIGHT GREEN	92
7023	GLASS GREEN	92
7024	BOTTLE GREEN	48-52
7025	SILICON GREEN	92
7036	RED OPAC	0-6
7037	CLEAR RED	6-8

7049	CLEAR ORANGE	78-81
7050	ORANGE	6-8
7051	GOLD	84-86
7053	BRONZA	30-34
7054	BROWN	65-70
7087	RED BROWN	14-18
7089	SMOKE BROWN	9-13
7090	PURPLE BROWN	56-60
7091	DARK PURPLE BROWN	23-27
7057	GREY	46-50
7059/7559	BLUE GREY	39-42
7094	SMOKE GREY	25-30
7096/7596	DARK GREY	26-30
7097	SILVER	0

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