

VULCAN Pearly Series

Polycarbonate Sheets

Better Living Through Optimum Glazing

VUCAN Polycarbonate Pearly Lets Sunlight in - Keeps Heat Out

As much as we love and need sunlight in architecture and horticulture; we dislike the oppressive heat it can bring to closed spaces. What's the solution to this problem? A shading system for glazing based on selectivity that allows the sun's light to pass indoors while keeping its heat outdoors. And what is selectivity?

The relationship of light transmittance to the total solar transmittance. As translucent heat reflecting pigments, VUCAN Pearly sheets offer the perfect solution.



How does VULCAN Pearly Work?

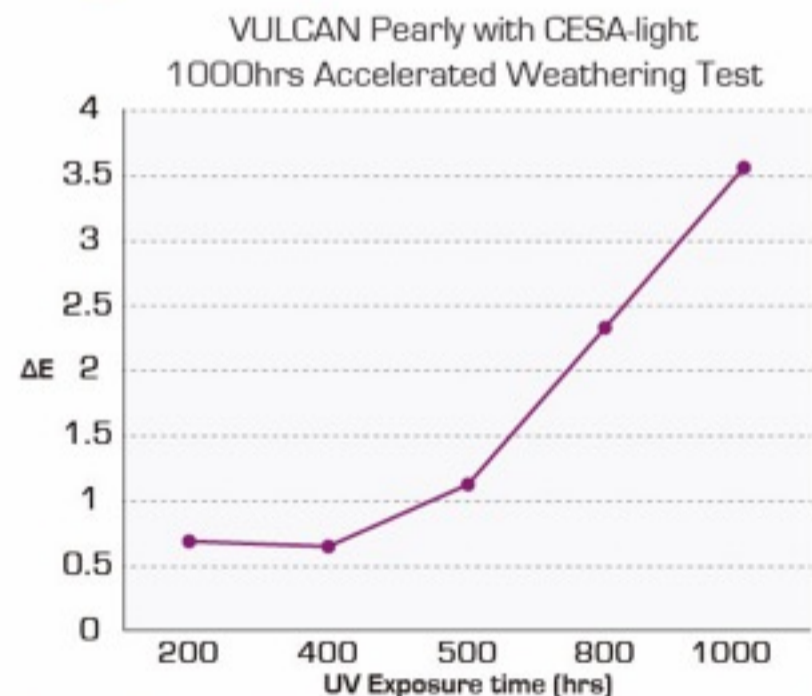
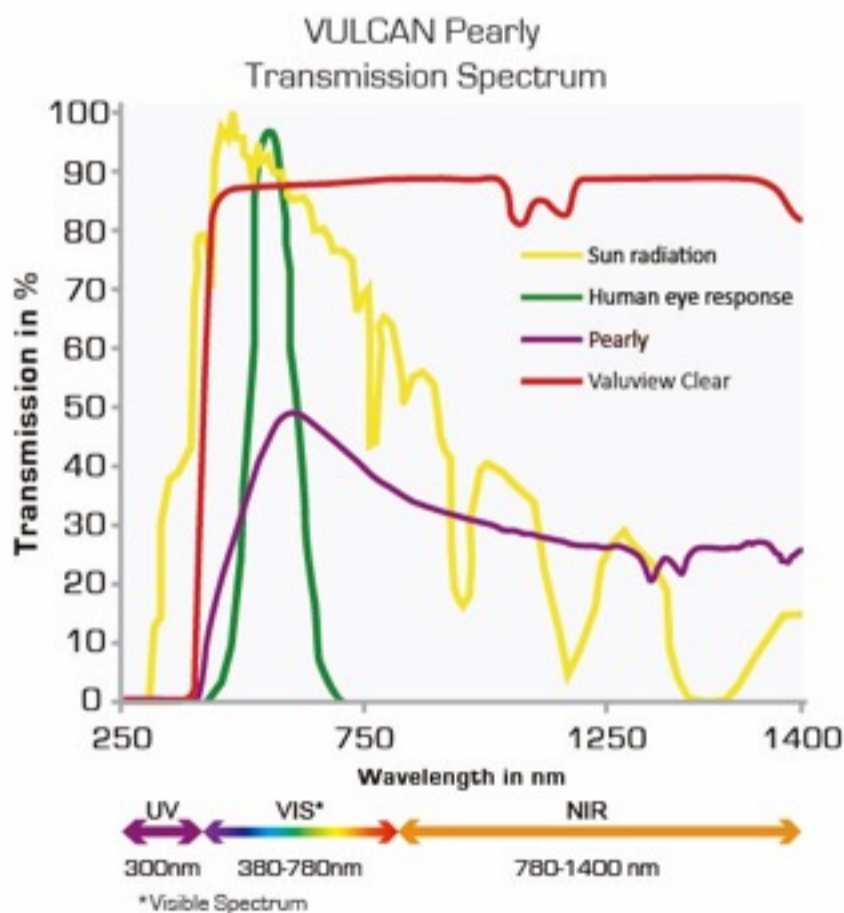
Conventional shading systems diminish the transmission of light while they reduce the energy of the solar radiation.

In contrast, VUCAN Pearly polycarbonate sheets reflect the sunlight's invisible heat radiation while allowing the majority of the visible light to pass.

Depending on the individual application conditions, rooms are up to 15 °C cooler than with non-pigmented glazing systems.

Whether for skylights, greenhouses, blinds or conservatories, VULCAN Pearly allow selective transmission of the incident solar radiation, and when coupled with additional extra weathering resistant coating, offers the following advantages:

- **More light**
- **Less heat**
- **High UV absorption**
- **Longer Lifespan**



Time (hrs)	200	400	500	800	1000
ΔE	0.68	0.65	1.12	2.33	3.56

Test Protocol: ASTM G-154
Tester: QUV Accelerated Weathering Tester (UVA-340nm irradiance)
ΔE: Lower is better

Comparative Technical Information

VULCAN Pearly are mica based layer-substrate pigments which are optimized for light transmission. Pearly pigments have extra strength weather resistant coating, making them suitable for a range of high performance exterior applications and applications which require high resistance to humidity and/or UV light.

VULCAN Polycarbonate Pearly Selective Shading in Horticulture

Aromatic vegetables and lush blossom in every season, ideal winter habitat for delicate plants : greenhouses render this possible, and offer protection against wind and weather. However, the climate has to be just right for different varieties of plants to grow throughout the year in the best possible conditions : ideal temperatures and the appropriate amount of natural grow light. VULCAN Pearly, created with a special thin layer technology and co-extruded with multiple inorganic layers, lend them their unique properties in transmitting, absorbing and reflecting sunlight for an optimal climate in the greenhouse.



VULCAN Pearly lets sunlight into the greenhouse and keeps heat out

Heat-reflecting, translucent VULCAN Pearly sheets fulfill exactly these requirements: they provide a colorless shading of the glazing. Most of the light that is essential for photosynthesis can pass into the greenhouse and serve the plants' growth. At the same time, 99% of invisible UV light is absorbed. However, the multitiered pigment show their greatest advantages in summer when heat usually accumulates in the greenhouse.

VULCAN Pearly sheets reflect the infrared part of sunlight and with it the heat radiation, reducing it by up to 75 percent. Conventional, non-pigmented glazing systems always reduce translucency as well – to the detriment of the plants' growth.

Extra weathering resistance capabilities means that the Pearly properties are retained throughout the lifespan of the sheets.

VULCAN Pearly therefore not only offer considerable energy savings in greenhouse cooling when the sun shines with all its power, they also make additional shading for temperature equalization unnecessary.

Blue and red are desired – UV and infrared light are kept out

VULCAN Pearly let in the blue and red parts of the visible light that are essential for the growth and development of plants. The pigments absorb harmful UV rays and reflect heat-generating infrared light.

These properties make the products of our Pearly range significantly more effective than conventional shading systems, which reduce not only the energy of solar radiation but also the transmission of light – to the detriment of plants' growth.

Depending on the individual application conditions, rooms are up to 15 °C cooler with VULCAN Pearly sheets than with non-pigmented glazing systems – another advantage for ideal growth conditions.

More than 50% of sunlight can pass indoors

The actual ability of a system to reduce temperature depends on multiple factors such as window size, area size and volume, air exchange and the orientation of the building itself. For greenhouse applications using the most popular evaporative cooling system method, build quality also affects the overall effectiveness of the Pearly.

VUCAN Polycarbonate Pearly Solar Characteristics

Pearly Solar Properties	
Solar factor	0.41
Solar direct transmittance	36%
Light direct transmittance	53%
Solar direct absorptance	20%
Selectivity	1.50
Total energy reduction compared to 100% transparent material	59%
Energy reduction through reflection	45%

**DIN 410 Technical Details of VULCAN Pearly GREEN Measured with a 1% Concentration. The tables show only the results from DIN EN 410 since the values from ISO 9050 are nearly identical.*

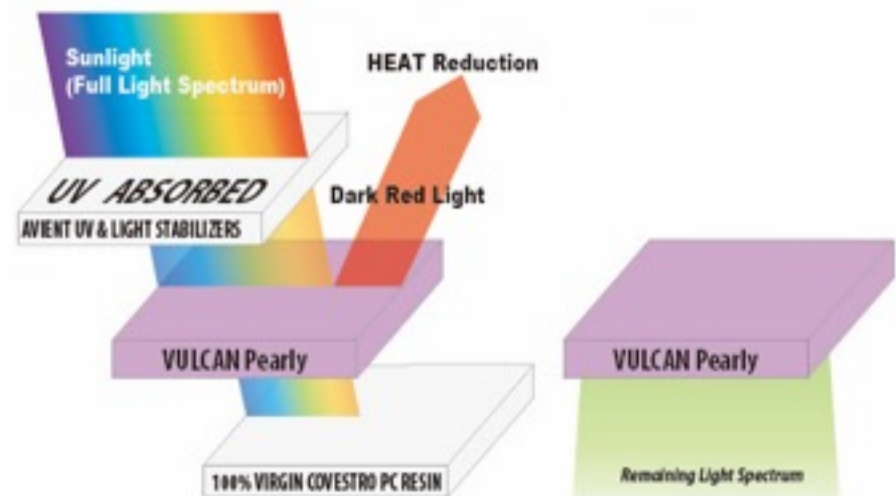
Pearly Interference Color	
Reflection	Lilac
Transmission	Green

Ordering Information

Item No.	Product Name	Reflection / Transmission Color	MOQ
Pearly	VULCAN Pearly	Lilac/Green	1000pcs

We provide information and advice to our customers on application technologies and regulatory matters to the best of our knowledge and ability, but without obligation or liability. Existing laws and regulations are to be observed in all cases by our customers. This also applies in respect to any rights of third parties. Our information and advice do not relieve our customers of their own responsibility for checking the suitability of our products for the envisaged purpose.

The solar factor equals the amount of energy that enters the interior of a building or room. This energy consists of direct transmission and absorption. Since the absorption radiates outwards as well as inwards, half of this energy, at most, can get inside the building or room. That is, with a solar factor of 0.51, 49% of the impacting energy is reflected. An ideal transparent material with no reflection or absorption would have a solar factor of 1 and allow 100% of the energy to pass through.



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