DANPALON® GLAZING MATERIAL

Translucent and Opaque Microcell Panels with Standing Seam Connection

- FAÇADE
- CLADDING
- SKYLIGHT
- OUTDOOR
- SHADING
- INTERIOR

Danpal® Light Architecture

SUPERIOR LIGHT TRANSMISSION FOR CUTTING-EDGE ELEGANCE

Fully waterproof connection system

Excellent resistance to hail

Complete UV protection

Excellent warranty protection

Flexible design options

Recyclable

THE ARCHITECTURE OF LIGHT

The sun: the best natural source of light and energy

Danpalon® harnesses this inexhaustible source, providing exceptional quality of light. Danpalon's glazing material features Microcell panels which offer customers the best combination of translucency and strength, transmitting an even diffusion of natural light, with superior durability and impact resistance.

The optimal solar and thermal balance

The Danpalon® panel provides exceptional quality of light, a rich non-industrial visual appeal and delivers thermal insulation and UV protection. Danpalon® contributes to optimal efficiency and significant savings in energy costs.

Centre Hospitalier Sud Francilien, France
Glazing: Danpalon® 16mm | Architect: Groupe-6 Architectes

DANPALON® PANEL

LIGHT DIFFUSION. STRENGTH. FLEXIBILITY.

SUPERIOR LIGHT DIFFUSION

The Microcell structure transmits an even diffusion of natural light, producing a rich look. Specifically designed for architectural daylight applications, the tight spacing between the ribs produces a superior quality of light, offering unique iridescence - reflecting and dispersing light in a way unmatched by any other material. Danpalon® Microcell panels are available in a range of thicknesses and widths.

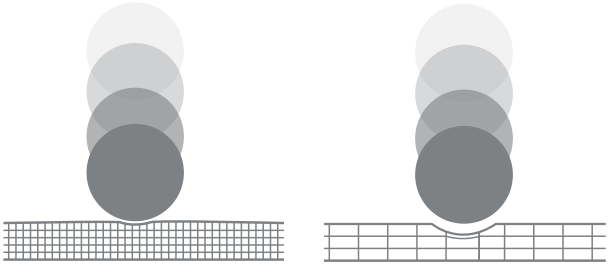
EXCEPTIONAL DURABILITY AND THERMAL INSULATION

Danpalon® Microcell panels are manufactured with unique and innovative extrusion technology, providing ten times more cells than the majority of other sheets on the market. The smaller spans between the rib supports give customers the best combination of translucency and strength. Danpalon® Microcell panels are 100% leakproof, offering superior impact resistance and thermal insulation.

Gymnasium Posco, Korea | Danpal® Single Glazing, 16mm | Architect: Posco A&C

THE DANPALON MICROCELL STRUCTURE FEATURES 10 TIMES MORE CELLS THAN OTHER PANELS ON THE MARKET

The high concentration of cells provides Danpalon® Microcell with significantly lower thermal conductivity, improved mechanical properties and rigidity with high impact resistance.

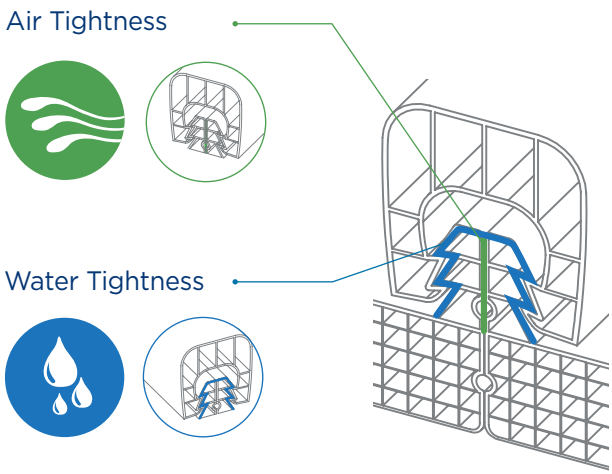


Danpalon® structure microcell

Classic alveolar panel structure

HIGH PERFORMANCE AND WEATHER RESISTANCE

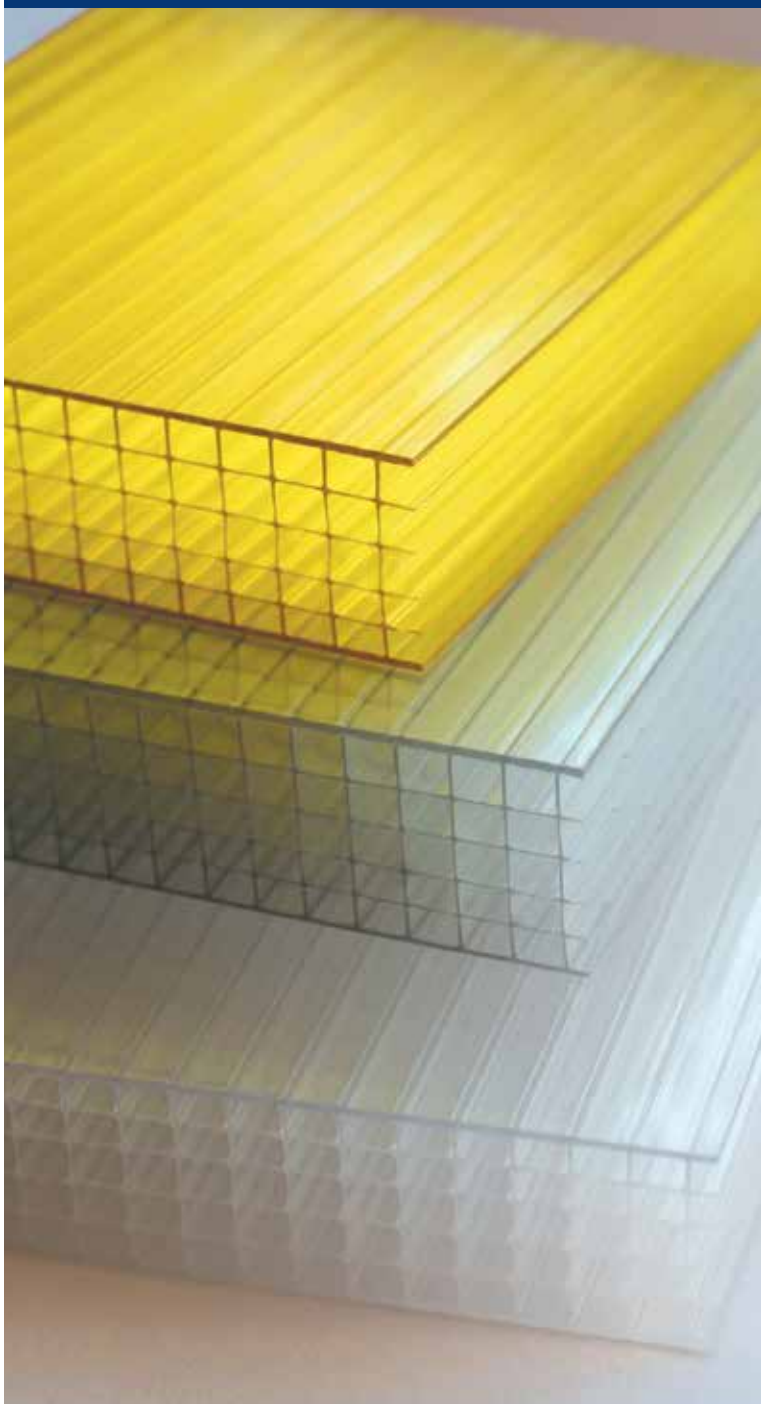
Due to the tightness between the vertical supports, Danpalon® Microcell offers superior air and water tightness together with highest resistance to impact and hail damage.



- Reinforced safety gauge
- Improved inertia for improved lightness
- The very best air and water tightness available

BENEFITS

- 100% waterproof
- Free thermal movement
- Easy installation
- High impact resistance
- Excellent thermal insulation
- Quality diffused daylight
- Cold bending of panels on site
- Reduced substructure
- Environmentally friendly product



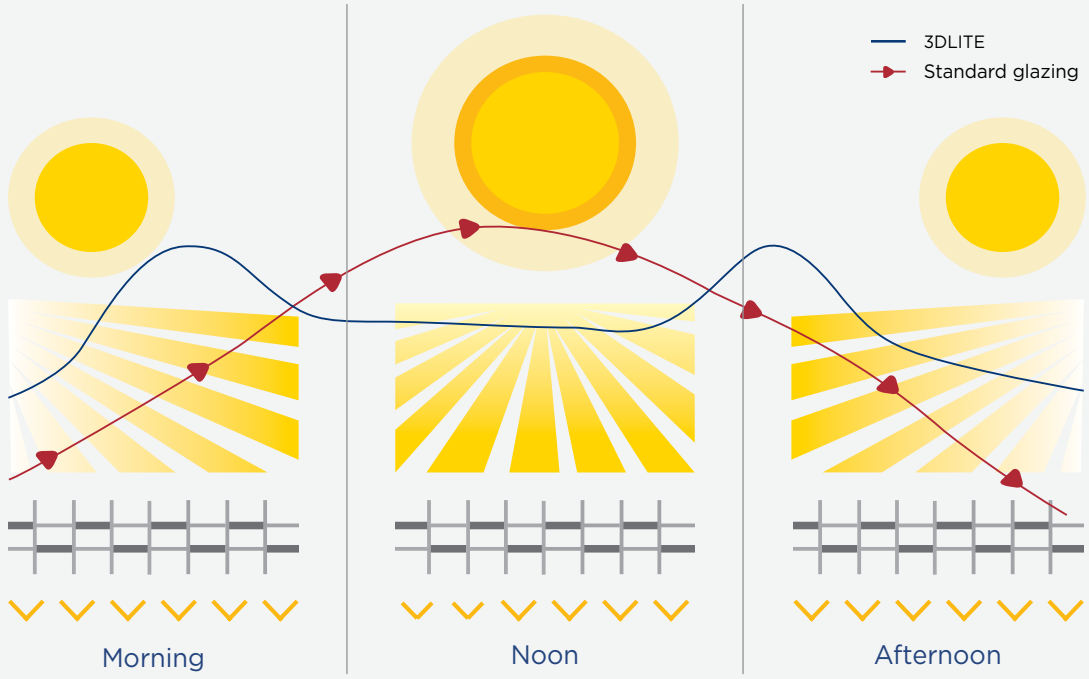
DANPALON® 3DLITE PANEL

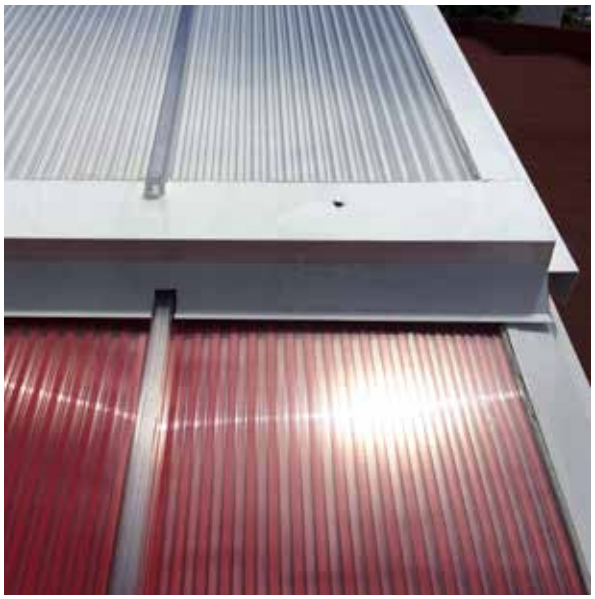
BALANCE YOUR LIGHT

Block direct heat and glare

Optimizing natural light in buildings is an ongoing challenge. Danpalon 3DLITE is an advanced, innovative panel developed by Danpal®, enabling architects to design creatively while contributing to energy savings and increased lighting efficiency. Danpalon 3DLITE contains alternating integrated shading louvres which selectively control the sunlight to penetrate evenly during the day, while offering thermal insulation and a special dynamic look.

LIGHT LEVELS DURING THE DAY





CIIDET College & University, Mexico | Glazing: Danpalon 3DLITE | IIFEQ Architects

3DLITE STRUCTURE

Balancing daylight throughout the day

Danpalon 3DLITE allows the sun's rays to penetrate through at higher levels during the morning and afternoon, while reducing heat in the middle of the day. This fixed, cost-effective solution optimizes daylight in office buildings, shopping malls, schools, libraries, stadiums, museums, and more.

Medical Center, Mexico | Glazing: Danpalon® 3DLITE

Cafeteria Unitec Atizapan, Mexico | Glazing: Danpalon 3DLITE. Danpal 16mm

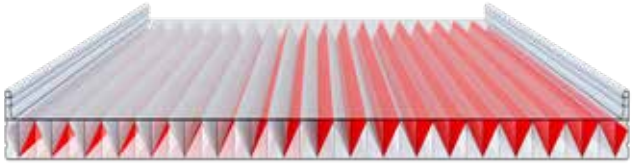
BENEFITS

- Dynamic light diffusion
- Flexible solution for summer and winter
- Optimises daylight throughout the day
- Wide variety of colours
- Part of Danpal's systems

DANPALON® KINETIC PANEL

DUAL COLOUR PANEL WITH DYNAMIC LOOK

Fascinating design is all a matter of perspective. And that's exactly what you get with Kinetic – the dynamic design solution from Danpal that enables the viewer to see a structure in one colour from one direction, and another colour from the other direction - providing a dynamic visual experience that changes depending on your perspective.



Give buildings a new look

With its appealing, innovative exterior, Kinetic revitalizes the appearance of any building - rejuvenating older buildings or adding innovation when planning a new building.

BENEFITS

- Dynamic look
- The ability to combine two colors in one panel
- Unparalleled choice of colours and colour combinations
- Lightweight
- Part of Danpal's systems

Variety of color combinations

FINISHES

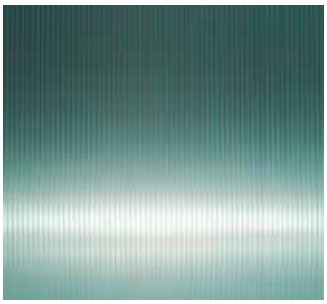
DANPAL OFFERS A RANGE OF PANEL SURFACE FINISHES ACCORDING TO ENVIRONMENTAL CONDITIONS AND ARCHITECTURAL REQUIREMENTS

SOFTLITE FOR VISUAL COMFORT

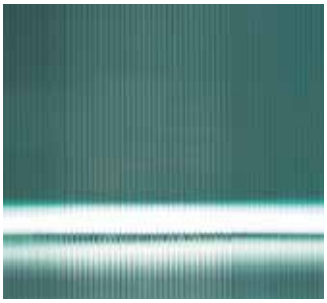
Softlite finishing greatly diminishes glare effects. Softlite is a 100% permanent matt finish applied by co-extrusion on Danpalon® panels of any thickness and colour. The Softlite finishing performance is independently validated to ensure maximum visual comfort, regardless of the exposure and type of building.

- Reduced “neon“ effect
- Greater light diffusion
- Increased feeling of comfort

WITH SOFTLITE



WITHOUT SOFTLITE



HP - HIGH PROTECTION TREATMENT

Danpalon® HP is an advanced surface treatment that enables higher performance in areas of graffiti removal and protection against environmental pollution.

The Danpalon® HP surface treatment can be applied to most types of Danpalon® panels.

CHEMICAL RESISTANCE	WITHOUT HP	WITH HP
Gasoline	yes	yes
Toluene	no	yes
Acetone	no	yes
5% Ammonia	no	yes
10% Caustic Soda	no	yes
50% Caustic Soda	no	no
GaffiGauard 2010 (Guard Industrie France)	no	yes
GaffiGauard Decap Façade Guard (Guard Industrie France)	no	yes
GaffiGauard 2030 (Guard Industrie France)	no	yes

Open spot test according to ASTM D-1308.
HP provides protection against long-term exposure.
This information does not replace Danpal cleaning instruction and must be used carefully.

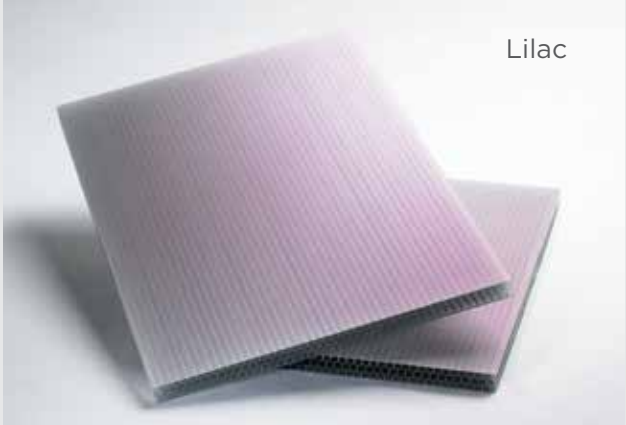
Veolia Energy, UK | Danpalon Single Glazing 16 mm
Architects: S’pace

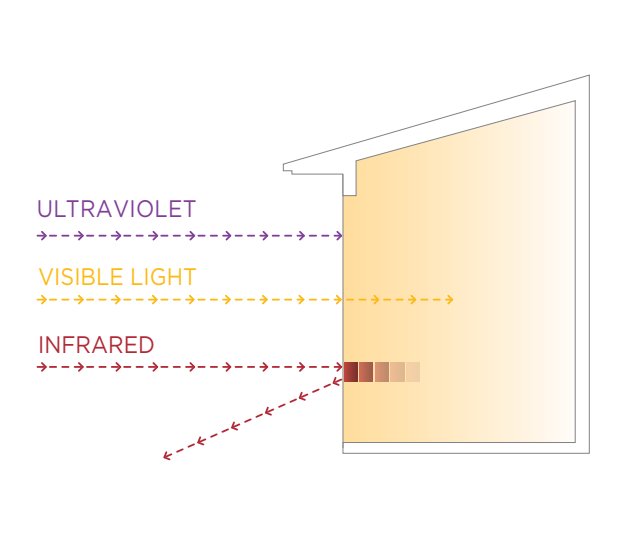
DANPALON LOW E EFFECT

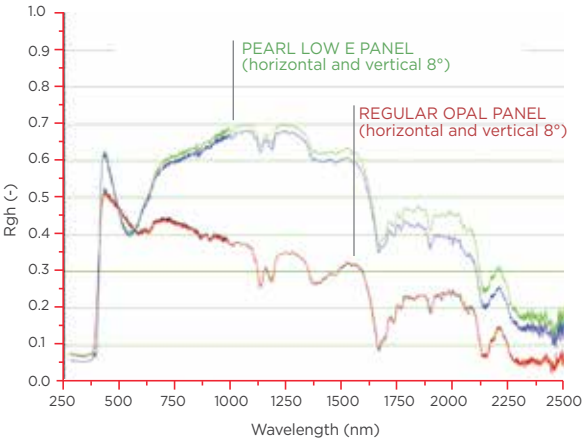
Allow better use of daylighting without adding more heat.

Infrared treatment is a co-extruded finish that significantly limits solar heat gain without affecting light transmission levels - creating better utilisation of daylight.

It works by selectively blocking solar radiation, leading to a reduction in solar loads and enabling significant reductions in air conditioning costs and carbon emissions.





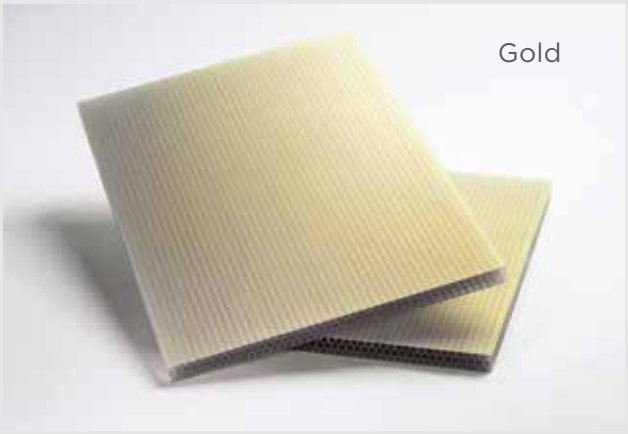


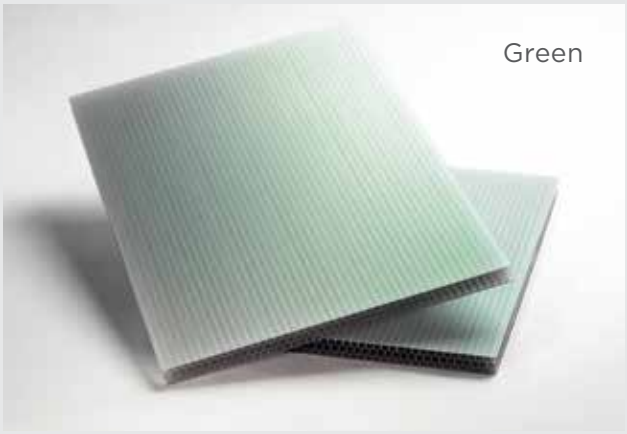
"PEARL LOWE" has improved IR reflectivity characteristics, compared to a similar panel without infrared treatment (as shown in the graph).

DANPALON® PANEL IDENTIFICATION - FOR FULL TRACEABILITY

Danpalon® is unique in offering details on the panel itself. These details include date of manufacture, enabling customers to easily see whether they are within their 10 year warranty period.

IRIDESCENT APPEARANCE

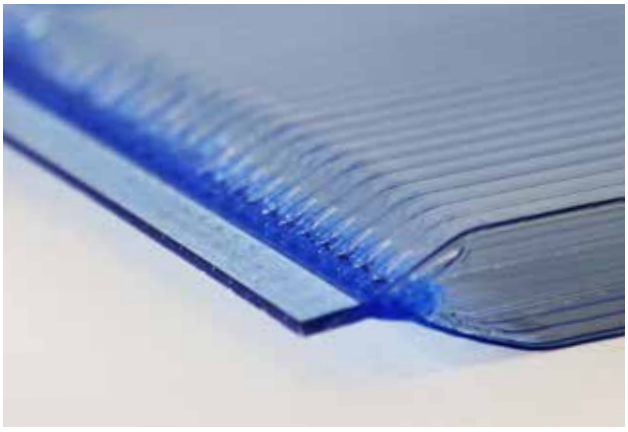




Shopping Center, Villeneuve-la-Garenne, France
Danpal® Single Façade System 12mm | Architect: DGLA

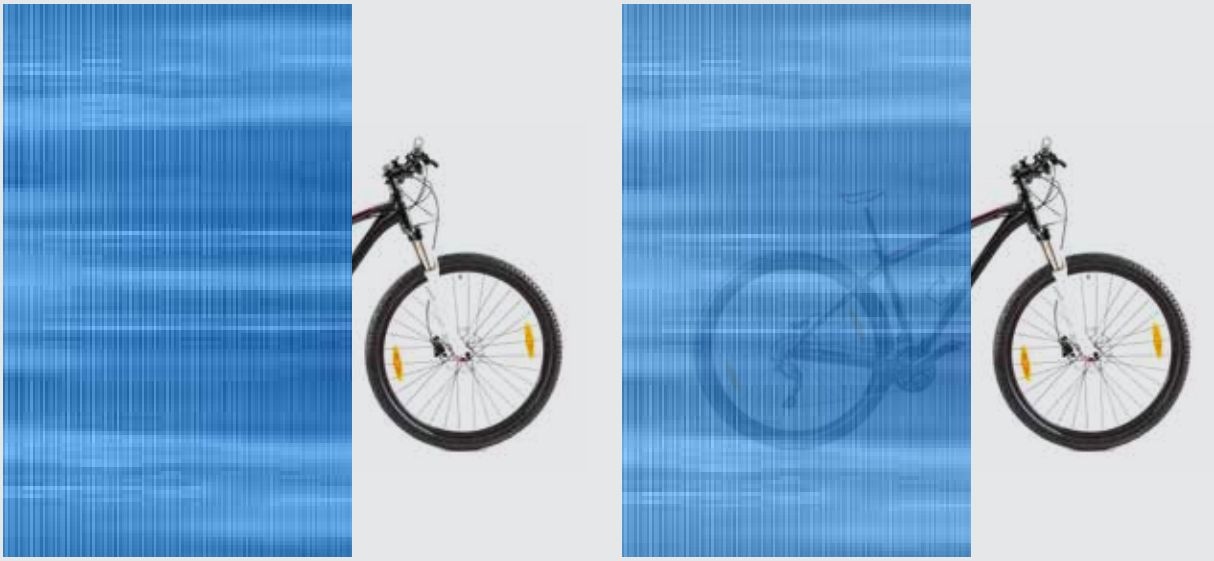
HEAT WELDED EDGES FOR PERFECT FINISHING

The welded edges provide a clean and effective solution that prevents water, dirt or insects from getting inside the microcells.



TRANSLUCENT AND OPAQUE

For bright colours with a metallic, lacquered appearance, choose the opaque panels available in a wide range of tints. With Danpal's translucent range, the appearance of the building changes with the light and reflections projected onto the Façade at different times of day.



BICOLOUR FOR OPTICAL SPECIAL EFFECTS IN CLADDING

Our special bicolour option makes refracted light-effects possible, creating a unique 3-dimensional look to your cladding. The panels are available in the colours of your choice and are intended for use, with our Danpal VRS cladding system.

UNLIMITED DESIGN OPTIONS AND STUNNING EFFECTS

As well as creatively playing with light in structures, with Danpalon® textures you can also play with different prints and designs. Danpalon's textures and prints bring a wide array of design options for interior and exterior walls and ceilings. We provide high quality designs and stunning effects that are perfectly adapted and overlaid. This allows you to create any type of atmosphere or appearance, adding interest to structures and complementing the design.

Secondary School P. Mendes, Arques, France | Glazing: Danpalon® Printed | Architect: Soupey Toth Architecte

Nurcery School, France | Glazing: Danpalon® Printed, 16mm | Architect: Weber et Albrech

Oddo Nursery School, Marseille, France
Glazing: Danpalon® Printed, 16mm | Architect: Camille Richard Lenoble

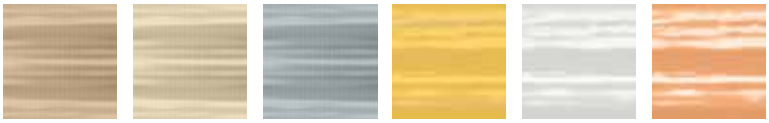
Liberty Creche, Le Petit Quevilly, France
Glazing: Danpalon® Printed, 16mm
Architect: Gérard Bourdon

LET OUR COLOURS INSPIRE YOU

SHADES OF WHITE

Clear | Ice | Opal

METALLIC



Amber | Bronze | Reflective Grey | Gold | Metallic Ice | Copper

SOFTLITE SHADES OF WHITE

Softlite Clear | Softlite Ice | Softlite Opal

SOFTLITE METALLIC

Softlite Amber | Softlite Bronze | Softlite Reflective Grey | Softlite Gold | Softlite Ice | Softlite Copper

COLOURFUL

Blue | Sapphire Blue | Blue Arctique | Green | Lime Green | Empire Green | Yellow

Orange | Red | Magenta | Purple | Brown | Grey | Black

SOFTLITE COLOURFUL

Softlite Blue | Softlite Sapphire Blue | Softlite Blue Arctique | Softlite Green | Softlite Lime Green | Softlite Empire Green | Softlite Yellow

Softlite Orange | Softlite Red | Softlite Magenta | Softlite Purple | Softlite Brown | Softlite Grey | Softlite Black

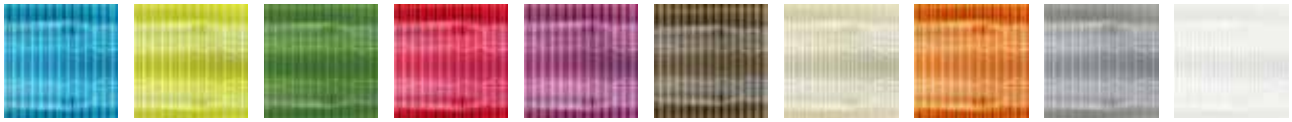
EXTRA SHADING

Red | Purple | Orange | Dark Opal | Dark Silver

COLOURFUL OPAQUE

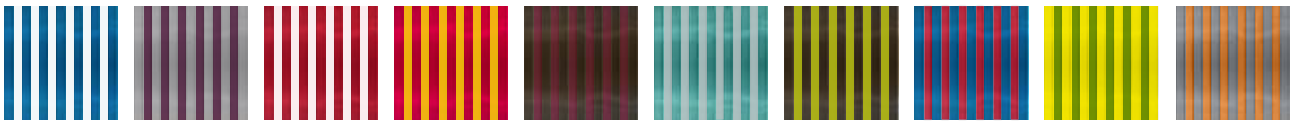
White | Black | Silver | Reflective Blue

3DLITE



Sky Blue | Citrus Green | Fern Green | Crimson Red | Violet Purple | Chocolate Brown | Ivory | Signal Orange | Thunder Grey | White

KINETIC



White | Sky Blue | Violet Purple | Mist Grey | White | Crimson Red | Canary Yellow | Magenta | Violet Purple | Chocolate Brown | Dove Grey | Turquoise | Citrus Green | Chocolate Brown | Crimson Red | Sky Blue | Fern Green | Canary Yellow | Signal Orange | Thunder Grey

OPTICAL AND THERMAL PROPERTIES FOR STANDARD COLORS

	STANDARD		COMPACT 4MM	MULTICELL/ HONEYCOMB 8/10/12MM	MULTICELL 16/22MM	MULTICELL 35MM	50MM
	Clear	LT%	86	67	57	50	41
		ST%	79	62	53	47	39
		SR%	11	29	36	39	42
		SHGC	0.81	0.64	0.55	0.50	0.43
	Ice	LT%	55	58	47	44	33
		ST%	58	57	46	44	34
		SR%	20	30	35	38	41
		SHGC	0.62	0.60	0.50	0.48	0.39
	Reflective Grey	LT%	19	20	18	20	10
		ST%	16	16	19	17	9
		SR%	24	31	31	32	33
		SHGC	0.28	0.27	0.29	0.27	0.21
	Opal	LT%	34	35	21	20	13
		ST%	42	41	28	26	18
		SR%	31	39	45	46	46
		SHGC	0.47	0.45	0.34	0.32	0.25
	Green	LT%	69	51	44	39	32
		ST%	67	52	44	39	30
		SR%	11	23	28	31	35
		SHGC	0.71	0.57	0.5	0.45	0.37
	Blue	LT%	62	50	49	37	31
		ST%	72	57	51	43	37
		SR%	11	27	33	34	43
		SHGC	0.76	0.60	0.54	0.48	0.41
	Bronze	LT%	37	25	29	25	20
		ST%	41	27	31	27	23
		SR%	8	16	21	24	26
		SHGC	0.51	0.38	0.41	0.37	0.33
	Grey	LT%	41	28	31	27	22
		ST%	51	36	36	32	27
		SR%	9	19	28	30	33
		SHGC	0.59	0.45	0.43	0.39	0.35

View more Colours

LEGEND

LT - % of visible light transmission (400 - 700nm)

ST - % of total solar radiation transmission (300 – 2800nm)

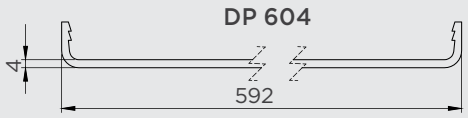
SR - % of total solar reflection (300-2800nm)

SHGC - Solar Heat Gain Coefficient.
Total solar energy transmitted through the panel = %ST+0.2x[1-(%st+%sr)].

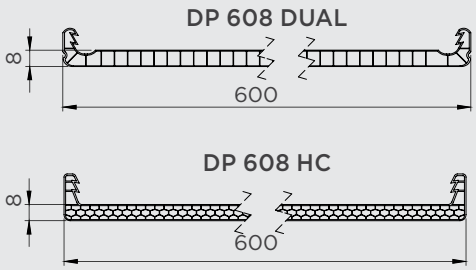
Tests were performed in accordance with ASHRAE 74-1988 procedures.
Figures are indicative and may change within manufacturers' production tolerances.

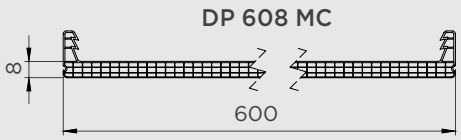
RANGE OF PANELS /CASSETTES

4 MM

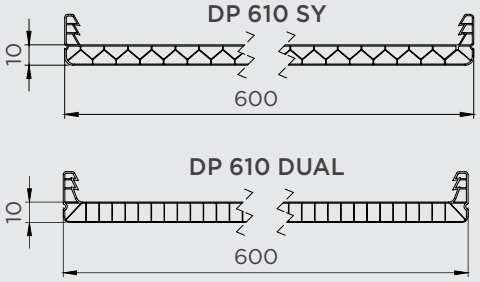


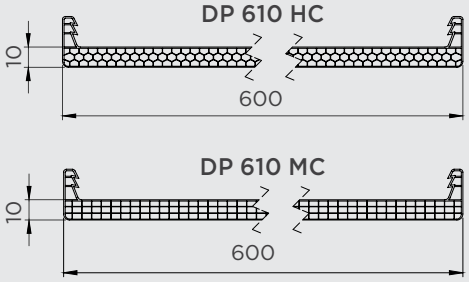
8 MM



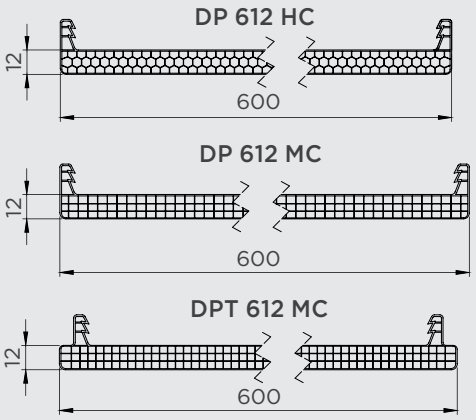


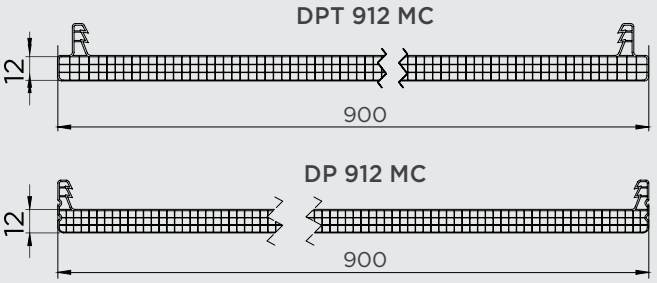
10 MM



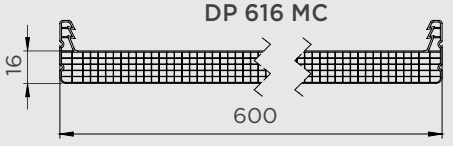


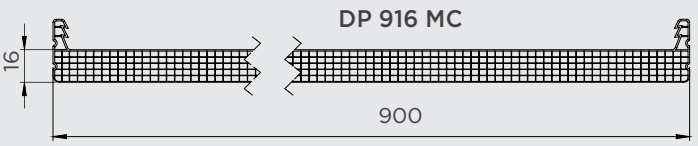
12 MM

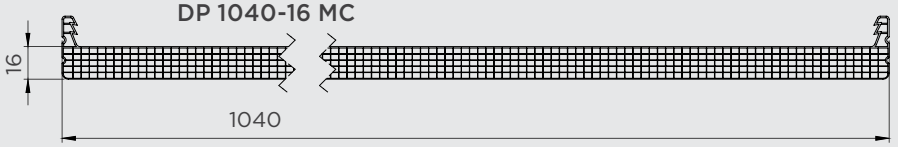


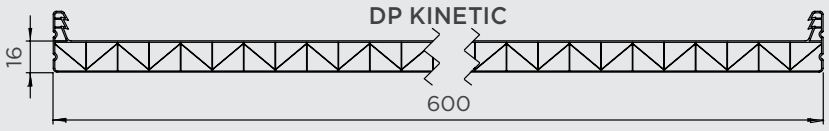


16 MM

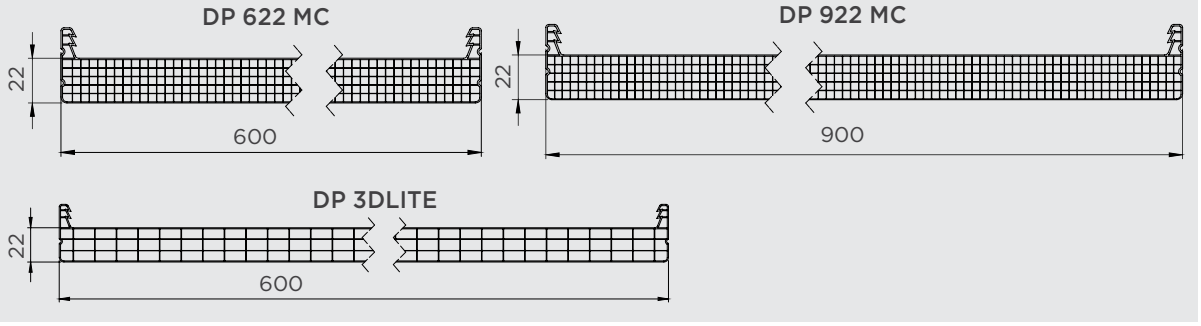




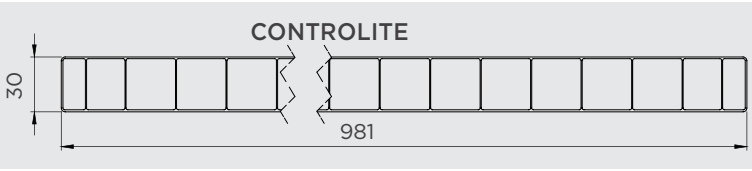




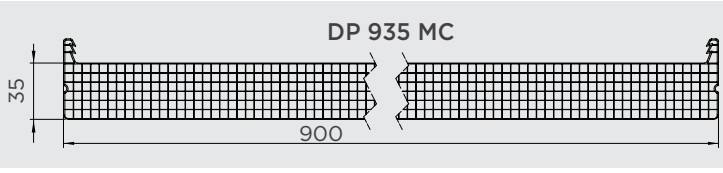
22 MM



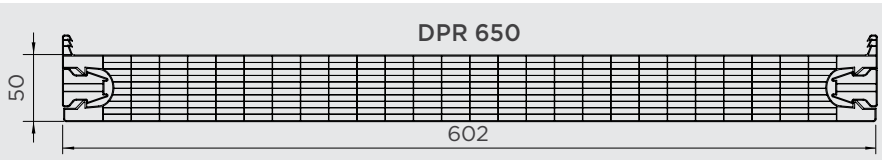
30 MM



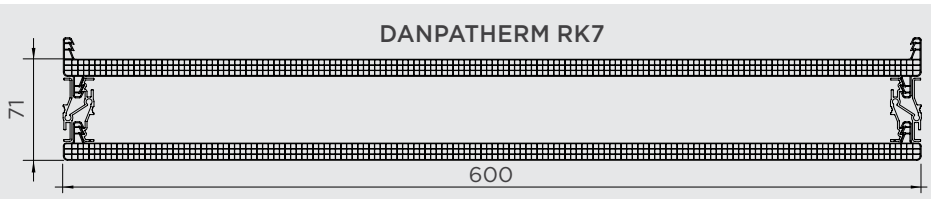
35 MM



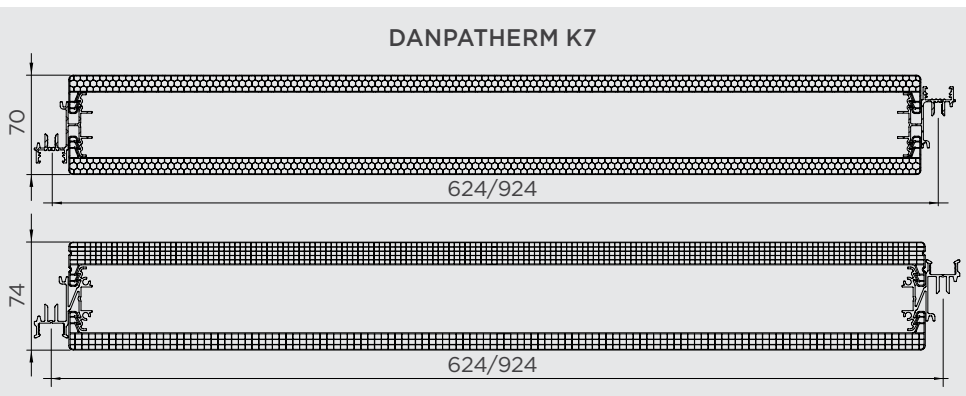
50 MM



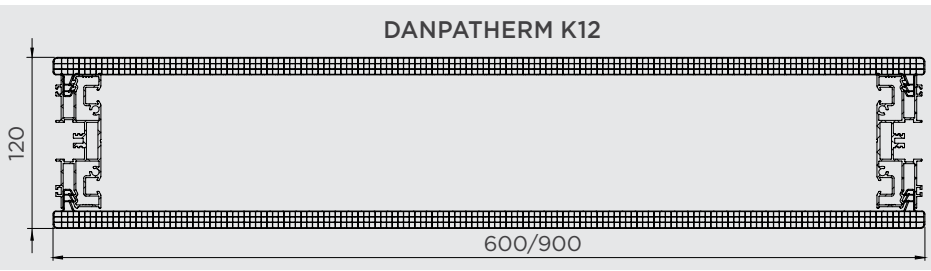
71 MM



74 MM / 70 MM



120 MM



TEST DATA AND TECHNICAL SUMMARY

Test Description	Test Procedure	Results & Note
1. Flammability The data partially relates to flame retardant grades. European standards: • Self - Ignition • Smoke Density of Plastic • Burning Extent • Interior Flame Spread and Smoke Development	 EN 13501 – 1:2002 ASTM 1929-3 ASTM D-2843 ASTM D-635 ASTM E-84.	 B - S1, d0 1058ºF (570ºC) 54% CC1 rating - less than 1.0" burn extent Several ratings are available: Class B or C (I, II,III)
2. Weathering • Weathering Evaluation	ASTM D4364-84	Successful exposure to concentrated natural sunlight radiation of 56000 MJ/M2(1540MJ/M2 of U.V.) at New River Site, Arizona
• 110mo Florida Weathering Evaluation		Impact, Cyclic wind loading shall not decrease after 110 months of exposure to Florida weather
• Colour Change	ASTM D2244	No more that 3.0 units Delta E after 60 months
• Yellowing Index	ASTM D1925	No more than 10 points after 60 months
• Light Transmission	ASTM D1003	Will not decrease more than 6% after 10 years
• Heat Exposure Evaluation	300ºF, 25mins.	The interior and exterior faces do not darken more than 0 units Delta L /ASTM D2244, 0 units yellowing index/ASTM D1925 and 0% light transmission / ASTM D 1003
3. Water Penetration	ASTM E-331	No penetration at test or pressure of 15 psf
4. Air Infiltration	ASTM E-283	0.042 SCFM/ft. of dry glazed joint at test pressure of 15 psf
5. Impact	ASTM E-822-81	Panel repels hailstones of 25mm at velocity 21m/sec - no penetration
• Sandbag impact test	AS/NZS 4040.4-1996	Pass
	SPI (Method B)	220ft. lbs.
	PA 201-94	Successfully tested per S. Florida hurricane large missile cannon test at 350 Ft Lbs
• OSHA Compliance – Point Load	29 CFR 1910,23 (e) (8)	300 lb. Point load with no damage
• OSHA Compliance - Fall protection / Walk through	ASTM E 695-03	500 Ft. Lbs
6. Accelerated Delamination • (Chaoter 42 of UBC Code]	300ºF, 25mins & sub - zero temp.	The faces do not become readily detached No delamination occurs under load
7. Vicat Softening Temperature	DIN 53460 Iso 306 VST/B	142ºc
8. Long Service Temperature		-40ºc to 120ºc
9. Expansion / Contraction	Linear thermal expansion	0.065mm/mºc
10. Code Compliance (USA)	ICBD Evaluation UBC/BDCA/SBCCI	See ICBD Report#ER-4798; SBCCI - PSI & ESI‡ Report #9373 Dade County #93-0329.05. Several other approvals available
11. U.V. Filtration	Australian Standard No.1067-1990	Transmission Less Than 0.1%
12. ISO Quality Standard	SI ISO 9001	Danpalon® complies with Quality Management Standard SI ISO 9001

*Refer to technical information and consult our technical service department. Whenever reference is made to fire tests, the numerical rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.

Danpal panels are produced with the **best** external protection against UV rays in the market, that ensures durability, mechanical properties and optical properties over time.

TECHNICAL FEATURES

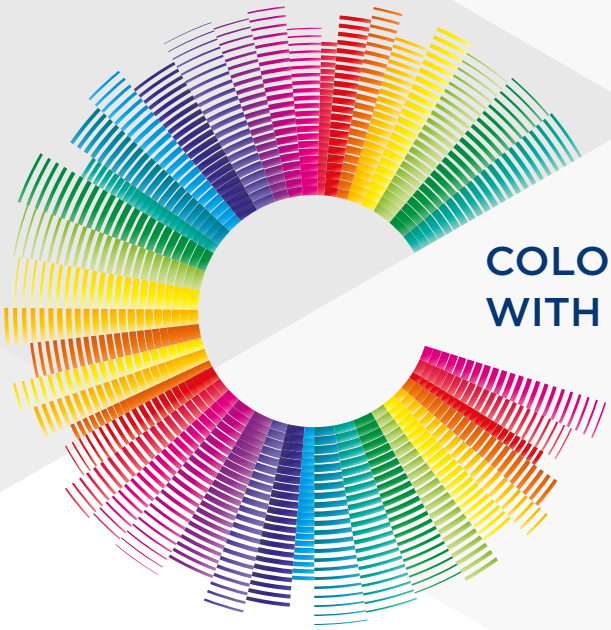
	DANPALON® 4mm	DANPALON® 8mm	DANPALON® 10mm	DANPALON® 12mm	DANPALON® 16mm	DANPALON® 22mm	DANPALON® 35mm	DANPALON® 3DLITE	DANPALON® KINETIC	DANPALON® 50mm
Number of walls		4	4	4	6	6	7	4	3	11
Structure	Solid 4mm	Multicell/ Honeycomb	Multicell/ Honeycomb	Multicell/ Honeycomb	Multicell	Multicell	Multicell	IHL	IDL	
Width (mm)	600	600	600	600 900	600 900 1040	600 900	900	600	600	602
Ug (W/m².K) CSTB calculated values	5.2	3	2.6	2.4	1.9	1.5	1.2	1.76	2.3	0.85
Reaction to fire	B-s1,d0							B-s2, d0	B-s1, do	
Span between support	Up to 1.6m	Up to 1.6m	Up to 2m	Up to 2m	Up to 2.5m	Up to 2.8m	Up to 3.5m	Up to 2m	Up to 2m	Up to 3m
Minimum slope specific test	5° (or 9%)									
Minimum cold bending radius	3.2m	2.5m	2.7m	2.8m	3.1m	3.5m	4.4m	5.0m	5.0m	5.4m
Manufactured according to certification	ISO 9001 ISO 14001									
Ten-year warranty	Yes									
Impact and shock resistance	SOFT AND HARD BODY IMPACT D1-10J - M50,300J - M50,400J								N/A	
Technical Book	Specialised reviews to EN standards throughout by SOCOTEC / CSTB Technical Assessment Department of cladding and roofing / Annual monitoring of the production factory by CSTB								N/A	

The values in this table are subject to change over time. Please contact Danpal® for more information https://www.danpal.com
Danpalon® panels are designed with multiple dimensions and cell structures, in order to offer solutions that match your requirements

IDEAL FOR CUSTOMISED AND UNITISED SOLUTIONS

Our full service offering

- Project engineers and the sales force in your region will accompany you and follow up your projects, from their inception to completion.
- Our design office will assist and guide you in the implementation of the most suitable solution for your specific needs.
- The order processing and preparation service offers customized orders, reinforced packaging, accurate labelling and impeccable delivery.
- Our support service will promptly respond and assist you in finding solutions for your on-site challenges.
- We offer a full material warranty and are committed to meeting our customers' deadlines.



COLOUR YOUR ATMOSPHERE WITH THE DANPAL® PALETTE

ABOUT THE COMPANY

Innovative light architecture systems for building envelopes

Danpal® are creators of exceptional light-transmitting architectural systems for building envelopes, providing optimal solar and thermal comfort.

For 50 years, our innovative systems have helped architects to transform light (both natural and artificial) into a powerful and versatile tool, for architectural creations that are internally and externally radiant.

An industry visionary, Danpal® are originators of the Danpalon® translucent panel standing seam system - a light architecture solution used around the world in commercial, education, transport, health, sports and high-tech projects.

Today, the company offers complete systems - providing total solutions for the building envelope. Danpal® designs, manufactures and distributes an unmatched range of daylighting systems for all types of building requirements – from Façades, cladding, roofs, Skylight, shading, to interior and outdoor applications.

Danpal® systems are built around innovative technologies, deep architectural know-how and the ever evolving needs of our clients. Operating in five continents, Danpal® inspires architectural creativity with its rainbow of light architecture solutions.

Danpalon® Glazing Material is an integral part of Danpal's range of systems - giving you a complete solution

FAÇADE CLADDING SKYLIGHT OUTDOOR SHADING INTERIOR

88-999419/1

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Danpal® Light Architecture