

# Multiwall Polycarbonate Product Details



## CONDENSATION CONTROL

A factory applied condensation control is available on Macrolux® panels. Reducing surface tension, the condensation control allows water to spread into a thin sheet rather than form into droplets. It is available for all applications from greenhouses to backyard patio covers.

## EASY TO INSTALL

Macrolux® panels resist cracking and splitting during cutting and drilling.

## AVAILABLE COLORS

Macrolux® panels are available in clear, bronze, opal, and custom colors by special order.

## EXTRA WIDE PANELS

Standard widths of 4 feet and 6 feet are available with lengths up to 39'.

## LIGHT TRANSMISSION

Macrolux® multi-wall sheets provide a wide variety of thicknesses and colors providing up to 82% visible light transmission. Macrolux® multi-wall sheets are essentially opaque at all wavelengths below 385 nanometers limiting the damaging effects of UV light. They have a clear co-extruded outer surface which provides high stability against the effects of UV radiation and gives excellent durability to outdoor weathering. This unique protection insures long term opti-mal quality under intensive UV exposure.

## LIGHTWEIGHT

Weighing just one-eighth the weight of glass, polycarbonate panels do not need the extensive structural support that a heavier glass wall or glazing material requires.

## BENDING RADII

Macrolux® multi-wall sheets can be cold formed and used in many curved applications, for example, arched walkways.

Sheets must always be bent longitudinally, never across the width of the sheet.

In applications of this nature it is important to avoid over tensioning of the sheet. Therefore, when Macrolux® multi-wall is cold formed, the minimum radius should not be less than 150 times the thickness of the sheet.

SHEET THICKNESS	MM	4	6	6	8	8	10	10	16	16	25	32	35
	INCH	5/32	1/4	1/4	5/16	5/16	3/8	3/8	5/8	5/8	1	1-1/4	1-3/8
WALL TYPE		Twin	Twin	Triple	Twin	Triple	Twin	Triple	Five	X-Strong	Five	Five/M	Five/M
RIB SPACING	INCH	0.236	0.236	0.315	0.354	0.315	0.354	0.315	0.787	0.551	0.787	1.26	1.26
STRUCTURE TYPE		Twin Wall Version 		Triple Wall Version 		Five Wall Version 		X-Strong Version 		Five M-Wall Version 			
LIGHT TRANSMISSION ASTM-D1003 (%)	Clear	82%	80%	75%	80%	75%	80%	75%	62%	62%	60%	60%	60%
	Bronze	25%	25%	23%	25%	23%	25%	23%	25%	20%	20%	15%	15%
	Opal	60%	60%	60%	60%	60%	55%	55%	40%	40%	25%	20%	15%
U FACTOR		0.634	0.616	0.600	0.560	0.528	0.528	0.475	0.335	0.350	0.264	0.250	0.229
R-VALUE R=1/U		1.58	1.62	1.67	1.79	1.89	1.89	2.10	2.98	2.84	3.79	4.05	4.36
MIN. BENDING RADIUS	INCH	24	36	36	48	48	60	60	95	95	148	189	207

Tolerances: Thickness ± 5%, Length ± 1/4", Width ± 1/3, Weight ± 5%



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## **VIRTUALLY UNBREAKABLE**

You can be assured that from transport to installation, Macrolux® will maintain its durability. Even when exposed to elevated outdoor temperatures over a long period of time, it will maintain its structural integrity. It resists cracking and splintering during fabrication, assuring you a high degree of safety and it can be cold formed on site.

## **SAVES ENERGY**

The multi-walled construction of the Macrolux® sheet offers high thermal resistance, giving excellent thermal insulating values while blocking UV transmission.

## **WARRANTY**

Macrolux is backed by a 10 year limited warranty on light transmission and breakage caused by hail.

## **UV CO-EXTRUSION**

Macrolux® co-extruded thermoglazing incorporates new technology which results in exceptional resistance to aging. Macrolux® multi-wall is a high performance polycarbonate sheet. During manufacturing, a layer of UV absorber is co-extruded onto the surface of the sheet, forming a barrier against UV radiation. This gives Macrolux® multi-wall exceptional resistance to ageing without affecting the mechanical properties and impact strength.

## **FLAMMABILITY**

Macrolux® polycarbonate sheets are classified in accordance with ASTM standards. Compared with other plastic products used in the building industry, Macrolux® multi-wall sheets have an exceptional fire performance and most importantly, do not give off toxic gasses.

## **IMPACT RESISTANCE**

Among the thermoplastic products used in the building industry, Macrolux® co-extruded thermoglazing has a high impact

resistance - 200 times greater than glass and 10 times greater than acrylic.

A Macrolux® 8mm panel is so strong it can withstand the impact of a 16 lb. weight, falling 25 feet onto the panel, with no breakage. It will maintain its impact strength over a wide temperature range from - 40°F to 250°F.

## **PROPER INSTALLATION**

Macrolux® is supplied with a protective PE film which should be kept on until sheet is installed. The UV protected side is to be faced towards the sun and is marked with a white printed film, light blue film or a sticker saying Macrolux® multi-wall polycarbonate sheet. Macrolux® crates or sheets should be stored in an area not exposed to the sun, or indirect heat from the sun, which could make the removal of protective film difficult.

Stiff fixing by means of adhesive or putty is to be avoided. Top and bottom ends of a sheet must always be sealed by means of aluminum tape to prevent dust or dirt penetrating the inside of the ribs. Aluminum tape must be protected with proper polycarbonate “U” profiles.



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Thickness	Wall Structure	Length (inch)	Maximum Deflection 1"											
			Load (lb./ft <sup>2</sup> )											
			15	30	45	60	15	30	45	60	15	30	45	60
			2' Width				4' Width				6' Width			
6mm, 1/4"	Twin, Triple		25	21	20	15	18	16	—	—	18	—	—	—
8mm, 5/16"	Twin, Triple		31	22	18	16	21	17	—	—	20	—	—	—
10mm, 3/8"	Twin, Triple		98	34	26	23	27	21	19	17	24	21	18	—
16mm, 5/8"	Five		118	66	36	30	32	24	21	18	29	23	20	18
25mm, 1"	Five		465	150	126	120	44	32	29	26	37	29	26	19
32mm, 1-1/4"	Five M		465	197	146	110	50	37	31	28	40	32	29	25
35mm, 1-3/8"	Five M		465	236	157	118	58	42	34	31	44	33	30	26

Thickness	Wall Structure	Length (inch)	Maximum Deflection 2"											
			Load (lb./ft <sup>2</sup> )											
			15	30	45	60	15	30	45	60	15	30	45	60
			2' Width				4' Width				6' Width			
6mm, 1/4"	Twin, Triple		60	27	23	16	22	17	—	—	20	—	—	—
8mm, 5/16"	Twin, Triple		65	33	24	18	25	19	—	—	22	—	—	—
10mm, 3/8"	Twin, Triple		132	67	45	36	34	26	23	21	26	23	20	—
16mm, 1/8"	Five		177	98	54	41	41	30	26	23	35	27	23	19
25mm, 1"	Five		465	164	146	133	70	43	37	32	44	35	31	20
32mm, 1-1/4"	Five M		465	217	162	134	88	50	40	36	49	39	34	27
35mm, 1-3/8"	Five M		465	297	189	148	108	62	47	41	55	42	37	28

Thickness	Wall Structure	Length (inch)	Maximum Deflection 3"											
			Load (lb./ft <sup>2</sup> )											
			15	30	45	60	15	30	45	60	15	30	45	60
			2' Width				4' Width				6' Width			
6mm, 1/4"	Twin, Triple		106	32	26	17	26	18	—	—	21	14	—	—
8mm, 5/16"	Twin, Triple		98	44	30	19	29	21	—	—	23	16	12	—
10mm, 3/8"	Twin, Triple		165	100	63	49	40	31	27	25	28	25	21	14
16mm, 1/8"	Five		236	130	71	51	50	36	31	28	40	31	25	20
25mm, 1"	Five		465	177	165	146	96	54	44	38	51	41	36	21
32mm, 1-1/4"	Five M		465	236	177	157	126	62	48	44	58	45	39	28
35mm, 1-3/8"	Five M		465	357	221	177	157	82	60	50	65	50	44	29

The information contained in these charts has been drafted on the basis of our best knowledge. A&C reserves the right to change specifications and data, with out notice, if deemed necessary in the evolution of its products. It is the sole responsibility of the customer to confirm with their own architect, engineer or other professional consultants that the materials offered for sale meet the requirements and specifications of the particular project and use for which they are being purchased.



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