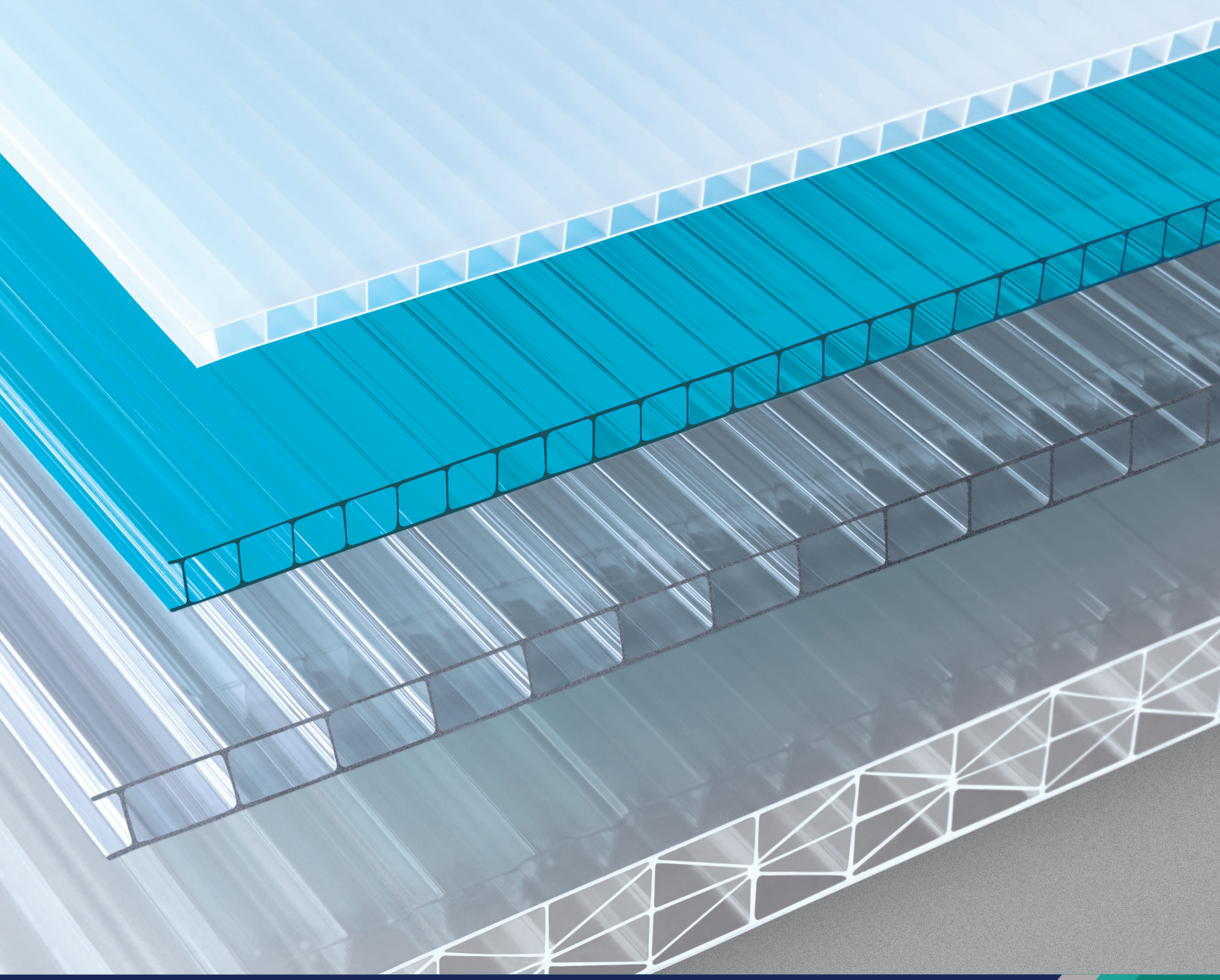


Macrolux®

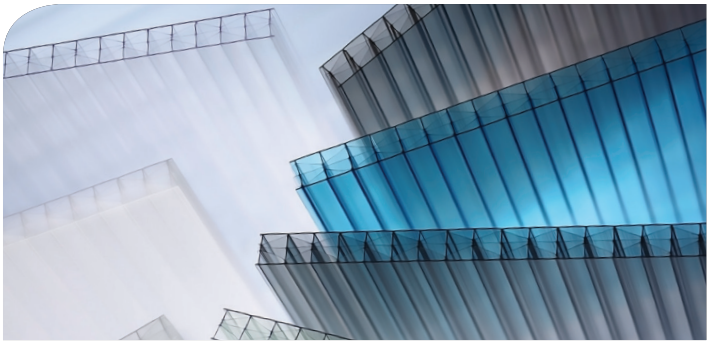
MULTI WALL
POLYCARBONATE SHEETS

Macrolux®

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.

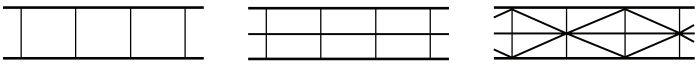
Macrolux® sheeting has been designed as a glazing product. It is the sole responsibility of the customer to confirm with their own architect, engineer or other professional consultants that the goods offered by Macrolux CANADA meet the requirements and specifications of the particular project and use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

Macrolux®

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



Twin Wall | Triple Wall | X-Structure

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

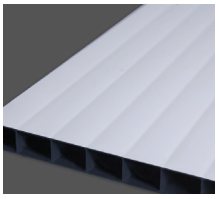
CHARACTERISTICS	TWIN WALL						TRIPLE WALL					TRIPLE WALL X- STRUCTURE	
Sheet Thickness mm	**4**	**6**	**8**		**10**		**8**		**10**		**16**	**16**	
Weight (lb/ft2)	0.16	0.26	0.31	0.35	0.35	0.41	0.31	0.35	0.35	0.41	0.55	0.51	0.55
Weight (g/m2)	800	1300	1500	1700	1700	2000	1500	1700	1700	2000	2700	2500	2700
Thermal Insulation BTU/hr - ft2 °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)	3.6x10-5												
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
Light transmission (%)													
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")

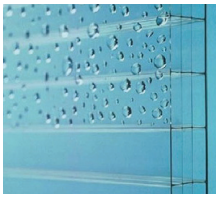
Macrolux®

Special features available

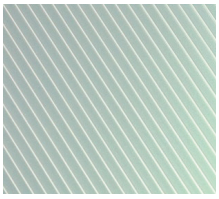
IQ Relax – Offers high thermal insulation without sacrificing natural light. IQ Relax panels are coextruded with an advanced additive technology that adapts to weather conditions which helps maintain a comfortable temperature inside the structure. During summer months reflects heat and solar energy while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



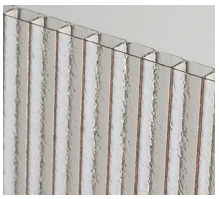
Light Deprivation Panel – 100% Opaque multiwall polycarbonate sheet with the option of being in different configurations; Black, White/Black or White/Black/White. This sheet is designed for the end and side walls of a greenhouse which require a light deprivation system.



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.



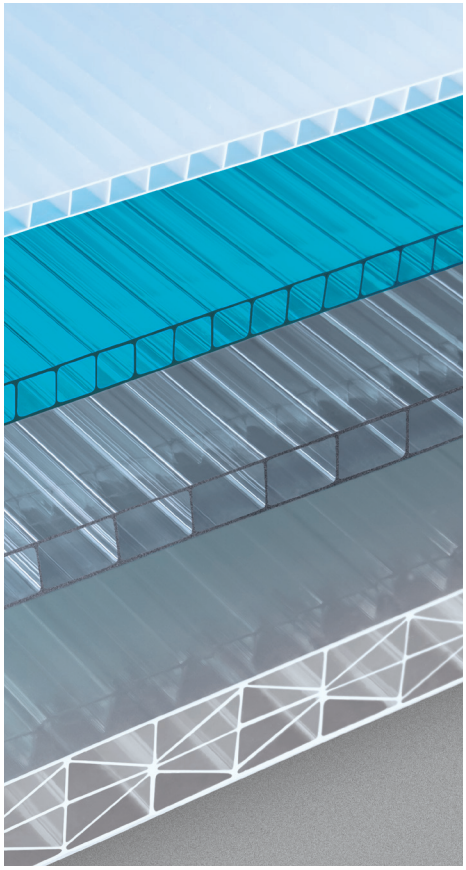
Frostyglass – Features a ground glass appearance, providing greater light diffusion and privacy.

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”

	4’ WIDE SHEET				6’ WIDE SHEET			
Load (lbs/ft²)	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
Coppery chloride
Decalin
Ethilenglycol
Ethyl alcohol 96%
Ethylenic 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
Phosphotic 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
Diamlphthalate
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
Dimethil Fluorinamide
Dinonilphthalate
Dioxane
Dioctyl adipate
Dioctyl 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
Thrimetilic acid
Tiophen
Toluol
Tri cresyl phosphate
Trichlorethylphosphate
Triethanolamine
Urea
Vinyl acetate
Xylene
DETERGENTS
Ajax
Bleach
Dor
Fewa
Horoliht 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
Rhenocalor 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%

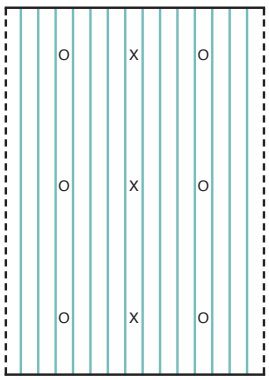
Guide for Cutting, Storage and Installation

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). Predrill screw holes 1/4" larger than screw diameter.

Screw attachment



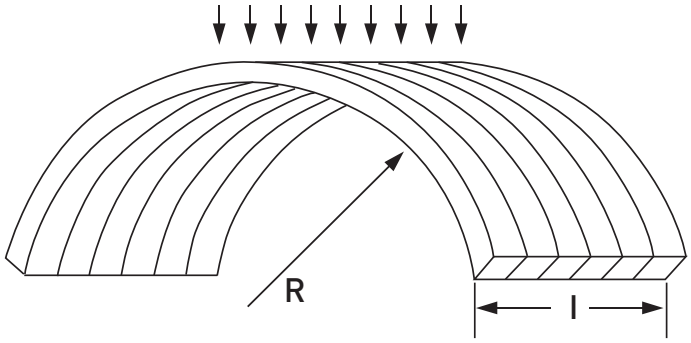
Predrill Screw Holes 1/4" larger than Screw diameter.

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

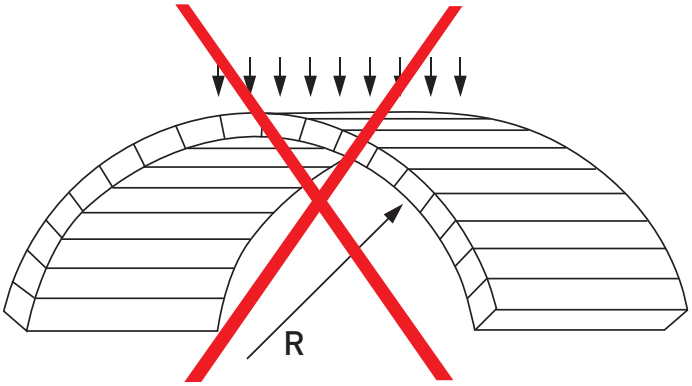
Correct | Incorrect | Incorrect

Sheet orientation

Ribs should always run vertical

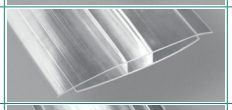
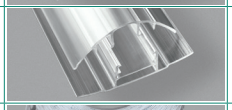
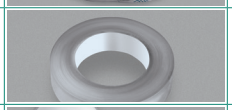


Vertical



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

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 ºF).

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.

800.268.7410 | info@macroluxcanada.com | www.macroluxcanada.com
64 Maple Ave. Inglewood, Ontario Canada L7C 1J5