

# VEROLITE™ 15 POLYCARBONATE SHEET

## PRODUCT DATASHEET

### 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 1UV / 2UV	GAUGE (IN/MM)	Weight (lb/ft <sup>2</sup> ) (kg/m <sup>2</sup> )	SOUND RED. VALUE <sup>†</sup> (DB)	U-Value‡ (BTU/hr ft <sup>2</sup> °F) (W/m <sup>2</sup> K)	Impact Test¶ Gardner	LT* D65 (%LT)	DST# (%DST)	TST# (%TST)	SHGC #	LSGR #	SC#
<b>VC24510/VT24510</b>											
Clear	0.177 / 4.5	0.205 / 1.0	16	0.679 / 3.86	>72	83	77	83	0.83	1.00	0.95
Opal	0.177 / 4.5	0.205 / 1.0	16	0.679 / 3.86	>72						
Bronze	0.177 / 4.5	0.205 / 1.0	16	0.679 / 3.86	>72						
IR-Green	0.177 / 4.5	0.205 / 1.0	16	0.679 / 3.86	>72	67	49	61	0.61	1.12	0.71
<b>VC20613/VT20613</b>											
Clear	0.236 / 6.0	0.266 / 1.3	17	0.627 / 3.56	>72	82	76	82	0.82	1.00	0.94
Opal	0.236 / 6.0	0.266 / 1.3	17	0.627 / 3.56	>72	20	38	42	0.42	0.47	0.48
Bronze	0.236 / 6.0	0.266 / 1.3	17	0.627 / 3.56	>72	30	33	47	0.47	0.63	0.54
IR-Green	0.236 / 6.0	0.266 / 1.3	17	0.627 / 3.56	>72	66	47	60	0.60	1.10	0.69
Metallic	0.236 / 6.0	0.266 / 1.3	17	0.627 / 3.56	>72	16	15	34	0.34	0.47	0.39
<b>VC20817/VT20817</b>											
Clear	0.315 / 8.0	0.348 / 1.7	18	0.574 / 3.26	>72	81	77	82	0.82	0.99	0.94
Opal	0.315 / 8.0	0.348 / 1.7	18	0.574 / 3.26	>72	27					
Bronze	0.315 / 8.0	0.348 / 1.7	18	0.574 / 3.26	>72	30	38	50	0.50	0.60	0.57
IR-Green	0.315 / 8.0	0.348 / 1.7	18	0.574 / 3.26	>72	65	47	61	0.61	1.07	0.70
Metallic	0.315 / 8.0	0.348 / 1.7	18	0.574 / 3.26	>72	17	17	31	0.31	0.35	0.36
<b>VC21020/VT21020</b>											
Clear	0.394 / 10.0	0.409 / 2.0	19	0.532 / 3.02	>72	81	76	80	0.80	1.01	0.92
Opal	0.394 / 10.0	0.409 / 2.0	19	0.532 / 3.02	>72	20					
Bronze	0.394 / 10.0	0.409 / 2.0	19	0.532 / 3.02	>72	30					
IR-Green	0.394 / 10.0	0.409 / 2.0	19	0.532 / 3.02	>72	65	45	60	0.60	1.08	0.69
Metallic	0.394 / 10.0	0.409 / 2.0	19	0.532 / 3.02	>72	16	15	29	0.29	0.55	0.33
<b>VC31628/VT31628</b>											
Clear	0.63 / 16.0	0.573 / 2.8	21	0.399 / 2.27	>72	74	70	78	0.78	0.95	0.90
Opal	0.63 / 16.0	0.573 / 2.8	21	0.399 / 2.27	>72	20					
Bronze	0.63 / 16.0	0.573 / 2.8	21	0.399 / 2.27	>72	30					
IR-Green	0.63 / 16.0	0.573 / 2.8	21	0.399 / 2.27	>72	55	36	52	0.52	1.06	0.60
Metallic	0.63 / 16.0	0.573 / 2.8	21	0.399 / 2.27	>72	16	15	22	0.22	0.73	0.26

Color number reference table:

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

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- ◆ These property values have been derived from LEXAN™ resin data for the material used to produce this sheet product.
  - + Sound reduction value based on SABIC calculated values according DIN 52210-75
  - ¥ U-values based on SABIC calculated values according ISO 10077 (EN673)
  - ¶ Impact test using Gardner Impact method ASTM D4226, D5420, D5628, A2LA Accredited.
  - 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.
  - ™ Trademarks of SABIC.

## 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 infra-red) 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 center. 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

SABIC 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.

## 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 behavior characteristics, more detailed information is available from your local SABIC service Center 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 22dB.

## IMPACT STRENGTH

VEROLITE 15 sheet has outstanding impact performance over a wide temperature range, -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 is able to 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 typical brittle, whilst VEROLITE 15 sheet shows a ductile deformation one, e.g. small indentations. SABIC 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.

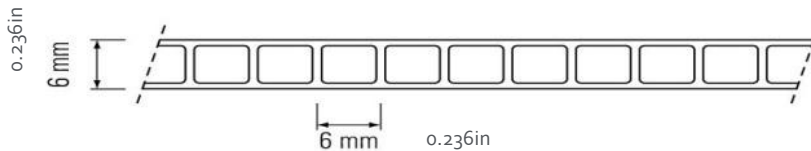
VEROLITE 15 Dripgard sheet is suitable for any roof glazing application in which water droplets are unacceptable, such as commercial greenhouses where they could cause crop spoilage. This innovative product has UV protection on the outer surface and a specially developed hydrophilic coating on the inner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

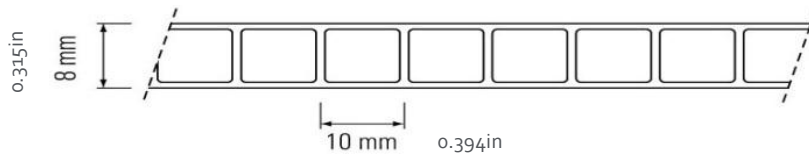
VC24510  
VT24510



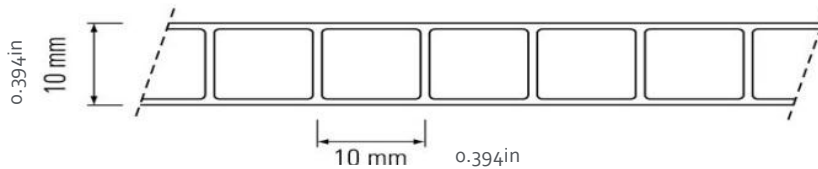
VC20613  
VT20613



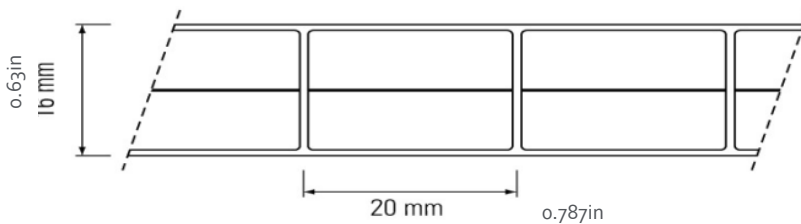
VC20817  
VT20817



VC21020  
VT21020



VC31628  
VT31628



## TOLERANCES ON DIMENSIONS

GAUGE/WEIGHT	STRUCTURE	WEIGHT	GAUGE	WIDTH	LENGTH	
					< 20FT/6M	> 20FT/6M
0.177in 0.205lb/ft <sup>2</sup>	2RS	+/- 1%	+/-7%	+/-0.5%	+0.472in	+1.81in
4.5mm 1.0 kg/m <sup>2</sup>					+12mm	+30mm
0.236in 0.266 lb/ft <sup>2</sup>					+0.472in	+1.81in
6.0mm 1.3 kg/m <sup>2</sup>	2RS	+/- 1%	+/-5%	+/-0.5%	+12mm	+30mm
0.315in 0.348 lb/ft <sup>2</sup>					+0.472in	+1.81in
8.0mm 1.7 kg/m <sup>2</sup>					+12mm	+30mm
0.394in 0.409 lb/ft <sup>2</sup>	2RS	+/- 1%	+/-5%	+/-0.5%	+0.472in	+1.81in
16.0mm 2.0 kg/m <sup>2</sup>					+12mm	+30mm
0.63in 0.573 lb/ft <sup>2</sup>					+0.472in	+1.81in
16.0mm 2.8 kg/m <sup>2</sup>	3TS	+/- 2%	+/-3%	+/-0.5%	+12mm	+30mm
					+0.472in	+1.81in

## 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 in order to prevent scratches on the panel surface and damage to the panel edges.

### CLEANING

SABIC 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 s. Using any other cleaning agents than the recommended one must have the prior approval of SABIC 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 before 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 blade 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 that of 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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