

DANPAL® ROOFING SYSTEMS

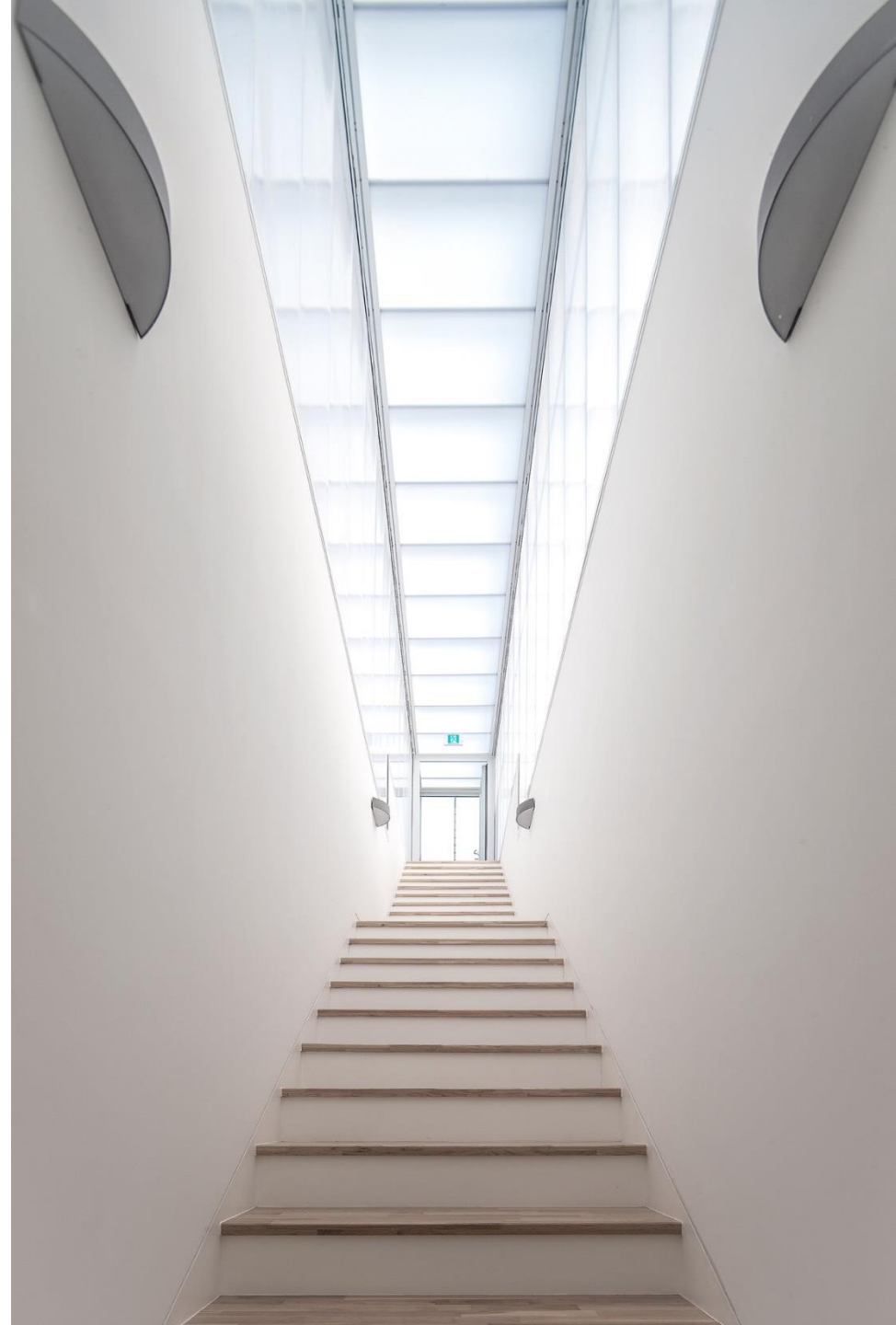


www.danpal.com



| DANPAL

- **DANPAL** WORK WITH ARCHITECTS TO OFFER THE **BEST SOLUTIONS**
- **LIGHT** ARCHITECTURE SOLUTIONS. WE CALL IT **DESIGN WITH LIGHT**
- HIGH QUALITY OF **NATURAL** AND **SAFETY LIGHT** FREE FROM **UV RAYS**
- GREEN & ENVIRONMENTAL PRODUCTS



DANPAL® SOLUTIONS

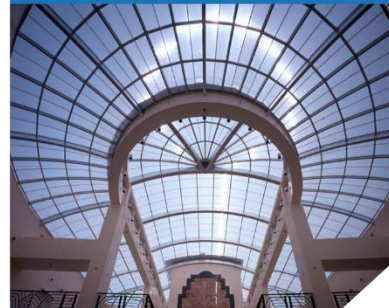
FACADES



CLADDING



SKYLIGHTS



OUTDOOR



SHADING



INTERIOR

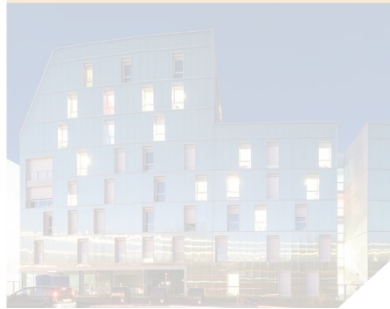


DANPAL® SOLUTIONS

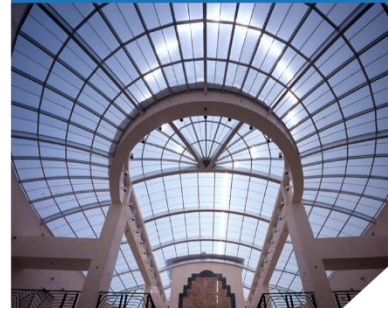
FACADES



CLADDING



SKYLIGHTS



OUTDOOR



SHADING



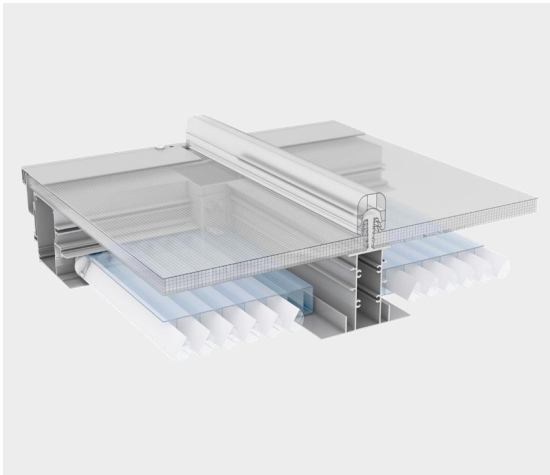
INTERIOR



ROOFING SYSTEMS

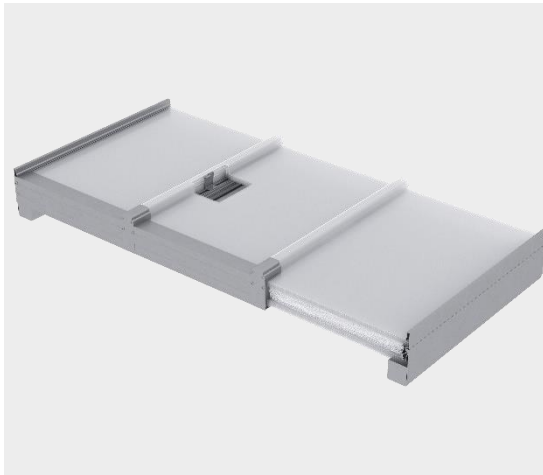
CONTROLITE

Smart Light Control
Roofing System

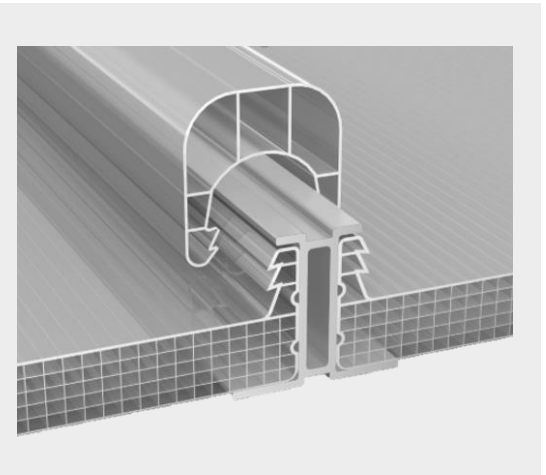


DANPATHERM RK7

New Generation
Roofing Systems

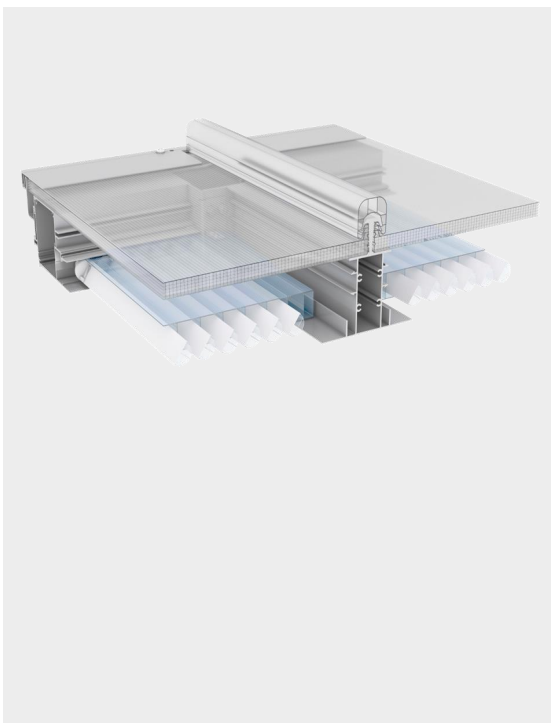


ROOFING SYSTEMS



ROOFING SYSTEMS

CONTROLITE
Smart Light Control
Roofing System



DANPATHERM RK7
New Generation
Roofing Systems

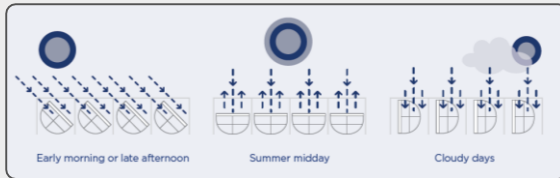


ROOFING SYSTEMS

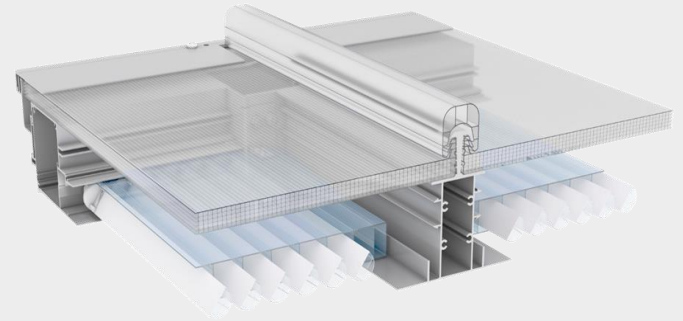


DANPAL CONTROLITE ROOFING SYSTEM

- Unique electronic double glazing polycarbonate Roofing System in the market
- Controls the light automatically

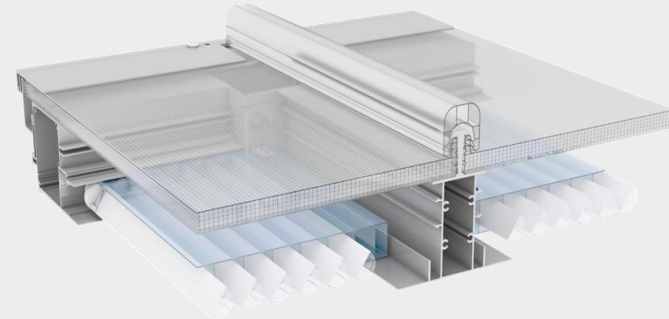


Specs: Automatic Light Control Roofing System



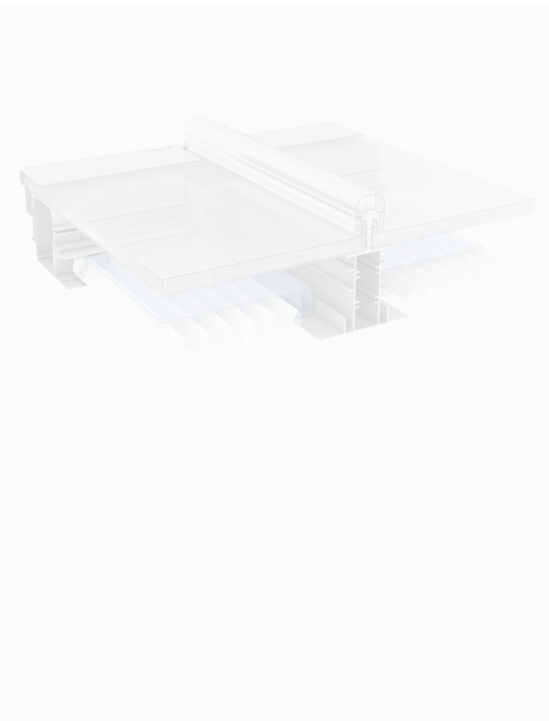
DANPAL CONTROLITE ROOFING SYSTEM

- Increased comfort through “optimized” daylight
- Maximizes daylight in winter and on cloudy days
- Reflects solar heat at midday
- Effectively controls light, shading, and solar heat gain to block heat in summer and maximize daylight in winter
- Significantly reduces energy use from air-conditioning, heating, and artificial lighting
- Reduces energy-related costs and greenhouse gas emissions
- High acoustics parameters 27 dBA
- High resistance to rain noise
- Offers light-transmitting surfaces over large areas



ROOFING SYSTEMS

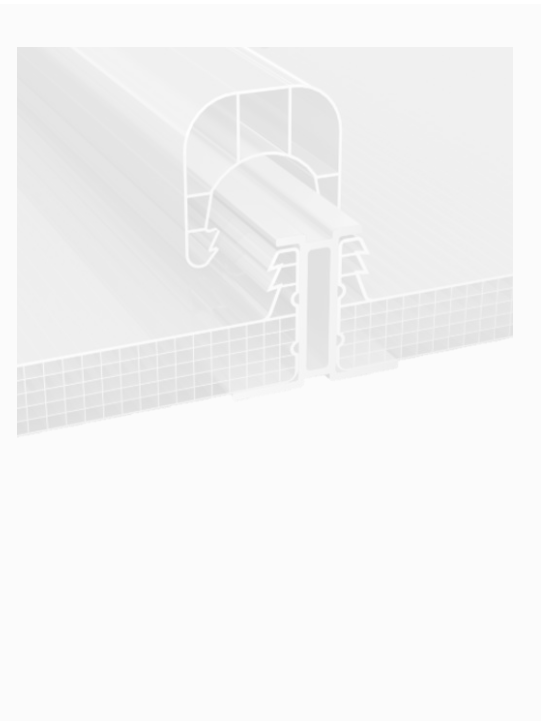
CONTROLITE
Smart Light Control
Roofing System



DANPATHERM RK7
New Generation
Roofing Systems



ROOFING SYSTEMS

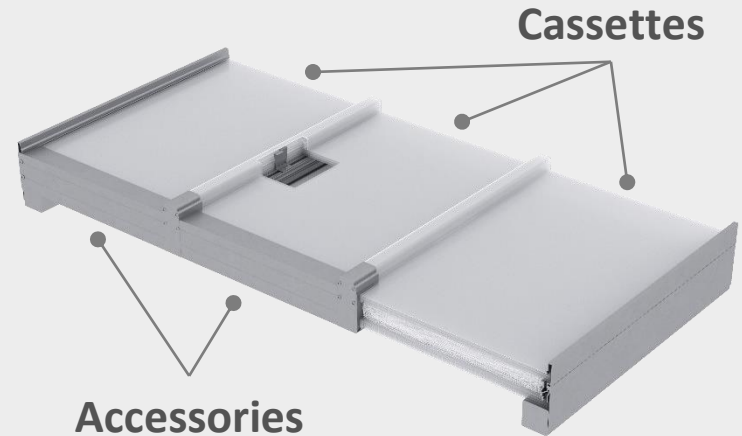


DANPAL DANPATHERM RK7 ROOFING SYSTEMS

NEW

- The unique **Double Glazing** polycarbonate Roofing System in the market
- Unique factory **pre-assembled cassettes** saves time & expensive installation costs

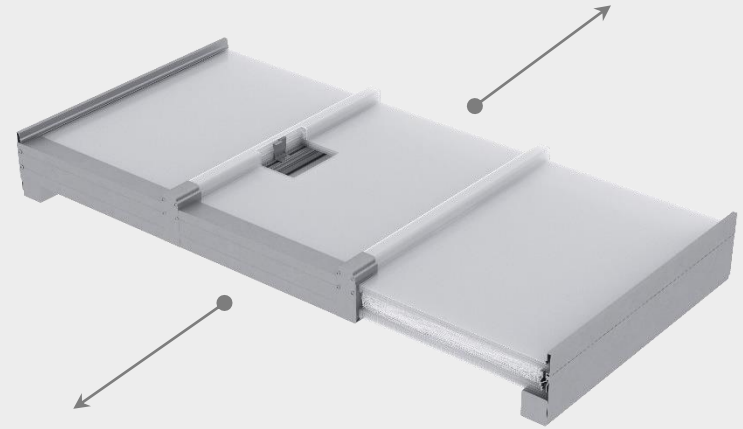
Specs: Double Glazing Roofing System;
Pre- assembled cassettes



DANPAL DANPATHERM RK7 ROOFING SYSTEMS

NEW

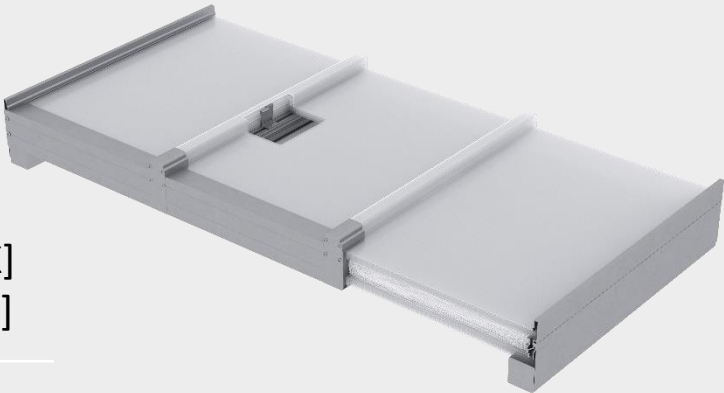
- The unique **Double Glazing** polycarbonate Roofing System in the market
- Unique factory **pre-assembled cassettes** saves time & expensive installation costs
- Double panels enable **playing with colors** inside and outside the building
- **Skin replacement**, enables replacing panel were building continue to be protected
- **High acoustics** parameters (26 dBA)
- High resistance to rain noise
- Available with/without Light Diffuser (INSULATION) material
- Easy and safe installation



DANPAL DANPATHERM RK7 ROOFING SYSTEMS

NEW

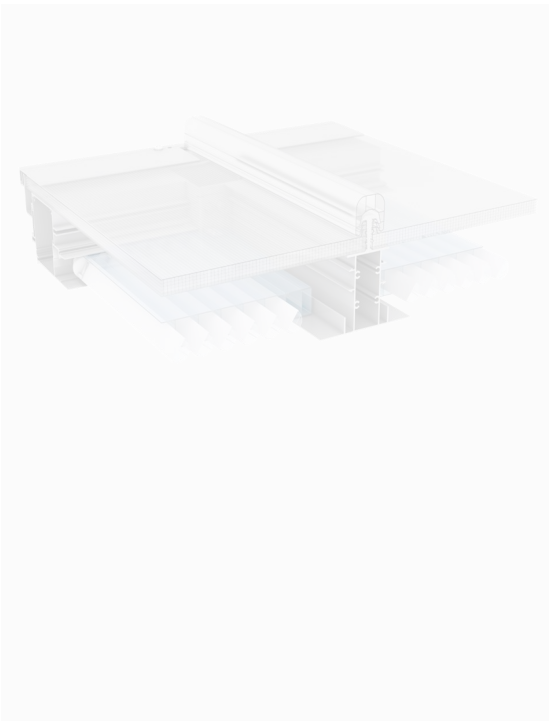
U Value	With Insulation: 0.79 [W/m ² K] W/O Insulation: 1.18 [W/m ² K]
Acoustics	26 dBA
Maximum Span	2,500 MM (155 kg\m ²)
Broof (t1) classification	



ROOFING SYSTEMS

CONTROLITE

Smart Light Control
Roofing System

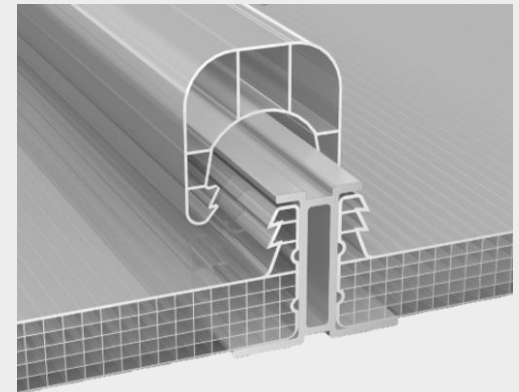


DANPATHERM RK7

New Generation
Roofing Systems

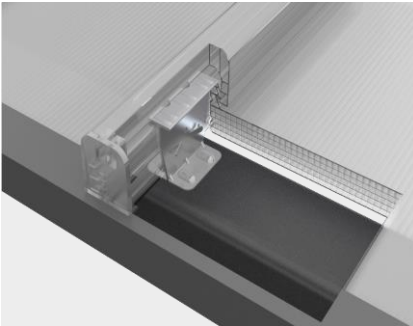


ROOFING SYSTEMS

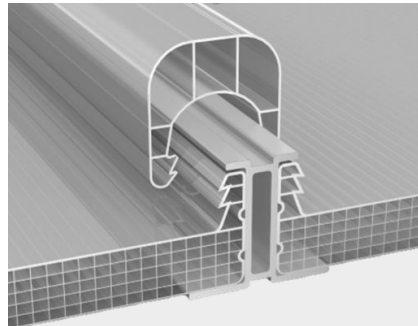


ROOFING SYSTEMS

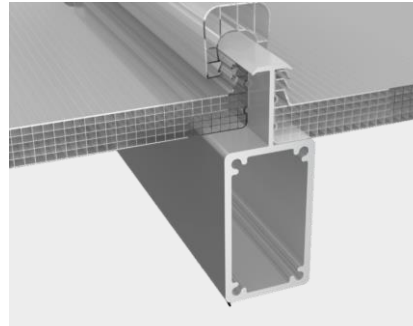
TRADITIONAL Roofing System



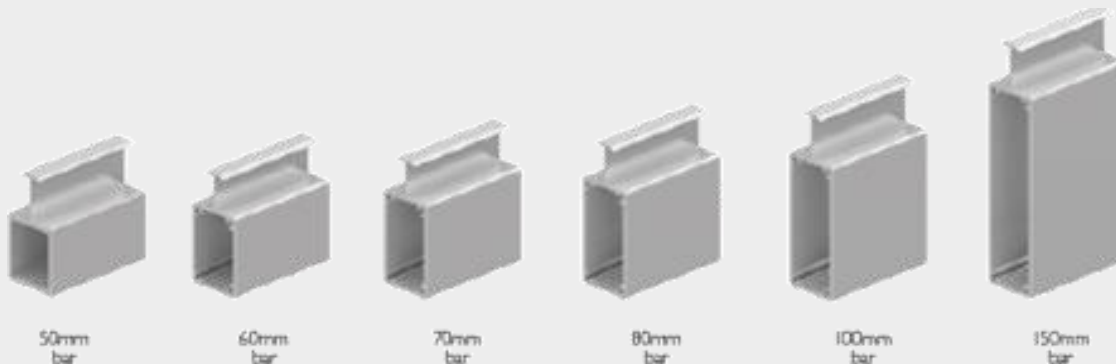
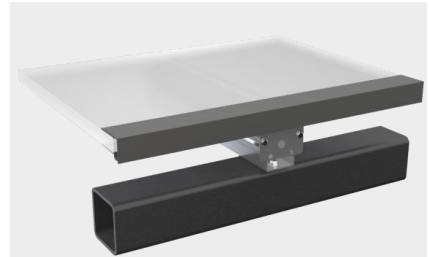
ALU SPACER Roofing Systems



FREE SPAN Roofing System



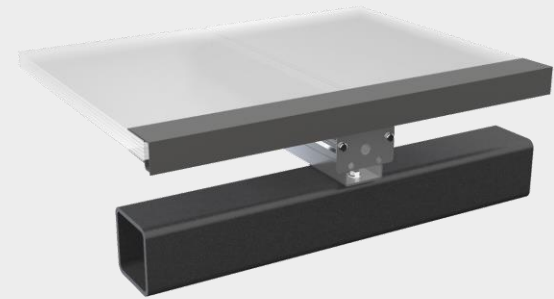
REVERSE INSTALLATION Roofing System



ROOFING SYSTEMS

FEATURES AND SOLUTIONS

- Modular glazing system for roofs with panels: 4, 8, 10, 12, 16, 22, 35 mm
- Multi system provides engineering and design flexibility
- Double tooth lock ensures high resistance to high winds and snow loads
- Extended UV protection



Span / Load tables

SYSTEM	Span in (mm) for 100 kg/m ² wind load single span										
	Panel width (mm)	600					900				1040
	Panel thickness (mm)	8	10	12	16	22	12	16	22	30	16
Traditional System	Polycarbonate connector	600	700	800	900	1000	N/A	900	1150	1600	850
	Alu U HD	1,900					1,550				1,400
	Alu U 5	3,200					2,600				2,450
ALU Spacer System		1,100	1,150	1,200	1,300		950	1,100			1,000
Freespan AB BAR System	Freespan 50		2,550	2,550	2,600		2,100	2,100			1,950
	Freespan 60	2,900	2,900								
	Freespan 70	3,350	3,350								
	Freespan 80		3,700	3,700			3,000				
	Freespan 100				4,400			3,600			3,350
	Freespan 150				6,000			5,000			4,650
'Seamless' (or Reverse) Installation	Expansion connector	1,450					1,200				1,100

Aluminium alloy is 6063 T5

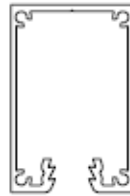
Safety Factor is 1.5

Deflection criteria is span / 50 and no more than 50mm.

SG installation –connector options

FOR 100 KG/m² WIND LOAD SF 1.5 PANEL DP616

ALU U70 CONNECTOR



SPAN 3.2 METER

ALU U EF CONNECTOR



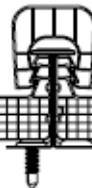
SPAN 1.9 METER

ALU U CONNECTOR

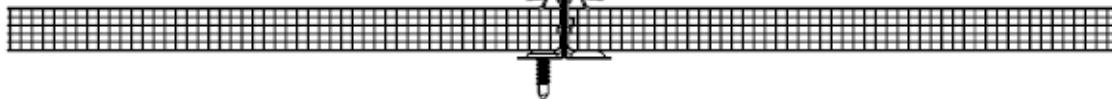


SPAN 1.4 METER

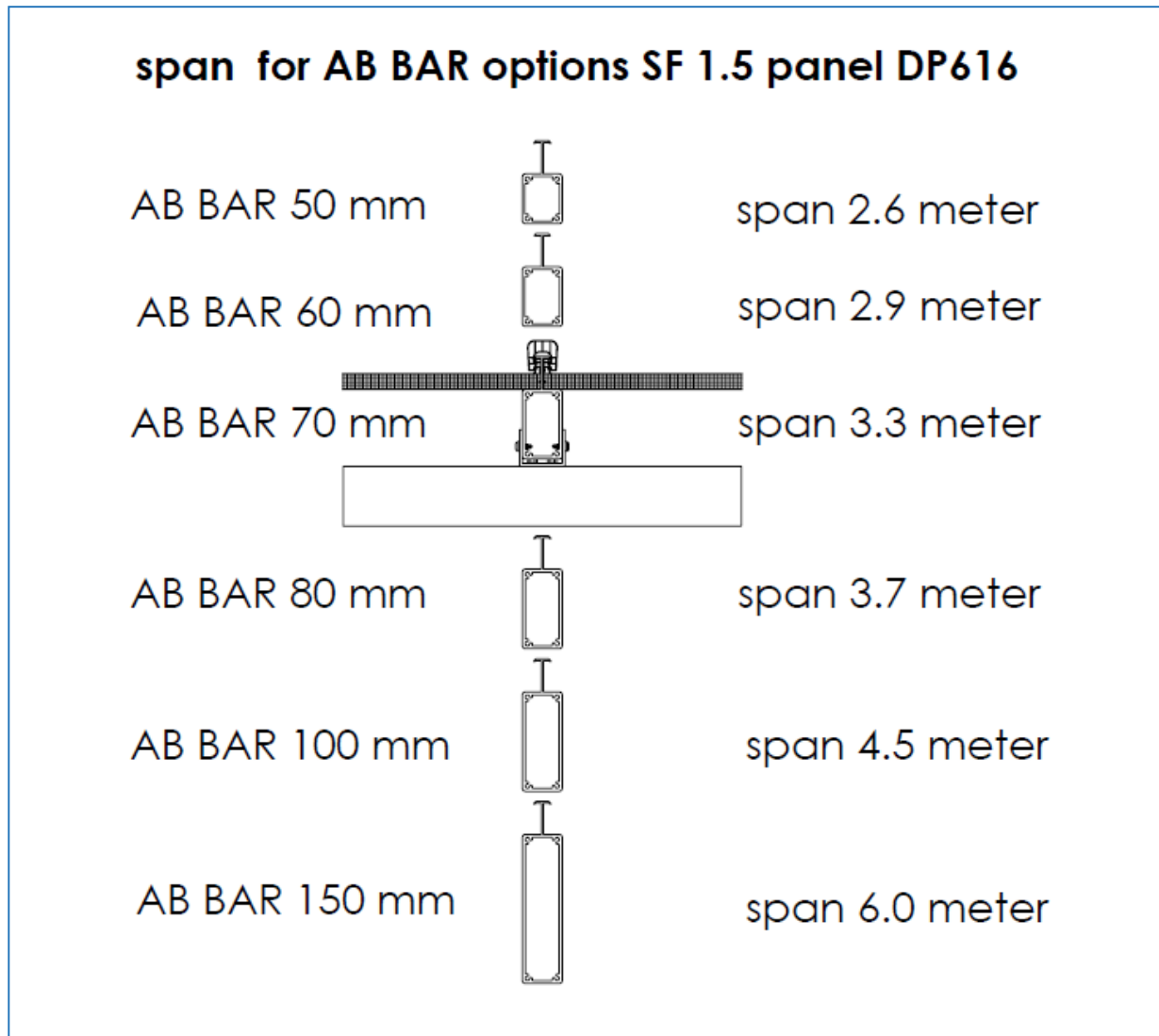
PC CONNECTOR



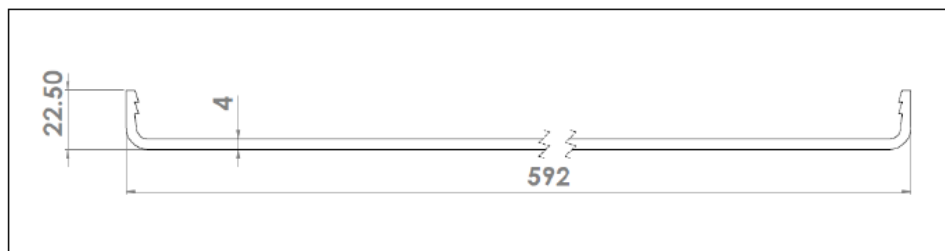
SPAN 0.9 METER



SG installation – Free Span options (AB Bar)



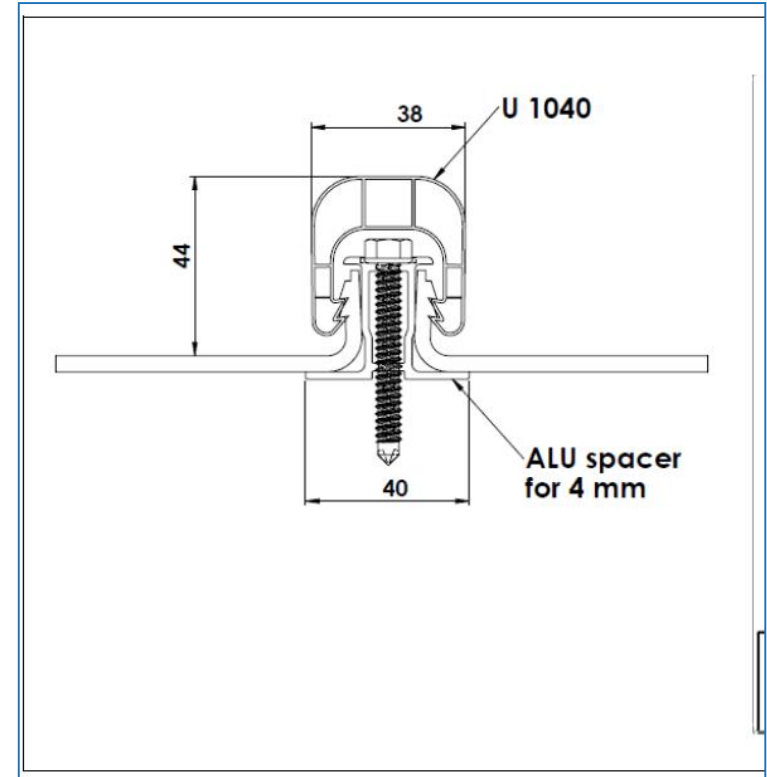
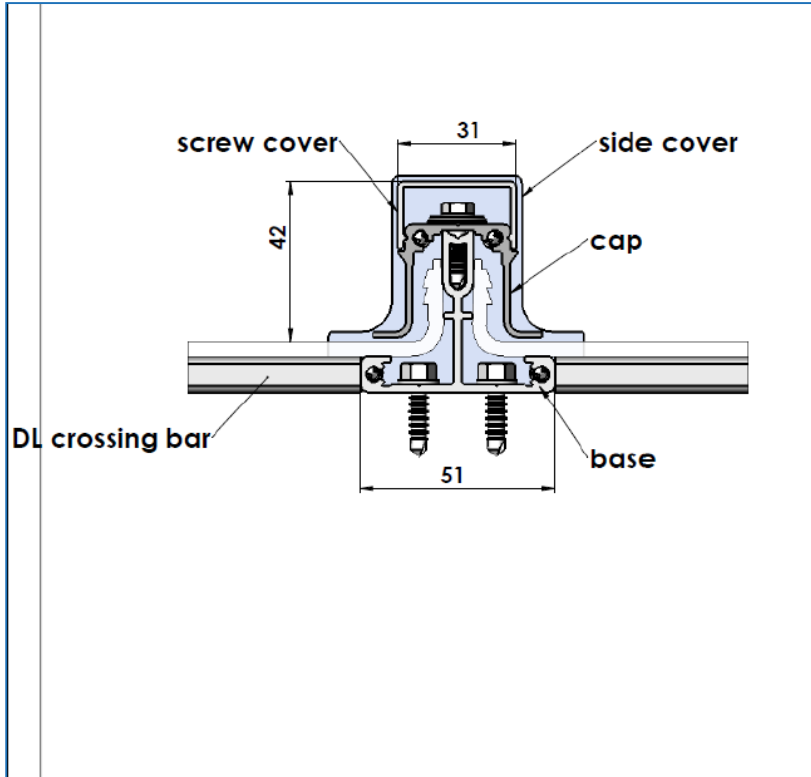
4 mm Roof system



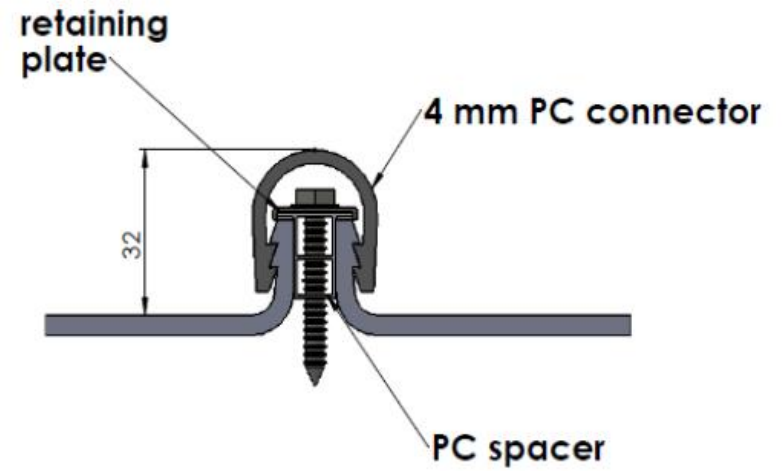
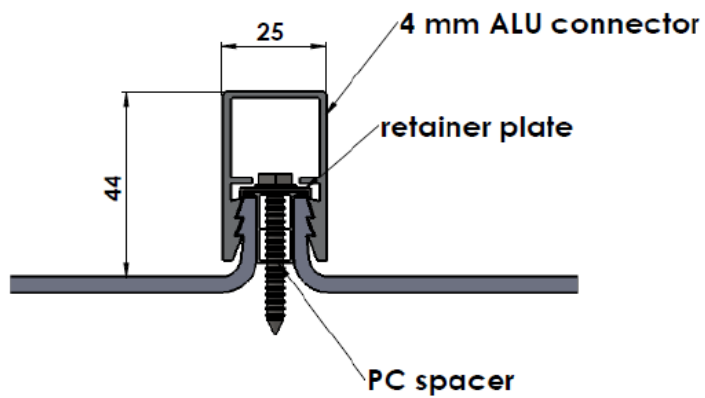
Module [mm]	Thickness [mm]	Structure	Weight [g/m]	Weight [gr/m ²]	Max length
600	4	SOLID	2,900	4,900	11.98 m

property		value	Units	Test method
U value		5.2	W/m ² K	Rules Th-U 2007 edition.
Sound absorption		Room=26 db	db	
Reaction to fire		B, s1, d0		EN 13501-1 Norm
Impact resistance	PC connector	M50/1200 joules		PV CERMA
Min cold bending radius	3,200 mm			
Technical agreement	Specialized reviews to EN standards throughout by SOCOTEC			

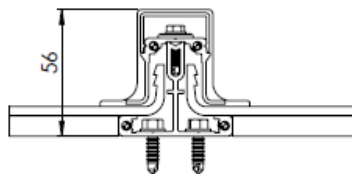
4 mm Roof system



4 mm Roof system

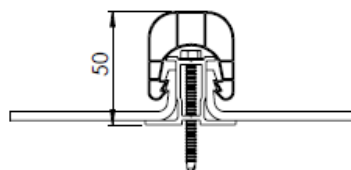


4 mm Roof



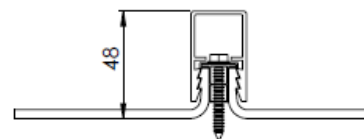
**New Danpal
4 mm system**

Module 600



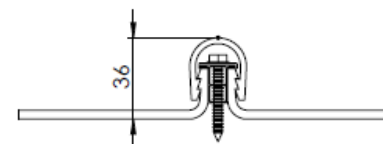
**4 mm Alu spacer
with U for spacer**

Module 605



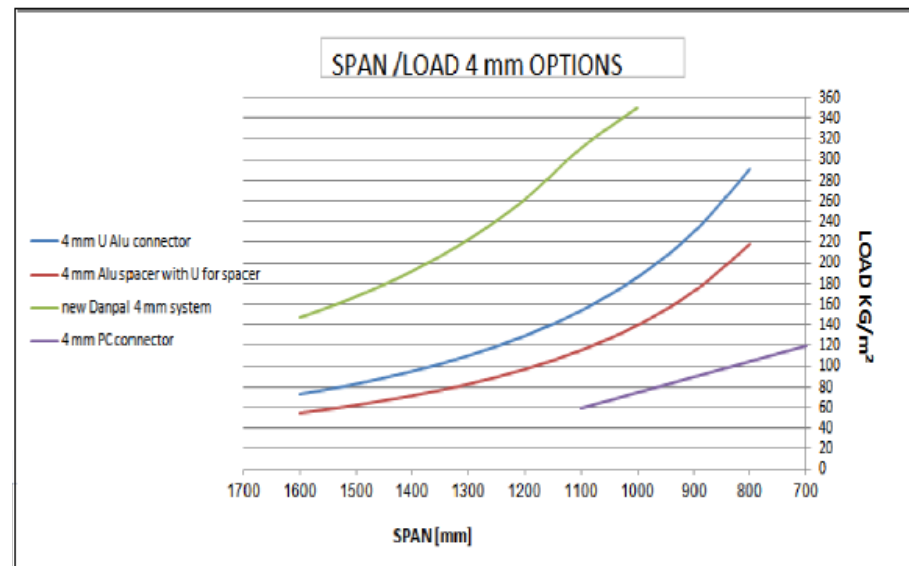
4 mm U Alu connector

Module 600



4 mm PC connector

Module 600



ROOFING SYSTEMS

NEW PANEL

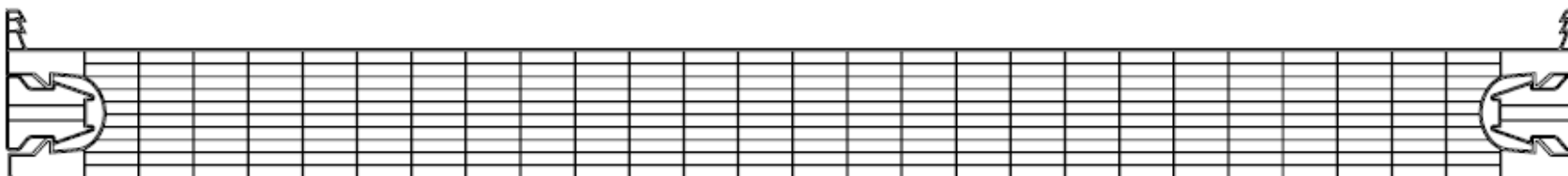
TRADITIONAL
Roofing System

ALU SPACER
Roofing System

FREE SPAN
Roofing System

**REVERSE
INSTALLATION**
Roofing System

**DPR 650
50MM**

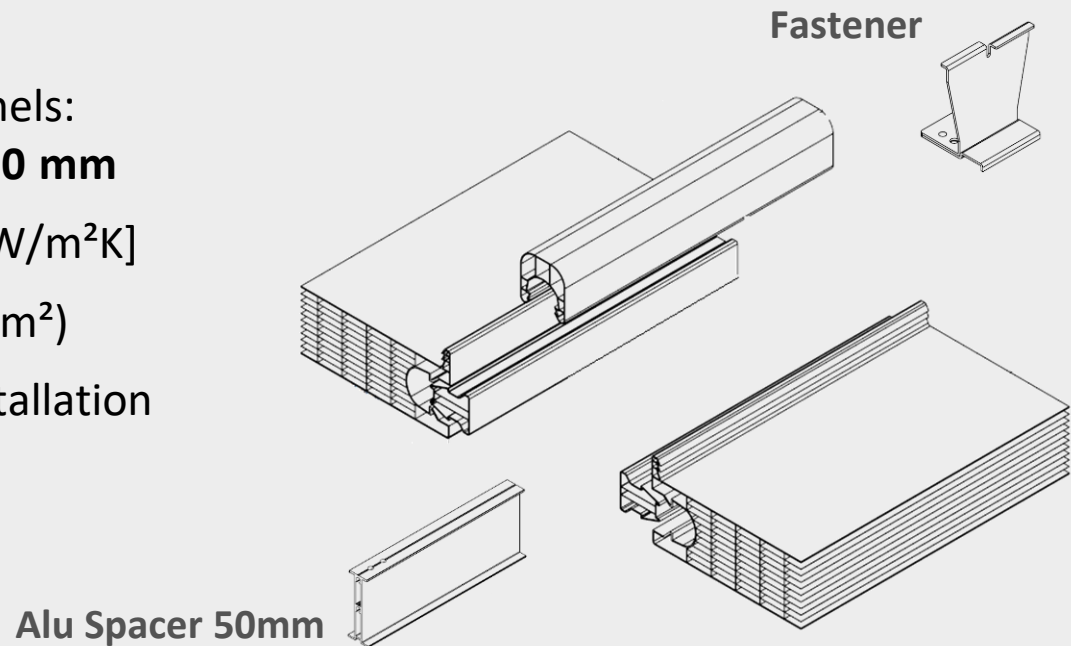


TECHNICAL FEATURES

Number of walls	11
Width (mm)	600
Ug (W/m ² .K) CSTB calculated values	0.85
Reaction to fire	B-s1, dO
Span between support	Up to 3m
Minimum slope specific test	5° (or 9%)
Minimum cold bending radius	5.4m
Manufactured according to certification	ISO 9001 ISO 14001
Ten-year warranty	Yes

50MM PANEL FOR ROOFING

- Increases the range of panels: 4, 8, 10, 12, 16, 22, 35 & **50 mm**
- Advanced U Value: $0.85 \text{ [W/m}^2\text{K]}$
- Long Span: 3.0 m (240 kg/m^2)
- Very easy and friendly installation (Fasteners or ALU Spacer)



ROOFING SYSTEMS

NEW PANEL

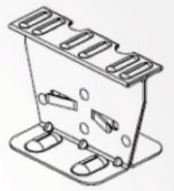
TRADITIONAL
Roofing System

ALU SPACER
Roofing System

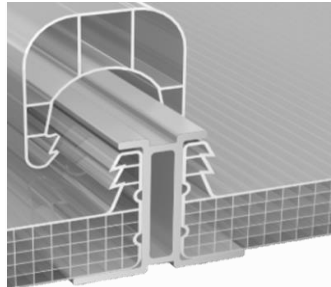
FREE SPAN
Roofing System

**REVERSE
INSTALLATION**
Roofing System

**DPR 650
50MM**



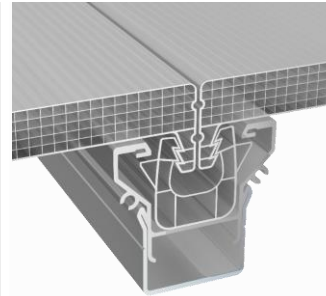
NEW
Expansion fastener
Patented (Pending)
product



Danpal
Exclusive solution



Danpal
Exclusive solution

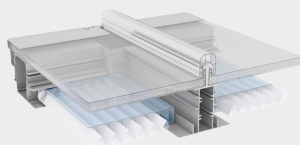


Patented
Expansion
Connector

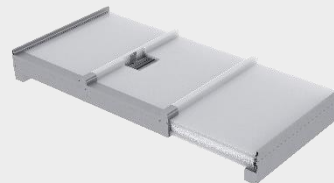
Standing
Seam
50mm panel

ROOFING SYSTEMS

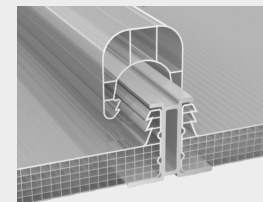
CONTROLITE Smart Light Control Roofing System



DANPATHERM RK7 New Generation Roofing Systems



ROOFING SYSTEMS



Positoning

Best

Better

Good

Competition

Limited

Less

Per solution

(LT%) Control

Automatic

Traditional

Traditional

Acoustics [dBA]

27

26

Per panel

Rain noise resistant

++

++

+

U value [W/m²K]

0.9

0.79

DPR 50mm 0.85

Max. span [M]

4.0 m

2.5 M

6 m

Roof types

Flat / Slope

Flat / Slope

All

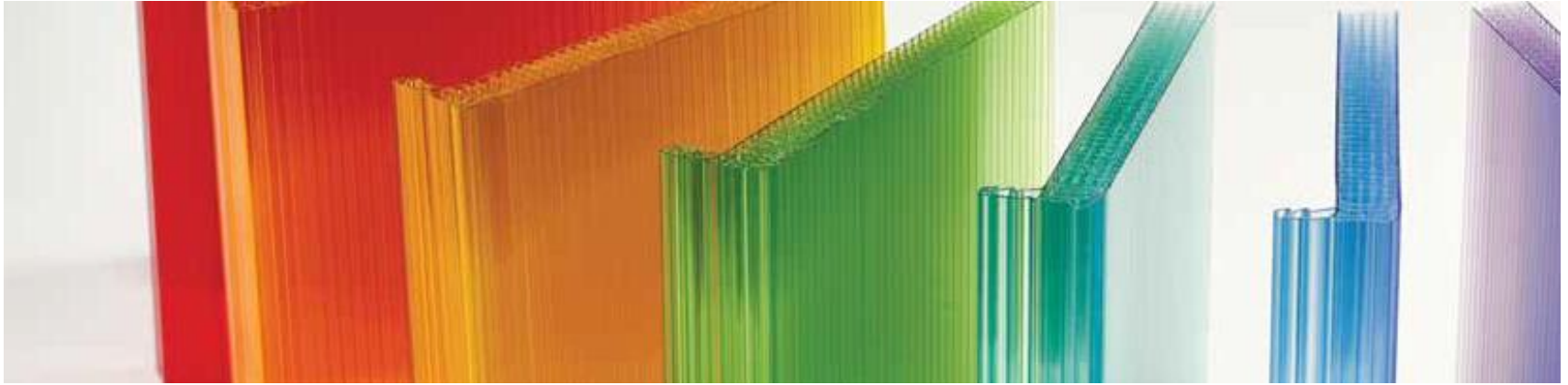
Price

+++

++

+

PANELS PROPERTIES



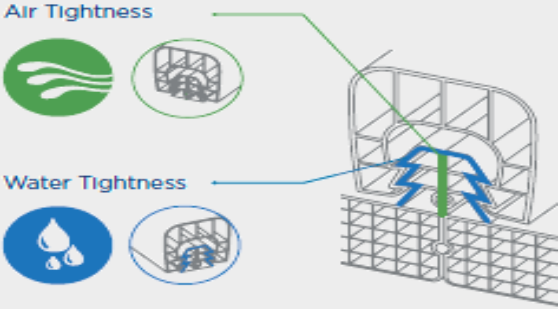
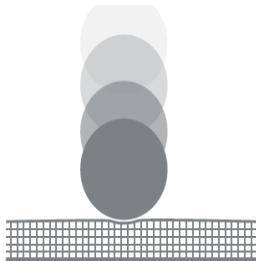
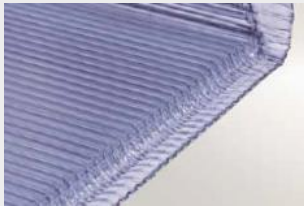
STRUCTURE

UNIQUE PANELS

COLORS

**FINISHES
UNIQUE PANELS**

PANELS PROPERTIES STRUCTURE

Feature	Figure
Double Click Seam Connection	<p>Air & Water Tightness And superior load performances</p> 
Microcell Structure	<p>Improved mechanical Properties, rigidity and superior Impact resistance</p> 
Hot welded edge	<p>Exclusive protection from dust and water</p> 

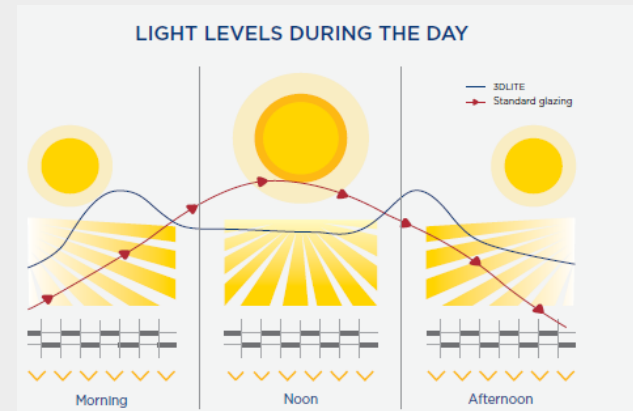
PANELS PROPERTIES UNIQUE PANELS

Feature



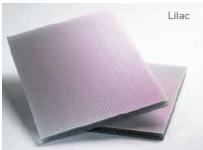
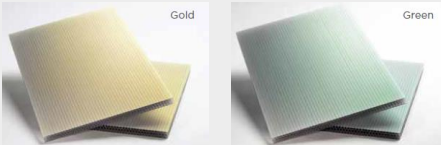
Figure

Danpalon 3DLITE

- 600mm panel
- 22mm Thickness
- Contains shading louvers
- Balancing daylight throughout the day
- Enables architects design creatively, energy saving and increasing light efficiency
- Offering dynamic look



PANELS PROPERTIES COLORS

Feature	Figure
Special Color Codes	<p>Danpal's own terminology</p>  <p>Clear CR57 Ice IC51 Opal OP22</p>
Opaque colors	<p>Less than 1% LT</p>
Extra Shading Colors NEW	<p>Reduces light and radiation in warm areas (less than 10% LT)</p>  <p>EXTRA SHADING</p> <p>Red ER09 Purple EP09 Orange EO08 Dark Opal DO10 Dark Silver DS10</p>
Low E	<p>Allows better use of daylighting without adding more heat</p>  <p>Lilac</p>
Iridescent Appearance	<p>Reach color</p>  <p>Gold Green</p>

PANELS PROPERTIES FINISHES UNIQUE PANELS

Feature	Figure
Softlite	Ensures maximum visual comfort

HP - High Protection Is an advanced surface treatment.
Enables higher performance and protection against external harm.

| A COMPARISON WITH ALTERNATIVE PRODUCTS

Danpal Polycarbonate Vs. Glass:

- Stronger and lighter.
- Superior thermal insulation (Lower U value).
- Better saving of energy costs.
- Better protection from UV radiation.
- Offers better control over light transmission and diffusion.
- Easier, flexible and safe installation.

MARKET SEGMENTS



Sport centers



Industry



Education



Office



Commercial



Transportation

MARKET SEGMENTS

DANPAL | CONTROLITE ROOF | BMV MOTORS | VITORIA SPAIN



MARKET SEGMENTS

DANPAL | CONTROLITE ROOF



MARKET SEGMENTS

DANPAL | FREE SPAN ROOFING | AUSTRALIA



MARKET SEGMENTS

DANPAL | DANPALON 3DLITE



MARKET SEGMENTS

DANPAL | COMPACT 4MM SYSTEM | SPAIN



MARKET SEGMENTS

DANPAL | COMPACT 4MM SYSTEM | SPAIN



MARKET SEGMENTS

DANPAL | COMPACT 4MM SYSTEM | PORTUGAL



MARKETING TOOLS



Brochures



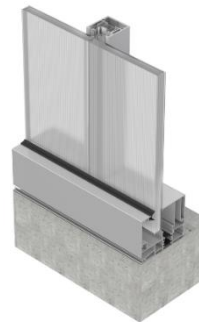
Presentation



Movie



Technical site



Mockup



Global projects
references

Thank you