

POLYCARBONATE TWIN WALL SHEETS DATA SHEET

1. PRODUCT DESCRIPTION

KLAR Polycarbonate Twin Wall sheets are manufactured in an extrusion process with 100% virgin resin, colorants and with UV co-extruded coating that acts against solar radiation and prevents it from accelerated aging. It is characterized by its great resistance to impacts, thermal isolation and high light transmission. Its optimal flexibility allows customized cuts and curving in cold.

2. APPLICATIONS AND USES

KLAR Polycarbonate twin wall sheets are used as covers in greenhouses, edifications and houses, storehouses, horizontal and vertical enclosures, coliseums, malls, industrial centers, and other residential applications that require natural illumination.

3. TECHNICAL INFORMATION

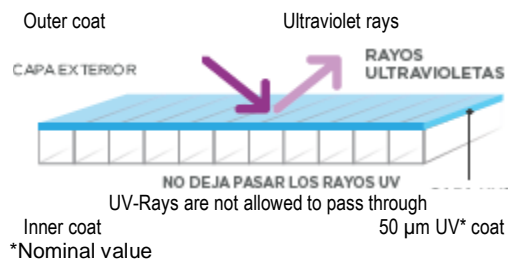
3.1 TYPES OF PANELS

Double-coat alveolar panels manufactured as per KLAR's design.

3.2 QUANTITATIVE & QUALITATIVE CHARACTERISTICS

a) UV Protection

The alveolar panels contain a co-extruded coating that acts as protection against UV radiation, avoiding losing illumination and yellowing. Thank to this, we offer a ten-year lifetime warranty against light transmission loss. Our sheets are traceable, come with a tracking code printed on the side where there is no UV protection.



b) Light transmission

KLAR Polycarbonate Twin Wall sheets allow you to take advantage of the natural light while effectively blocking infrared rays (IR), reducing energy costs and making inner conditions more comfortable ones. Besides, depending on the color selected, the light transmission may be diffused to obtain a uniform illumination, avoiding shadows or

c) Resistance to impact and inclemency

It shows high resistance to impact and inclemency. Its impact resistance is 250 times higher than glass and 40 times higher to acrylic. Excellent protection against meteorological agents. It tolerates temperatures between -40°C and 120°C.

d) Self-extinguishable

KLAR Polycarbonate twin wall sheets are considered by international standards as "self-extinguishable". It melts at very high temperatures without extending the flames nor producing incendiary drops. No toxic. It meets the international standards that are shown herein below:

Standard	Classification
ASTM D-635	CCI
ASTM 84	Class A
EN 13501	B, sL, dO
BS 476/7	Class I
DIN4102	B1

e) Thermal conductivity

The thermal conductivity of the alveolar panels is significantly lesser than other materials (Aluzinc, fiber cement, etc.). Its low thermal conductivity along with its structure with air chambers of alveolar polycarbonate provides a lasting thermal

disturbing incandescent areas created by sun or light bulbs.

isolation better than glass and non-alveolar plastic panels.

f) Flexibility

KLAR Polycarbonate Twin Wall sheets may be perfectly curved in cold, in longitudinal direction. The curvature radius varies from 150 and 1500 mm as per the panel width. The diversity of our sheets makes them suitable for curved or flat applications.

Its excellent resistance to the deformation under charge in adverse conditions allows these panels to keep stability without deformations that affect performance and presentation of the product are noticed.

KLAR PHYSICAL AND CHEMICAL PROPERTIES

Physical & Mechanical Properties	Unit	Test Method	Width in mm			
			4	6	8	10
Resistance to impact	J/m	ASTM D5628	770	790	830	900
Module of flection*	Mpa	ASTM D790	22,000			
Resistance to traction*	N/mm ²	ASTM D638	640			
Flammability	Classification	ASTM D-635	CC - 1			
K thermal conductivity	W/m ² k	ISO 10077	4	4	3	3
Accelerated aging (QUV)	Years	ASTM G154	10			
Acoustic isolation	dB	DIN 52210	15	17	18	19
Minimum curvature radius	m	STD	0.750	1.000	1.250	1.500
Dimension	m	STD	± 0.01*			





* Tolerance ±0.01 depending on the measurement

KLAR OPTICAL PROPERTIES

Code	Color*	Shadow Coefficient (SC) ⁽⁴⁾	Solar Heat Gain Coefficient (SHGC) ⁽³⁾	Light Transmission (LT) ⁽²⁾ ASTM D-1003%			
				4	6	8	10
K01TRANS	Clear	0.86	0.75	80	80	79	79
K02BLHT	White	0.60	0.52	25	24	23	21
K06BRON	Bronze	0.57	0.50	19	19	18	18
K05GHO	Smoke Gray	0.70	0.61	40	40	39	38
K07CELT	Light Blue	0.54	0.62	20	20	19	19
K08AZUL	Blue	0.80	0.70	26	25	24	24
K09ANAJ	Orange	0.78	0.68	55	55	54	54
K10AMAR	Yellow	0.80	0.70	78	78	77	77
K11ROJO	Red	0.72	0.63	16	16	15	15
K12TURQ	Cyan	0.71	0.62	52	52	51	51
EL01GRRF	Reflective Gray	0.46	0.40	11	10	9	9
K13VERD	Green	0.68	0.59	30	30	29	29

*For other colors, please consult with manufacturer

(2) LT (Light transmission): Percentage of incident visible light that passes through an object. (3) SHGC (Solar Heat Gain Coefficient): Percentage of solar radiation incident transmitted through an object that comprises a direct solar transmission and the part that solar radiation irradiates towards inside. (4) SC (Shadow coefficient): Amount of sun heat transmitted through a window compared to a standard single glass 1/8 inch-width window under the same conditions

CLEANING & CARE	
Description	Material
Remove dust with a dried cloth. Then swipe a humid cloth and dry immediately with a cloth or flannel	
Do not clean the plates under intense sun or very high temperatures. Do not also steam cleaning.	
Do not use abrasive or alkaline cleaners, brushes, scouring sponges or sponges.	
Do not expose the plate to chemical substances such as Varsol, benzene, gasoline, thinner, turpentine, acetone, carbon tetrachloride, muriatic acid or silicones not recommended for polycarbonates.	

CHEMICAL RESISTANCE

Safety agents: Acetic acid, 10% citric acid, 20% Hydrochloric acid, 5% hydrofluoric acid, 95% ethyl alcohol, sulfur, butane, ammonium chloride, antimony chloride, calcium chloride, mercury, methane, carbon monoxide, ozone, urea. **With precautions:** Formic acid and perchloric acid, sulfur dioxide, cyclohexane, diesel, glycerin, hydrazine and oil. **Non-safety agents:** Amyl acetate, butyl acetate, acetone, sulfuric acid, acrylonitrile, ammonia, benzyne, bromine, chloroform, styrene, ether, methanol, PVC, Iodine.

HANDLING AND STORAGE

It is recommended to store and protect from external agents (sun, rain and hail) before its installation. The alveolar polycarbonate panels must be handled with care. Avoid removing the protection film to prevent from scratches or perforations over material surface and its borders¹.

¹ For further information about installation and handling, please check the Installation Manual