

PRODUCT DATASHEET

LEXAN™ VEROLITE SHEET

DESCRIPTION

VEROLITE™ 15 sheet grades are members of the VEROLITE sheet range of high quality, multi-wall polycarbonate glazing sheets extruded from LEXAN™ resin. The complete range offers remarkable impact strength, high light transmission, light weight, long-term weather resistance and, due to the multi-wall construction, outstanding thermal insulation properties and is available with 1 or 2 sides UV protection. VEROLITE 15 sheet grades are available in the following colours: Clear, Opal White, Bronze, Solar Control IR Green and Metallic.

TYPICAL PROPERTY VALUES*

GRADE	COLOR	GAUGE (in/mm)	WEIGHT (lb/ft ² / kg/m ²)	SOUND REDUCTION (dB) †	U-VALUE [‡] (BTU/hr-ft ² -°F / W/m ² K)
VC24510/ VT24510	Clear	0.177 / 4.5	0.205 / 1.0	16	0.679 / 3.86
	Opal	0.177 / 4.5	0.205 / 1.0	16	0.679 / 3.86
	Bronze	0.177 / 4.5	0.205 / 1.0	16	0.679 / 3.86
	IR-Green	0.177 / 4.5	0.205 / 1.0	16	0.679 / 3.86
VC20613/ VT20613	Clear	0.236 / 6.0	0.266 / 1.3	17	0.627 / 3.56
	Opal	0.236 / 6.0	0.266 / 1.3	17	0.627 / 3.56
	Bronze	0.236 / 6.0	0.266 / 1.3	17	0.627 / 3.56
	IR-Green	0.236 / 6.0	0.266 / 1.3	17	0.627 / 3.56
	Metallic	0.236 / 6.0	0.266 / 1.3	17	0.627 / 3.56
VC20817/ VT20817	Clear	0.315 / 8.0	0.348 / 1.7	18	0.574 / 3.26
	Opal	0.315 / 8.0	0.348 / 1.7	18	0.574 / 3.26
	Bronze	0.315 / 8.0	0.348 / 1.7	18	0.574 / 3.26
	IR-Green	0.315 / 8.0	0.348 / 1.7	18	0.574 / 3.26
	Metallic	0.315 / 8.0	0.348 / 1.7	18	0.574 / 3.26
VC21020/ VT21020	Clear	0.394 / 10.0	0.409 / 2.0	19	0.532 / 3.02
	Opal	0.394 / 10.0	0.409 / 2.0	19	0.532 / 3.02
	Bronze	0.394 / 10.0	0.409 / 2.0	19	0.532 / 3.02
	IR-Green	0.394 / 10.0	0.409 / 2.0	19	0.532 / 3.02
	Metallic	0.394 / 10.0	0.409 / 2.0	19	0.532 / 3.02
VC31628/ VT31628	Clear	0.63 / 16.0	0.573 / 2.8	21	0.399 / 2.27
	Opal	0.63 / 16.0	0.573 / 2.8	21	0.399 / 2.27
	Bronze	0.63 / 16.0	0.573 / 2.8	21	0.399 / 2.27
	IR-Green	0.63 / 16.0	0.573 / 2.8	21	0.399 / 2.27
	Metallic	0.63 / 16.0	0.573 / 2.8	21	0.399 / 2.27

TYPICAL PROPERTY VALUES (continued)

GRADE	COLOR	LT D65 (%LT)	DST (%DST)	TST (%TST)	SHGC	LSGR	SC
VC24510/ VT24510	Clear	83	77	83	0.83	1.00	0.95
	Opal						
	Bronze						
	IR-Green	67	49	61	0.61	1.12	0.71
VC20613/ VT20613	Clear	82	76	82	0.82	1.00	0.94
	Opal	20	38	42	0.42	0.47	0.48
	Bronze	30	33	47	0.47	0.63	0.54
	IR-Green	66	47	60	0.60	1.10	0.69
	Metallic	16	15	34	0.34	0.47	0.39
VC20817/ VT20817	Clear	81	77	82	0.82	0.99	0.94
	Opal	27					
	Bronze	30	38	50	0.50	0.60	0.57
	IR-Green	65	47	61	0.61	1.07	0.70
	Metallic	17	17	31	0.31	0.35	0.36
VC21020/ VT21020	Clear	81	76	80	0.80	1.01	0.92
	Opal	20					
	Bronze	30					
	IR-Green	65	45	60	0.60	1.08	0.69
	Metallic	16	15	29	0.29	0.55	0.33
VC31628/ VT31628	Clear	74	70	78	0.78	0.95	0.90
	Opal	20					
	Bronze	30					
	IR-Green	55	36	52	0.52	1.06	0.60
	Metallic	16	15	22	0.22	0.73	0.26

◆ These property values have been derived from LEXAN™ resin data for the material used to produce this sheet product.

¥ Sound reduction value based on POLYVANTIS calculated values according to DIN 52210-75

† U-Values Based on POLYVANTIS calculated values according to ISO 10077 (EN673)

¶ LT (Light Transmission) and TST (Total Solar Transmission) measurements according ISO 9050 (EN 410) on 600x600 mm samples.

TST (Total Solar Transmission) divided by 100 equals Solar Heat Gain Coefficient (SHGC) or g-value.

COLOR NUMBER REFERENCE TABLE:

COLOR	COLOR NUMBER
Clear	112
Opal White	C920
Bronze	C230
IR-Green	GN8B038T
Metallic 165X26	GY6A744M

SOLAR TRANSMISSION

Transparent grades of VEROLITE 15 have excellent light transmission. Although VEROLITE 15 has less solar transmission versus traditional glass, we advise for buildings in hot climates or facing south, VEROLITE 15 in IR version (absorbing infrared) which will reduce the solar transmission substantially up to 70%.

UV RESISTANCE

Despite transmitting visible light very well, VEROLITE 15 sheet is almost opaque to radiation in the UV and far infra-red region. This useful shielding property can prevent discoloration of sensitive materials such as fabrics or other organic materials placed under or behind VEROLITE

15 sheet glazing in, for example, a factory warehouse, museum or shopping centre. The complete VEROLITE 15 sheet range features a proprietary two sides surface treatment designed to protect the sheet against the degrading effects of ultra-violet radiation in natural sunlight. It has excellent resistance to outdoor weathering.

WARRANTY

POLYVANTIS offers a Fifteen (15) Year Limited Written Warranty on VEROLITE 15 sheet covering discoloration, loss of light transmission and loss of strength due to weathering. For detailed information, please contact your local POLYVANTIS sales representative or authorized distributor.

THERMAL INSULATION

The multi-wall structure of VEROLITE 15 sheet offers significant advantages where thermal insulation is a major consideration. The hollow form provides excellent insulation characteristics with heat losses significantly lower than mono-walls glazing materials.

FIRE TEST PERFORMANCE

VEROLITE 15 sheet has good fire behaviour characteristics, with a CC1 and Class A rating according to ASTM D635 and E84 testing respectively. More detailed information is available from your local POLYVANTIS sales representative or authorized distributor.

SOUND INSULATION

The sound insulation characteristics of a material are largely pre-determined by its stiffness, mass and physical construction. According to DIN 52210-75, the maximum obtainable sound is 21dB.

IMPACT STRENGTH

VEROLITE 15 sheet has outstanding impact performance over a wide temperature range, -40°F to 248°F (-40°C to 120°C), and also after prolonged outdoor exposure.

HAIL RESISTANCE

As roofing material VEROLITE 15 sheet is subjected to the extremes of weather: like storms, hail, wind, snowfall and ice formation. Under these conditions, the product is virtually unbreakable and can accommodate the subsequent temperature change to sunny conditions without breaking or buckling. It should be noted that when glass and acrylic are tested their failure characteristics are typically brittle, whilst VEROLITE 15 sheet shows a ductile deformation one, e.g. small indentations. POLYVANTIS offers a Fifteen Year (15) Limited Written Warranty on VEROLITE 15 sheet covering loss of strength or impact due to weathering.

INNER SURFACE: ANTI-DRIP

In addition to the standard UV-grade-color combinations we have other optional sheet configurations available in VEROLITE 15 sheet. A unique inside surface treatment was developed to give specific added-value properties to the sheet.

VEROLITE 15 Dripgard sheet is suitable for any roof glazing application in which water droplets are unacceptable, such as commercial greenhouses where they could cause crop spoilage. This innovative product has UV protection on the outer surface and a specially developed hydrophilic coating on the inner surface. This coating reduces the formation of condensation droplets by increasing the surface tension of the sheet and decreasing the contact angle.

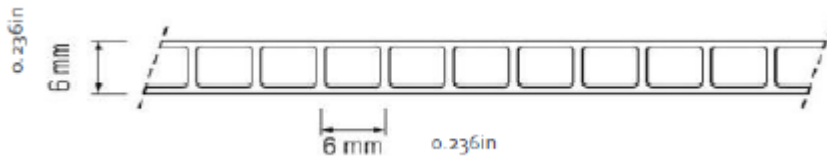
Consequently, a thin mist of water will form on the inner surface of the sheet, which will not drip and will not affect the excellent light transmission of the material.

STRUCTURES & NOMENCLATURES

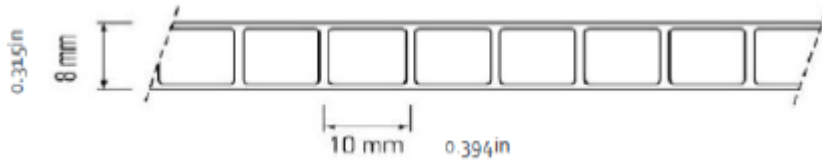
VC24510
VT24510



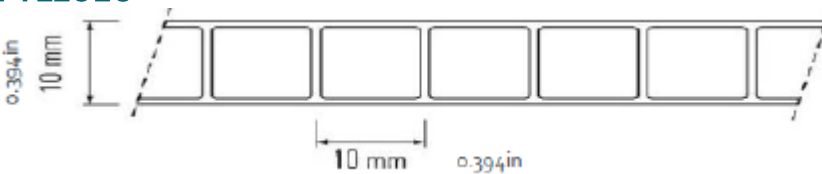
VC20613
VT20613



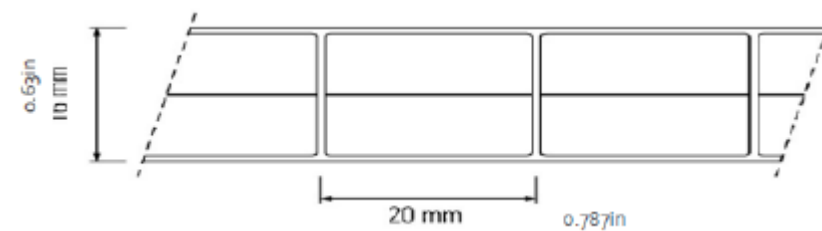
VC20817
VT20817



VC21020
VT21020



VC31628
VT31628



TOLERANCES ON DIMENSIONS

GAUGE / WEIGHT	STRUCTURE	WEIGHT	GAUGE	WIDTH	LENGTH <20 FT/6M	LENGTH > 20 FT/6M
0.177in 0.205lb/ft2 4.5mm 1.0 kg/m2	2RS	± 1%	± 7%	± 5%	+0.472in +12mm	+1.81in +30mm
0.236in 0.266 lb/ft2 6.0mm 1.3 kg/m2	2RS	± 1%	± 5%	± 5%	+0.472in +12mm	+1.81in +30mm
0.315in 0.348 lb/ft2 8.0mm 1.7 kg/m2	2RS	± 1%	± 5%	± 5%	+0.472in +12mm	+1.81in +30mm
0.394in 0.409 lb/ft2 10.0mm 2.0 kg/m2	2RS	± 1%	± 5%	± 5%	+0.472in +12mm	+1.81in +30mm
0.63in 0.573 lb/ft2 16.0mm 2.8 kg/m2	3TS	± 2%	± 3%	± 5%	+0.472in +12mm	+1.81in +30mm

GENERAL GUIDELINES

STORAGE

VEROLITE 15 sheet should be stored and protected against atmospheric influences like sun, rain, etc. Care should be exercised when handling and transporting VEROLITE 15 sheet to prevent scratches on the panel surface and damage to the panel edges.

CLEANING

POLYVANTIS recommends the following cleaning agent SUMALIGHT D12 from Johnson Diversey Lever (check technical manual for further details). Small surfaces can be cleaned with lukewarm water, using a soft sponge and a solution of mild soap. Do not use any corrosive materials or chemicals to clean VEROLITE 15 sheet. Using any other cleaning agents than the recommended one must have prior approval of POLYVANTIS in order to validate the VEROLITE 15 sheet warranty.

CHEMICAL RESISTANCE

Neoprene, EPT or EPDM rubbers with an approximate Shore Hardness of A65 are recommended. When using glazing compounds, it is essential that the sealant system accepts a certain amount of movement to allow for thermal expansion, without loss of adhesion to the frame or sheet. Silicone sealants are generally recommended for use with VEROLITE 15 sheet. It is strongly advised when using sealing to check compatibility before use.

SAWING

VEROLITE 15 sheet can be cut easily and accurately with standard workshop equipment. This includes common circular, hand and hacksaws. Saw dust should be blown out of the channels using clean compressed air. Circular saw blades should be fine-toothed panel blades. When hand or power hacksaws are used, the sheet should be clamped to the worktable to avoid undesirable vibration.

THERMAL EXPANSION ALLOWANCE

Since VEROLITE 15 sheet has a greater linear thermal expansion coefficient than traditional glazing materials, care should be taken to allow for free expansion of the sheet to prevent bowing and internal thermal stress. Thermal expansion allowance must be made for both the length and width of the VEROLITE 15 sheet. In general, thermal expansion of the sheet is approximately 0.036in per linear foot or 3mm per linear meter.

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