

# Multiwall Polycarbonate Product Details

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## CONDENSATION CONTROL

A factory applied condensation control is available on the 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.

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## EASY TO INSTALL

The panels resist cracking and splitting during cutting and drilling.

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## AVAILABLE COLORS

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

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## EXTRA WIDE PANELS

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

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## LIGHT TRANSMISSION

The Multiwall sheets provide a wide variety of thicknesses and colors providing up to 82% visible light transmission. The 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.

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## 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.

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## VIRTUALLY UNBREAKABLE

You can be assured that from transport to installation, Multiwall polycarbonate 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.

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## SAVES ENERGY

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

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## WARRANTY

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

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## UV CO-EXTRUSION

Multiwall co-extruded thermoglazing incorporates new technology which results in exceptional resistance to aging. 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 Multiwall exceptional resistance to aging without affecting the mechanical properties and impact strength.



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## FLAMMABILITY

Multiwall polycarbonate sheets are classified in accordance with ASTM standards. Compared with other plastic products used in the building industry, Multiwall 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, Multiwall co-extruded thermoglazing has a high impact resistance - 200 times greater than glass and 10 times greater than acrylic. A Multiwall 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.




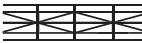
## PROPER INSTALLATION

Multiwall 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 indicating the U.V. side. Multiwall 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.

## BENDING RADII

Multiwall sheets can be cold formed and used in many curved applications, for example, arched walkways. Sheets must 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 Multiwall is cold formed, the minimum radius should not be less than 150 times the thickness of the sheet.

SHEET THICKNESS	MM	4	6	8	10	10	16	25	32	40
	INCH	5/32	1/4	5/16	3/8	3/8	5/8	1	1-1/4	1-9/16
WALL TYPE		Twin	Twin	Twin	Twin	Triple	RDC 5-WALL	Seven	Seven	Seven
STRUCTURE TYPE		Twin Wall Version 		Triple Wall Version 		RDC 5-Wall Version 		Seven Wall Version 		
MIN. BENDING RADIUS	INCH	24	41	55	69	79	138	DO NOT BEND	DO NOT BEND	DO NOT BEND



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THICKNESS	WALL THICKNESS	Length (cm)	MAXIMUM DEFLECTION 1"											
			Loads (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"	Seven		465	150	126	120	44	32	29	26	37	29	26	19
32mm, 1-1/4"	Seven		465	197	146	110	50	37	31	28	40	32	29	25

THICKNESS	WALL THICKNESS	Length (cm)	MAXIMUM DEFLECTION 2"											
			Loads (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, 5/8"	Five		177	98	54	41	41	30	26	23	35	27	23	19
25mm, 1"	Seven		465	164	146	133	70	43	37	32	44	35	31	20
32mm, 1-1/4"	Seven		465	217	162	134	88	50	40	36	49	39	34	27

THICKNESS	WALL THICKNESS	Length (cm)	MAXIMUM DEFLECTION 3"											
			Loads (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	31	—	—	23	16	12	—
10mm, 3/8"	Twin, Triple		165	100	63	49	40	31	27	25	28	25	21	14
16mm, 5/8"	Five		236	130	71	51	50	36	31	28	40	31	25	20
25mm, 1"	Seven		465	177	165	146	96	54	44	38	51	41	36	21
32mm, 1-1/4"	Seven		465	236	177	157	126	62	48	44	58	45	39	28

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, 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.







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# Multiwall Polycarbonate Product Details

The external side of Multiwall Polycarbonate is protected with a co-extruded layer warranting resistance to aging due to atmospheric agents and U.V. rays.

 On request: U.V. Protection on both sides	 On request: U.V. Protection on both sides	 On request: U.V. Protection on both sides	 Special Order
4, 4.5, 6, 8, & 10mm	10, 16, 20, & 25mm	16mm	25, 32, & 40mm
2-Wall	3-Wall	5-Wall	7-Wall

## PRODUCTION STANDARDS

Structure	2 Layers					3 Layers				5 Layers	7 Layers		
Thickness (mm)	4	4.5	6	8	10	10	16	20	25	16 RDC	25	32	40
Thickness (in)	5/32	3/16	1/4	5/16	3/8	3/8	5/8	3/4	1"	5/8	1"	1-1/4	1-9/16
Width (ft)	USA made product available in 48" & 72" widths (Call for special cutting options)										47.25"		
Length (ft)	Made in USA Products: Limited to Transportation Requirements												
Weight (lb/ft <sup>2</sup> )	0.164	0.205	0.266	0.307	0.348	0.430	0.553	0.650	0.665	0.522	0.655	0.716	0.799
R-Factor	1.471	1.471	1.639	1.724	1.923	2.128	2.500	2.632	2.941	2.778	3.846	4.167	5.16
U-Factor	0.68	0.68	0.61	0.58	0.52	0.47	0.40	0.38	0.34	0.36	0.26	0.24	0.194

## LIGHT TRANSMISSION %

Clear	85%	84%	80%	81%	82%	74%	74%	75%	72%	65%	63%	62%	55%
Bronze	57%	57%	42%	42%	42%	42%	37%	35%	35%	30%	35%	35%	—
Opal	58%	58%	57%	57%	57%	52%	52%	52%	35%	40%	42%	42%	35%
Blue	—	—	53%	53%	48%	—	45%	—	—	—	—	—	—
Green	—	—	54%	54%	54%	—	42%	—	—	—	—	—	—

## SOLAR HEAT GAIN COEFFICIENT (SHGC)

Clear	0.83	0.82	0.80	0.82	0.82	0.75	0.75	0.77	0.78	0.68	0.61	0.60	—
Bronze	0.66	0.66	0.66	0.70	0.75	0.57	0.57	0.57	—	0.50	0.50	—	—
Opal	0.66	0.66	0.66	0.65	0.64	0.62	0.63	0.63	0.51	0.45	0.54	—	—
Opal 30%	—	—	0.47	0.47	0.46	0.45	0.44	0.43	—	—	0.35	—	—
Reflecto	—	—	—	—	0.45	—	0.45	—	0.45	—	0.43	—	—
Blue	—	—	0.66	0.70	0.70	—	0.65	—	—	—	—	—	—
Green	—	—	0.66	0.70	0.70	—	0.60	—	—	—	—	—	—



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SHADING COEFFICIENT (SC)													
Structure	2 Layers					3 Layers				5 Layers	7 Layers		
Thickness (mm)	4	4.5	6	8	10	10	16	20	25	16 RDC	25	32	40
Clear	0.95	0.94	0.91	0.94	0.94	0.86	0.86	0.88	0.75	0.78	0.61	0.69	0.68
Bronze	0.76	0.76	0.76	0.80	0.86	0.65	0.65	0.65	0.57	0.57	0.57	—	—
Opal	0.76	0.76	0.76	0.75	0.74	0.71	0.72	0.72	0.58	0.52	0.62	—	0.45
Blue	—	—	0.76	0.80	0.80	—	0.74	—	—	—	—	—	—
Green	—	—	0.76	0.80	0.80	—	0.69	—	—	—	—	—	—
Thermal Expansion	Allow 1/8" per 3' per 100° temperature differential for both length and width for Clear and Opal panels; 1/4" per 4' for Bronze panels.												
Fire Reaction	On Request ASTM E84-01 (Flame Spread & Smoke Developed): CLASS 'A' for 6, 8, 10, & 16mm												



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