

 **Macrolux**<sup>®</sup>

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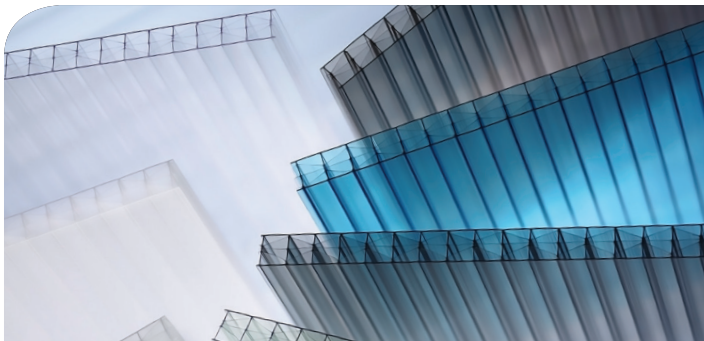
**MULTI WALL  
POLYCARBONATE SHEETS**



Macrolux Multiwall Polycarbonate is a high performance roofing sheet which has been designed for industrial, commercial, architectural, residential, greenhouse and other applications where insulated glazing is required.

It offers a 15 year limited warranty against loss of light transmission according to ASTM D-1003 and against yellowing according to ASTM D-1925, thanks to the co - extruded UV layer fused to the PC sheet.

## 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.

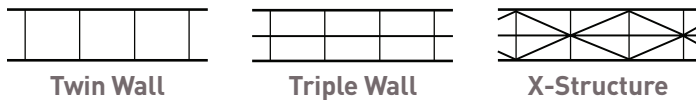


Macrolux® sheeting has been designed as a glazing product. It is the sole responsibility of the customer to confirm with their own architect, engineer or other professional consultants that the goods offered by Macrolux CANADA meet the requirements and specifications of the particular project and use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

## Benefits

- Lightweight
- Excellent Light Transmission
- Long Life UV Protection, UV Co-extruded
- Impact Resistance, Virtually Unbreakable
- Self-Extinguishing
- Thermal Insulation
- Withstands Extreme Temperatures
- Easy to Install
- Energy Saving
- 15 Year Limited Warranty

## Structure Type



## Dimension and Thickness Availability

WIDTH (in)	LENGTH (ft)	GAUGES
47.25", 48", 71.25", 72", 82.67"	Up to 48'	4 mm (3/16"), 6 mm (1/4"), 8 mm (5/16"), 10 mm (3/8"), 16 mm (5/8")

## Product Range and Technical Data

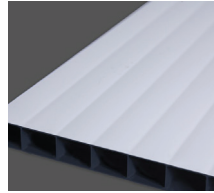
CHARACTERISTICS	TWIN WALL						TRIPLE WALL				TRIPLE WALL X-STRUCTURE		
	4	6	8	10	8	10	16	16	16	16			
Sheet Thickness mm	4	6	8	10	8	10	16	16	16	16	16	16	
Weight (lb/ft <sup>2</sup> )	0.16	0.26	0.31	0.35	0.35	0.41	0.31	0.35	0.35	0.41	0.55	0.51	0.55
Weight (g/m <sup>2</sup> )	800	1300	1500	1700	1700	2000	1500	1700	1700	2000	2700	2500	2700
Thermal Insulation BTU/hr - ft <sup>2</sup> °F (ASTM C976/90) [U-Value / R-Value]	0.72 / 1.39	0.65 / 1.54	0.58 / 1.73	0.58 / 1.73	0.55 / 1.82	0.55 / 1.82	0.50 / 2.00	0.50 / 2.00	0.44 / 2.27	0.44 / 2.27	0.41 / 2.44	0.35 / 2.86	0.35 / 2.86
Cold Forming Radius (Minimum Permissible) (Inch)	29.5	39.4	49.2	49.2	59.1	59.1	51.2	51.2	N/A	N/A	113.4	118.1	118.1
Heat Expansion Coefficient (In/Ft°F)	3.6x10 <sup>-5</sup>												
Maximum Permanent Service Temperature w/o Load (°F)	248												
Possible Expansion Due to Heat and Moisture (In/Ft)	0.036												
Weighted Sound Reduction Index [dB]	N/A	10	14	14	16	16	14	14	N/A	N/A	21	21	21
<b>Light transmission (%)</b>													
Clear	82	80	80	80	80	80	72	72	72	72	73	59	59
Opal	61	55	54	54	54	54	54	54	54	54	N/A	32	32
White	37	23	19	19	15	15	19	19	15	15	N/A	4	4
Bronze	52	50	50	50	46	46	50	50	46	46	N/A	31	31
HD Soft White	N/A	N/A	77	77	N/A	N/A	N/A	N/A	N/A	N/A	66	N/A	N/A
Smoke Grey	40	37	30	30	30	30	30	30	30	30	N/A	27	27
Pearlescent Grey	N/A	15	15	15	15	15	15	15	15	15	N/A	15	15
Blue	52	50	50	50	47	47	50	50	47	47	N/A	37	37
Green	55	55	55	55	55	55	55	55	55	55	N/A	35	35
Opal Ice	32	32	32	32	32	32	32	32	32	32	N/A	N/A	N/A

Width Tolerance -0mm to +8mm [-0" to .31"] - Length Tolerance 2mm/1meter (.024"/1feet) - Thickness +/- 0.5mm (+/- 0.02")

## Special features available



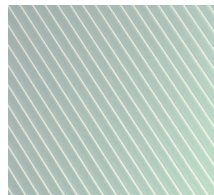
**IQ Relax** – Offers high thermal insulation without sacrificing natural light. IQ Relax panels are coextruded with an advanced additive technology that adapts to weather conditions which helps maintain a comfortable temperature inside the structure. During summer months reflects heat and solar energy while in winter it keeps the heat in.



**Light Deprivation Panel** – 100% Opaque multiwall polycarbonate sheet with the option of being in different configurations; Black, White/Black or White/Black/White. This sheet is designed for the end and side walls of a greenhouse which require a light deprivation system.



**No Drip** – Anti condensate that inhibits the formation of condensation into droplets by reducing surface tension making the condensation run off the sheets into the gutter or drain.



**IQ Selective** – Designed for retail garden centers offering high light transmission while reflecting the solar energy making the temperature of the shopping environment very comfortable.



**Frostyglass** – Features a ground glass appearance, providing greater light diffusion and privacy.



**2 UV** – Two sided UV protection for superior resistance against UV rays which helps maintain long term high light transmission and provides cutting and installation advantages.

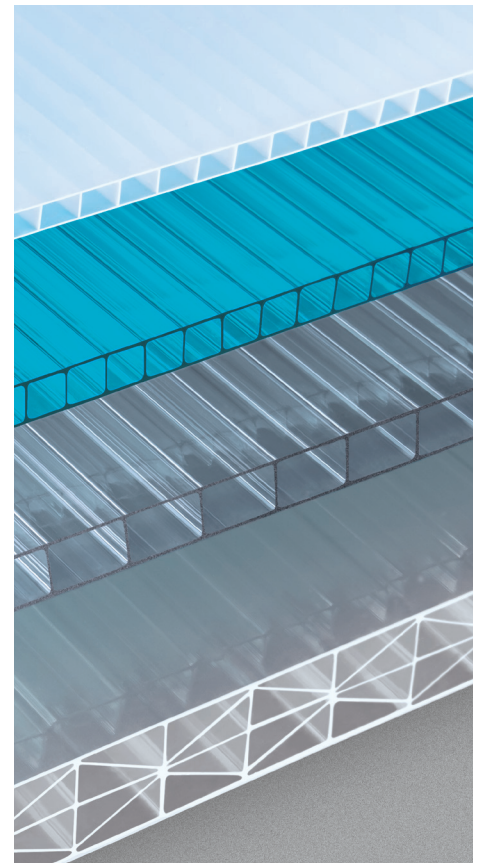
## Loading Guidelines

### Maximum purlin spacing (inches) Sheet deflection - 1"

Load (lbs/ft <sup>2</sup> )	4' WIDE SHEET				6' WIDE SHEET			
	15	30	45	60	15	30	45	60
6 mm	31"	24"	12"	*	25"	9"	*	*
8 mm	38"	28"	18"	10"	36"	26"	12"	*
10 mm	45"	34"	28"	24"	44"	33"	27"	20"
16 mm	75"	43"	36"	30"	60"	40"	36"	30"

## Fire rating

ASTM	CLASSIFICATION
ASTM E84-01	Class A (NFPA); Class I (UBC)
ASTM D635-74	Class CC1
ASTM D2843-93	Low Smoke Density (UBC standard No. 26.5)
ASTM D1929-68	Self Ignition Temperature greater than 650°F



## 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  
Methyl 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%

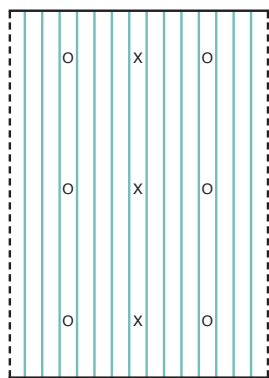
## Guide for Cutting, Storage and Installation

**Cutting:** To cut sheet width and length use circular saw and fine tooth plywood blade (at least 10 teeth per inch). Cut sheets before taking off protective poly film. Clean sheet flutes out after cutting with vacuum or blow out channels with an air compressor before installation.

**Storage:** Store sheets out of direct sunlight in a dry area. Keep sheets in a well ventilated location.

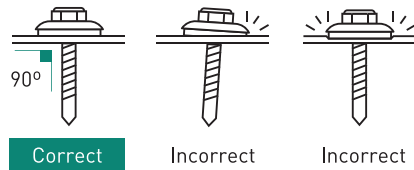
**Thermal Expansion:** For each linear foot, allow 1/32" for expansion or contraction of sheet for every 100 degree temperature differential (contact Macrolux CANADA for the expansion rate on colored materials). Pre-drill screw holes 1/4" larger than screw diameter.

## Screw attachment



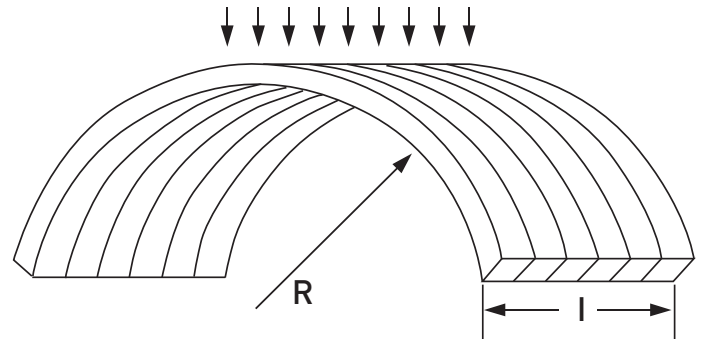
**Pre-drill Screw Holes 1/4" larger than Screw diameter.**

X Mid-Sheet fasteners for 48" sheet  
O Mid-Sheet fastener for 72" sheet  
Fasten sheets in all four corners

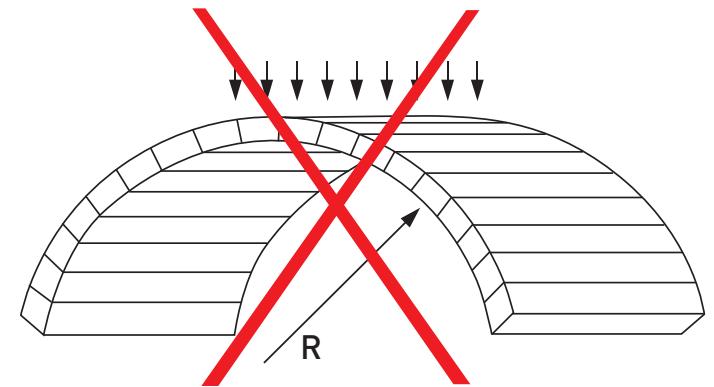


## Sheet orientation

**Ribs should always run vertical**



Vertical



Horizontal

## Multiwall accessories

TYPE	SETTING	PRESENTATION	COLOR	APPLICATION	STD LENGTH / QTY OF PCS PER PACK
Standard U-Profile		For 4 & 6 mm, For 8 & 10 mm	Clear White Bronze	To cover the cells and prevent leaks	12' (3.66m) pack of 20 pieces
Standard H-Profile		For 4 & 6 mm, For 8 & 10 mm	Clear White Bronze	To join multiwall panels	24' (7.32m) pack of 10 pieces
Snap Cap Profile		4mm to 10mm	Clear	To join multiwall panels	24' (7.32m) pack of 10 pieces
Vented Tape		16', 147' (5 m, 45 m)	Aluminum	To seal while allowing the material to breathe	Min. 10 pieces
Aluminum Tape		16', 147' (5 m, 45 m)	Aluminum	To seal	Min. 10 pieces
Buttons		For 4 & 6 mm, For 8 & 10 mm	White	When perforation is absolutely necessary	Min. 100 pieces



## 15 Year Limited Warranty & 15 Year Non Prorated Warranty

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**Macrolux®** Multi Wall sheets are available in both a 15 Year Limited Warranty & 15 Year Non Prorated Warranty against loss of light transmission caused by yellowing and breakage caused by hail.

The polycarbonate panels come with U.V. coextruded protection on the exterior surface. This protection will prevent the sheets from discoloration and degradation causing the sheet to become brittle and lose light transmission. Two sided co-extruded UV protection is available as well as the "No Drip" anti condensate feature.

Virtually unbreakable, the Macrolux® Multi Wall sheets will withstand breakage caused by hail stones of up to 23mm in diameter for the life of the warranty.

**Macrolux® PC** greenhouse covering prevents the transmission of over 99.9% of harmful radiation resulting from UV rays. It maintains its mechanical and structural integrity under extreme weather conditions (up to 248 °F).

### Special Notes:

1. The installation must comply with IMSA Plastics guidelines for warranty to be valid. Local authorization may be required.
2. Installation guidelines available on request.



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