

 **Macrolux**<sup>®</sup>

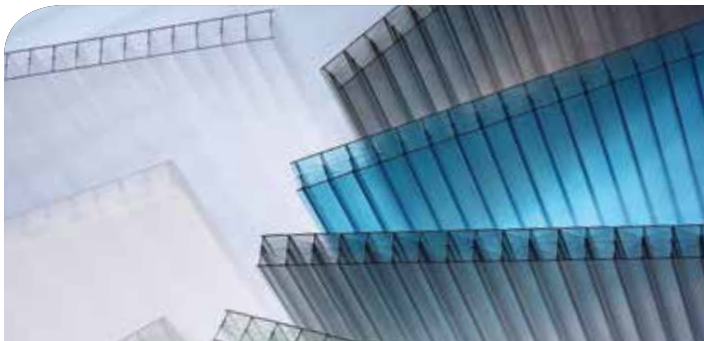
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**MULTI WALL  
POLYCARBONATE SHEETS**

## COEXTRUDED THERMOGLAZING

Multiwall (Twin, Triple, Five, X-Strong and M-wall) polycarbonate panels from Macrolux CANADA are assuming a more and more important role in the transparent building materials market. To meet your growing requirements and to serve you more efficiently, we have a fully staffed customer service department. Let us show you what an enjoyable experience it can be to work with Macrolux CANADA!

### Applications



Macrolux® is perfect for applications requiring a material which offers; high light transmission, thermal insulation, lightness of weight with strength, high shock resistance, flame retardance, great economy, vandal resistance and design flexibility. Consider using Macrolux® panels in your next project.



#### HORTICULTURAL

For greenhouse coverings where good thermal insulation is necessary together with high light transmission.



#### ARCHITECTURAL GLAZING

With the ability to be cold-formed into arches, Macrolux® offers architects true design freedom. Consider the possibilities of using Macrolux® for walkways, indoor shopping centers, swimming pool coverings, skylights, and other enclosures.



#### INDUSTRIAL BUILDING

For various glazing applications, skylights, walkways, windows, shelters, and insulated roofing.



#### HOME IMPROVEMENT

For easy do-it-yourself projects like window replacements, shower enclosures, hobby greenhouses, partitions, light covers, patio covers, carports and more.



Macrolux® sheeting has been designed as a glazing product. It is the sole responsibility of the customer to confirm with their own architect, engineer or other professional consultants that the goods offered by Macrolux CANADA meet the requirements and specifications of the particular project and use for which they are being purchased.

## Features and benefits

### 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.



### Impact resistance

Among the thermoplastic products used in the building industry, Macrolux® coextruded 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.



### Saves energy

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



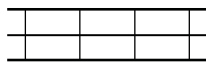
### Condensation control

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.

## Structure Type



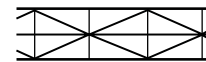
Twin Wall



Triple Wall



Five Wall



X-Strong



Five M Wall


## Technical Data


Immediate delivery of sheets in 4 and 6 foot widths. Other widths are available by special order. Sheets may be supplied cut to your exact size specifications. Length tolerance for custom produced materials is -0 +30mm. (Sheets over 236.25" (6m) have a tolerance of -0 +30mm)

CHARACTERISTICS	TWIN WALL				TRIPLE WALL			FIVE WALL		X-STRONG	FIVE M-WALL	
Sheet Thickness mm	4*	6	8	10	6*	8	10	16	25	16	32	35
inch	5/32	1/4	5/16	3/8	1/4	5/16	3/8	5/8	1	5/8	1 1/4	1 3/8
Rib Spacing (inch)	0.236	0.236	0.354	0.354	0.315	0.315	0.315	0.787	0.787	0.551	1.26	1.26
U factor (Btu/ft <sup>2</sup> h°F)	0.634	0.616	0.560	0.528	0.600	0.528	0.475	0.335	0.264	0.350	0.250	0.229
R-Value R = 1/U	1.58	1.62	1.79	1.89	1.67	1.89	2.10	2.98	3.79	2.84	4.05	4.36
Min. Bending Radius (inch)	24	36	48	60	36	48	60	95	148	95	189	207
<b>Light transmission (%)</b>												
Clear	82	80	80	80	75	75	75	62	60	62	60	60
Bronze	25	25	25	25	23	23	23	25	20	20	15	15
Opal	60	60	60	55	60	60	55	40	25	40	20	15

## Features and benefits


 **Easy to install**  
Macrolux® panels resist cracking and splitting during cutting and drilling.

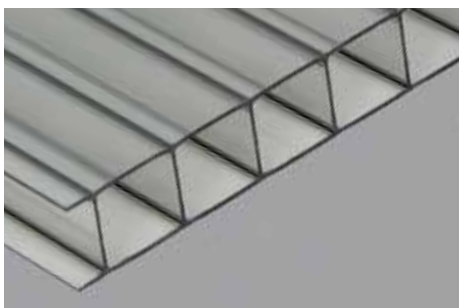
 **Extra wide panels**  
Standard widths of 4 feet and 6 feet are available with lengths up to 39'.


 **Light transmission**  
Offering up to 82% light transmission in clear. Also available in bronze, opal, and custom colors by special order.

Macrolux® multiwall sheets are available in a wide variety of thicknesses and colors providing up to 82% visible light transmission.

Macrolux® multiwall 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 optimal 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.




 **UV Co-Extrusion**  
Macrolux® co-extruded thermoglazing incorporates new technology which results in exceptional resistance to aging.

Macrolux® multiwall 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® multiwall 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® multiwall sheets have an exceptional fire performance and most importantly, do not give off toxic gasses.

 **Bending RADII**  
Macrolux® multiwall 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® multiwall is cold formed,

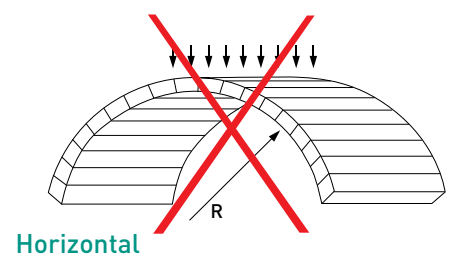
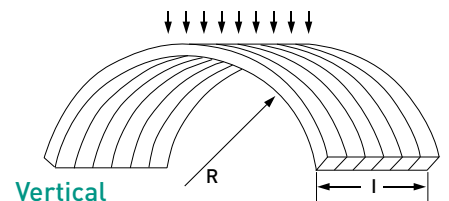
the minimum radius should not be less than 150 times the thickness of the sheet.

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

**Proper installation**  
Macrolux® is supplied with a protective PE film which should be kept on until the 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® multiwall 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.

**Ribs should always run vertical**



## Chemical resistance

The compatibility tests are carried out by immersing the polycarbonate sample piece for 180 days in the substance to be tested at a constant temperature of 20°C. The esthetical aspect (dulling, fissures) is then evaluated and the mechanical characteristics are compared with the original values of the polycarbonate.

### CHART KEY:

**Resistant**

**Partially resistant**

**NOT resistant**

### CHEMICALS

Acetic acid 5%  
Acetylene  
Alum  
Aluminium alum  
Aluminium chloride  
Aluminium oxalate  
Aluminium sulphate  
Ammonium chloride  
Ammonium nitrate  
Ammonium sulphate  
Ammonium trichloride  
Antimony pentachloride  
Arsenic acid 20%  
Arsenous acid 20%  
Borax  
Boric acid  
Butane  
Butanol  
Butilic alcohol  
Butylenic glycol  
Calcium chloride  
Calcium hydrate  
Calcium hypo chloride  
Calcium nitrate  
Calcium soap  
Carbonic acid  
Carbon oxide  
Chloride of lime  
Chrome alum  
Chromic acid 20%  
Citric acid 10%  
Concrete  
Copper chloride  
Coppers sulphate  
Copper chloride  
Decalin  
Ethilenglycol  
Ethyl alcohol 96%  
Ethylene glycol  
Fluosilicic acid 30%  
Formalin  
Glycol  
Glycolic acid  
Heptane  
Hexane  
Hydrochloric acid 10%  
Hydrogen sulphide  
Iron chloride  
Iron sulphate  
Kerosene  
Lactic acid 5%  
Ligroin  
Magnesium chloride  
Magnesium sulphate  
Manganese sulphate  
Mercury  
Mercury chloride  
Methylisobutylketone  
Naphtha  
n-butyl alcohol  
Nickel sulphate  
Oleic acid  
Oxalic acid  
Oxygen

Ozone  
Pentane  
Perchloric acid 10%  
Phosphoric acid  
Phosphoric Oxychloride  
Potassium alum  
Potassium bromide  
Potassium carbonate  
Potassium chloride  
Potassiummetabisulphite 4%  
Potassium nitrate  
Potassiumperchlorate 10%  
Potassiumpermanganate 10%  
Potassium persulphate  
Potassium Rhodanate  
Potassium sulphate  
Propane  
Propargylic alcohol  
Propyl alcohol  
Soda  
Sodium bisulphate  
Sodium bisulphite  
Sodium carbonate  
Sodium chlorate  
Sodium chloride 10%  
Sodium hydrate 1%  
Sodium hypo chloride  
Sodium sulphate  
Sulphuric acid at 50%  
Synthetic saliva  
Synthetic sweat  
Tartaric acid  
Turpentine  
Water  
Zinc chloride  
Zinc oxide  
Zinc sulphate  
Acetic acid 30%  
Amilacetate  
Aniline  
Benzoic aldehyde  
Bromine  
Bromobenzol  
Chlorobenzol  
Cresol  
Diamphtalate  
Diethyl ether  
Dimethylformaldehyde  
Dyburylphthalate  
Ether  
Ethilenchloride  
Ethyl bromide  
Etilencloridrina  
Hydrofluoric acid  
Iodine  
Methanol  
Methylamine  
Methylene chloride  
Methylic ester  
Methylketone  
Nitrobenzole  
Nitrous gases  
Perchlorethylene  
Sodium hydrate 10%  
Sulphoral chloride  
Sulphurous acid 10%  
Sulphur  
Tetrahydrofuran  
Trichlorethylamine  
Trichloro-ethylene

Acetaldehyde  
Acetic acid  
Acetone  
Acrylic nitrile  
Acrylonitrile  
Allylic alcohol  
Ammonia  
Ammonia water  
Ammonium fluoride  
Ammonium hydrate  
Ammonium sulphide  
Benzene  
Benzoic acid  
Benzole  
Benzyl acid  
Benzyl alcohol  
Bromobenzene  
Butyl acetate  
Butylstearate  
Butyric acid  
Carbon sulphide  
Carbon tetrachloride  
Caustic potash 5%  
Caustic soda 5%  
Chlorine gas  
Chloroform  
Cyclohexane  
Cyclohexanon  
Cyclohexaol  
Cyclohexene  
Dimethyl Fluorinamide  
Dinonilphthalate  
Dioxane  
Diocetyl adipate  
Diocetyl phtalate  
Diphyl  
Ethyl chloridrine  
Ethyl ether  
Ethylamine  
Ethylene chloride  
Formic Acid 30%  
Glycerine  
Hydrochloric acid 35%  
Industrial petrol  
Isoamyl alcohol  
Isopropyl alcohol  
Lime wash  
Methyl alcohol  
Methyl metacrylate  
Nitric acid 10%  
Nitrobenzene  
Perchloric acid  
Petroleum  
Petroleum ether  
Phenic acid  
Pheniletylic alcohol  
Phenol  
Phosphor trichloride  
Phosphorus chloride  
Potassium cyanide  
Potassium dichromate  
Potassium sulphocyanide  
Propionic acid  
Pyridine  
Sodium bicarbonate  
Sodium sulphide  
Sulphur dioxide  
Sulphuric acid 70%  
Styrol  
Tetrachlorethane

Tetralin  
Thricloroacetic acid  
Thrimeticilic acid  
Tiophen  
Toluol  
Tri cresyl phosphate  
Trichlorethylphosphate  
Triethanolamine  
Urea  
Vinyl acetate  
Xylene

### DETERGENTS

Ajax  
Bleach  
Dor  
Fewa  
Horoligt M  
Into-Fensterklar  
Laundry soap  
Natril  
Parifex 2%  
Pril  
Rei  
Riseptin  
Sidolin  
Suwa  
Trisilin F  
WK 60  
Calgonit  
P3 Asepto  
Impact  
Omo  
Persil  
Rapdosept  
Somat  
Tiba

### DISINFECTANTS

Chloramine  
Delegol  
Lysoform 2%  
Maktol  
Menfen  
Oktozon 1%  
Perhydrol  
Pure alcohol  
Resorcina 1%  
Sublimate  
Trosilin G extra 1,5%  
Baktol  
Carboxylic Acid  
DDT  
Hydrogen peroxide 10%  
TB-Lysoform  
Dimamin  
Sagrotan 5%  
Tincture of iodine  
Zephirol

### FOODS

Apple juice  
Beer  
Beet  
Bovine tallow  
Butter  
Castor oil  
Chocolate  
Cinnamon  
Coffee  
Cognac  
Cucumbers  
Fish

Fruit juice  
Gin  
Glucose  
Grapefruit juice  
Linseed oil  
Liquors  
Liver oil  
Maggi  
Margarine  
Meat  
Mustard  
Olive oil  
Onions  
Orange juice  
Raspberry syrup  
Rum  
Salt  
Tea  
Tobacco  
Tomato sauce  
Vanilla  
Vegetable juices  
Vegetable oils  
Vinegar  
Vodka  
Wine  
Clove  
Nutmeg  
Pimento  
Lard

### OILS AND FATS

Aral BG  
Baysolin  
BP Energol  
Brunofix  
Darina  
Esso Estic  
Machine oil  
Mobil DTE  
Molikote  
Paraffin oil  
Polyran  
Rhenocolar N  
Shell Spirax 90  
Silicone oil  
Texano Regal  
Brake liquid  
Camphor oil  
Drill oil  
Skydrol  
Combustible oil  
Diesel oil  
Oily paint  
Shell Tellus 11-33  
Turpentine oil  
PHARMACEUTICALS  
Ambra solare  
Blood plasma  
Conditioner  
Hydroplex  
Lanoline  
Odol mouthwash  
Periston  
Vaseline  
Wick-Vaporuf  
Nailpolish solvent  
Methanol 90%

## Recommended Loading

### Maximum Deflection 1"

Thickness	Wall Structure	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 Length (inch)	25	21	20	15	18	16	-	-	18	-	-	-
8mm, 5/16"		31	22	18	16	21	17	-	-	20	-	-	-
10mm, 3/8"		98	34	26	23	27	21	19	17	24	21	18	-
16mm, 5/8"	Five Length (inch)	118	66	36	30	32	24	21	18	29	23	20	18
25mm, 1"		465	150	126	120	44	32	29	26	37	29	26	19
32mm, 1-1/4"	Five M Length (inch)	465	197	146	110	50	37	31	28	40	32	29	25
35mm, 1-3/8"		465	236	157	118	58	42	34	31	44	33	30	26

### Maximum Deflection 2"

Thickness	Wall Structure	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 Length (inch)	66	27	23	16	22	17	-	-	20	-	-	-
8mm, 5/16"		65	33	24	18	25	19	-	-	22	-	-	-
10mm, 3/8"		132	67	45	36	34	26	23	21	26	23	20	-
16mm, 5/8"	Five Length (inch)	177	98	54	41	41	30	26	23	35	27	23	19
25mm, 1"		465	164	146	133	70	43	37	32	44	35	31	20
32mm, 1-1/4"	Five M Length (inch)	465	217	162	134	88	50	40	36	49	39	34	27
35mm, 1-3/8"		465	297	189	148	108	62	47	41	55	42	37	28

### Maximum Deflection 3"

Thickness	Wall Structure	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 Length (inch)	106	32	26	17	26	18	-	-	21	14	-	-
8mm, 5/16"		98	44	30	19	29	21	-	-	23	16	12	-
10mm, 3/8"		165	100	63	49	40	31	27	25	28	25	21	14
16mm, 5/8"	Five Length (inch)	236	130	71	51	50	36	31	28	40	31	25	20
25mm, 1"		465	177	165	146	96	54	44	38	51	41	36	21
32mm, 1-1/4"	Five M Length (inch)	465	236	177	157	126	62	48	44	58	45	39	28
35mm, 1-3/8"		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. Macrolux CANADA reserves the right to change specifications and data, without 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.



Other fine products by Macrolux®

## Macrolux® Polycarbonate Profiles

Macrolux® Profiles are available to get the best performance from Macrolux® sheeting. The U-profile closes the cut edge of the multiwall sheet while the H, Snap-H and Ridge Profiles make joining simple and efficient.



## Macrolux® Corrugated Polycarbonate

Macrolux® polycarbonate corrugated sheet provides design professionals, greenhouse growers, and do-it-yourselfers with an easily fabricated and installed building product. Unique physical, mechanical, thermal and optical properties combine to make Macrolux® flexible and strong yet light in weight.



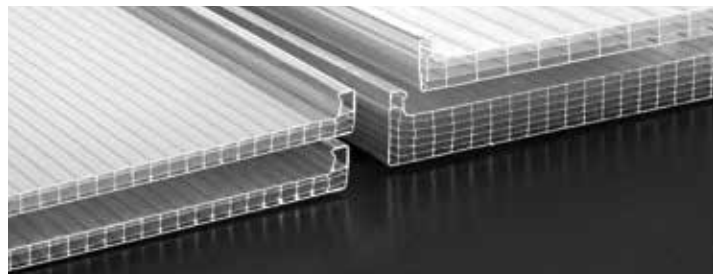
## Macrolux® MB Corrugated Skylight

The Macrolux® MB panel is designed to match typical metal building profiles in both 9" and 12" patterns, so it easily creates skylights and sidelights. Macrolux MB® features all the benefits of our standard Macrolux® corrugated panels.



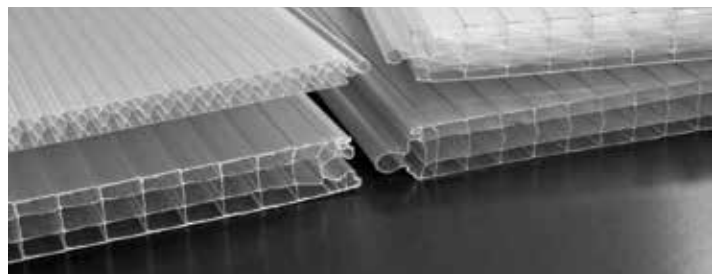
## BDL Translucent Polycarbonate Multiwall Panel Systems

BDL is a system of standing seam modular panels used to create vertical and sloped glazing. It is suited for a range of applications from curved skylights to interiors. Thanks to its variety of accessories, the system is complete, versatile, lightweight and easy to install.



## Modulit 500 LP Wall System

MODULIT 500 LP system is suitable for any translucent glazing application such as clerestory glazing, external translucent walls and internal translucent partitions.





This information and our product application recommendations are illustrative and must be verified for each project. The pictures presented are merely illustrative.

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