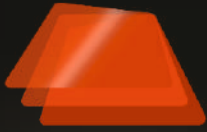


FLAT POLYCARBONATE SHEET



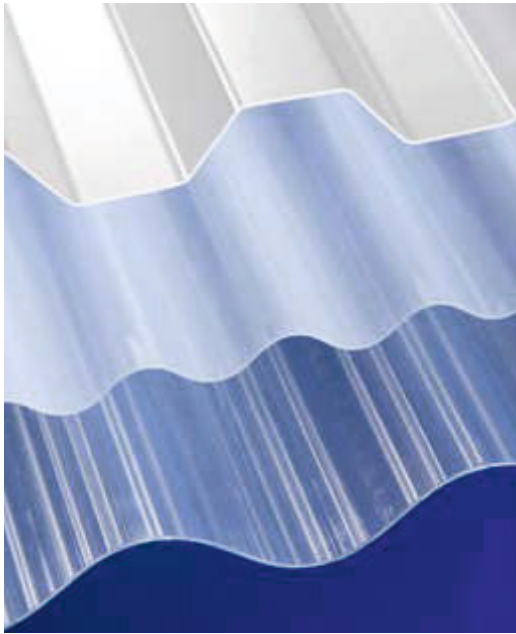
FLEXIGLASS

THE ORIGINAL BY **ebro**

**Fabricate
& Glaze**

Delta lite[®]





We are a global business exporting to 70 countries worldwide



We are sustainable, powered by 50% renewable energy



We are a market leading brand with a quality product portfolio the industry can trust



All our thermoplastics are 100% recyclable



We have a culture of manufacturing excellence certified to ISO 9001:2015



We are committed to ongoing product innovation and development



We are customer focused with international sales and customer service teams

Delta lite[®] FS

Delta
FS

Delta
FSX

Delta
FS Hard

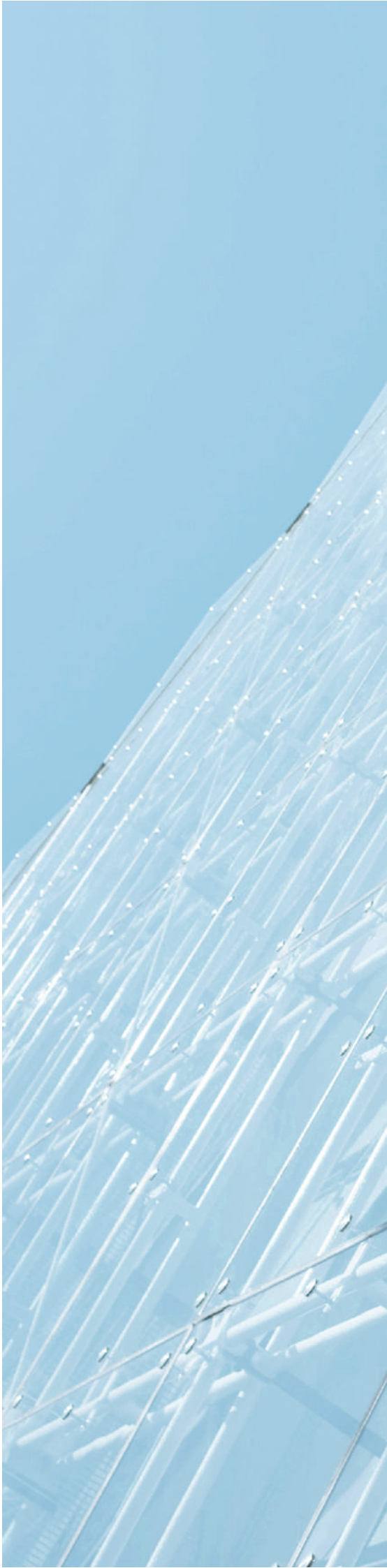
Our **Delta** extruded polycarbonate flat sheet range is the technical choice for architects, specifiers, engineers and product designers, offering exceptional design flexibility due to its:

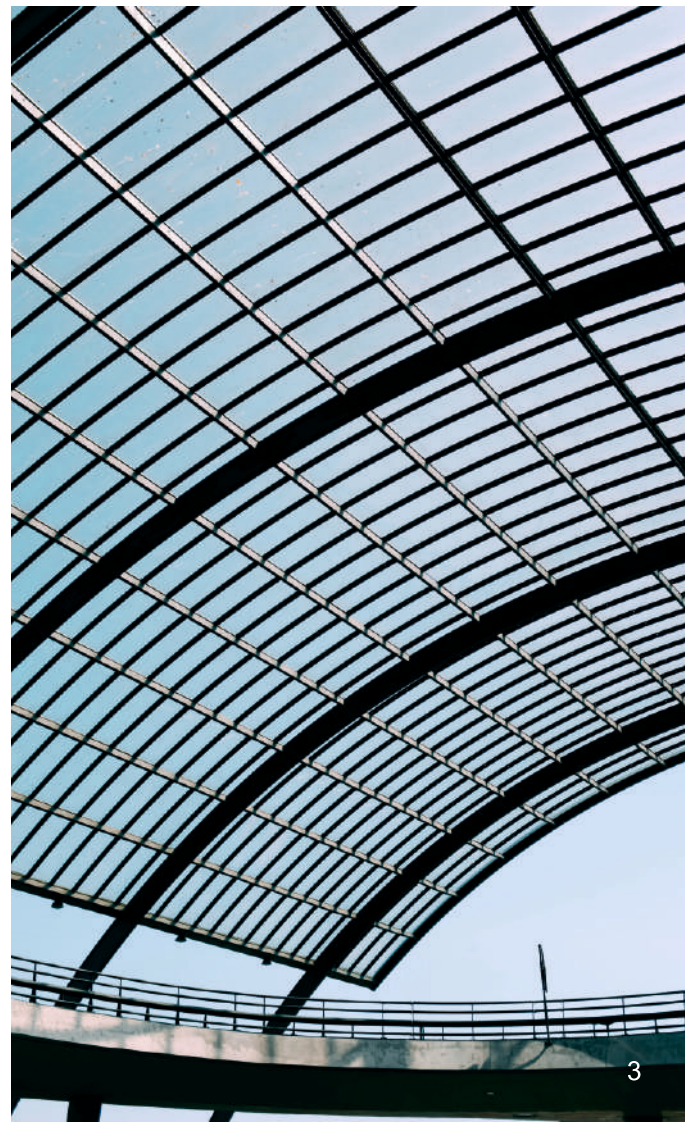
- Incredible strength to weight ratio
- Outstanding technical performance
- Excellent light transmission

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04	Delta Product Range	16	Delta FS
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08	Technical Performance	20	Delta FS Hard
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Delta lite[®]







Delta FS RANGE

Delta lite® FS

EXTRUDED POLYCARBONATE FLAT SHEET

Sheet Size (mm)	Thickness (mm)
1220 x 2440	3, 4, 5 & 6
1250 x 2050	0.5, 0.75, 1, 1.5, 3, 4, 5 & 6
1250 x 2500	0.5, 0.75, 1 & 1.5
2050 x 3050	2, 3, 4, 5, 6, 8, 10, 12 & 15*

*Subject to request



Clear



Opal



Bronze

*Subject to request. Minimum order quantities may apply.

APPLICATIONS

Vertical glazing for internal applications e.g. partitions
Safety and security glazing
Sports courts
Machine guards
Vending equipment
Protective screens and visors

Illuminated and non-illuminated signage
Light fixtures
Displays
Poster covers

SPECIALS



Green*



Blue*



Grey*



Anti-reflective option available*

Delta lite® FSX

UV RESISTANT POLYCARBONATE FLAT SHEET

Sheet Size (mm)	Thickness (mm)
1220 x 2440	2, 3, 4, 5 & 6
2050 x 3050	2, 3, 4, 5, 6, 8, 10, 12 & 15*
2050 x 6110	3, 4, 5, 6, 8 & 10

*Subject to request. Minimum order quantities may apply.



Clear



Opal



Bronze

APPLICATIONS

External vertical glazing
Curved and flat rooflights and architectural roofing
Sunrooms
Canopies
Covered walkways

Sound barrier walls
Bus shelters, tram stops and taxi stands
Exterior signage, including illuminated signage

SPECIALS



Green*



Blue*



Grey*



Anti-reflective option available*

Delta lite® FS Hard

ABRASION RESISTANT POLYCARBONATE FLAT SHEET

Sheet Size (mm)	Thickness (mm)
2000 x 3000	2, 3, 4, 5, 6, 8, 10 & 12

Other thicknesses available on request.



Clear

APPLICATIONS

Safety and security glazing e.g. prison windows
Anti-vandal glazing
Anti-graffiti protection for displays
Protective visors and shields

Street furniture e.g. bus shelters
Guard rails
High traffic vehicle windows e.g. train windows
Sound barriers



Incredible Strength to Weight Ratio

Polycarbonates strength to weight ratio makes it an ideal material for safety and security applications and an excellent alternative to heavier building materials.

Features & Benefits



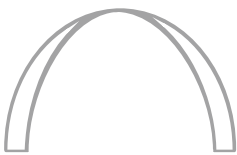
200 times stronger
than glass with only
half the weight



Excellent impact
resistance, ideal for safety
and security applications



Superb architectural solution
where reliability in all weather
conditions is a must



Rigid and self supporting
allowing architectural
spanning applications



Weight allows for architectural
designs that could not be
realised with heavier materials



Light weight means easier
transport and handling
at installation phase



Long term durability means
lower maintenance

Outstanding Technical Performance

Polycarbonate offers a wide range of technical properties that make it a solution in even the most challenging environments.

Features & Benefits



Service temperature up to 100°C
- suitable for high temperature internal or external environments



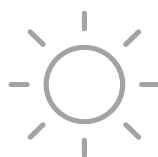
Excellent fire performance with certification available from **Delta lite** Technical Department



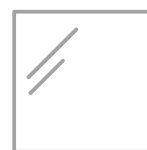
Good acoustic insulation properties making it suitable for outdoor sound barriers or indoor partitions



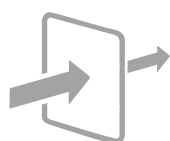
UV resistant option, **DeltaSX**, with co-extruded double sided protection, cuts 98% of UV rays



UV protection gives enhanced weatherability, preventing yellowing and loss of strength



UV protective glazing prevents fading of internal furniture or displays



Even in flat sheet format, **Delta** offers better thermal insulation than glass



Abrasion resistance option. **Delta FS Hard** resists marks, scratches, vandalism, graffiti, physical attack and withstands chemical contact



Excellent product durability - 10 year warranty for **DeltaFSX** 5 year warranty available for **Delta FS Hard**

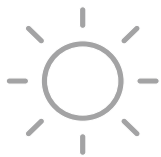




Excellent Light Transmission

Polycarbonates optical qualities make it ideal for applications requiring daylight or clear vision.

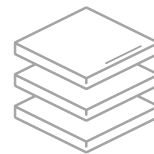
Features & Benefits



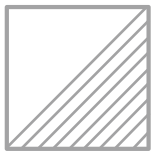
High light transmission,
92% for 3mm clear



Reduced need for artificial light
cuts building energy costs



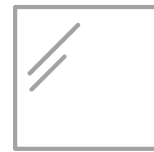
Different tints and finishes offer
different levels of light transmission
and light diffusion to meet the
designers requirements



High optical clarity ideal for
glazing and applications that
require visual precision



Optical clarity combined with
impact resistance is ideal for
safety and security windows,
visors and shields



UV protective glazing
prevents fading of internal
furniture or displays while
maintaining levels of daylight

Applications

Construction & Glazing



With its strength, weight, light transmission, service temperature and fire performance, **Delta** is an excellent material for construction and glazing applications. Add on our UV resistant and abrasion resistant options and **Delta** has almost all internal and external applications covered.

Vertical glazing

Rooflights

Sunrooms

Canopies

Covered walkways

Sports courts

Car ports

Delta incredible strength to weight ratio, outstanding technical performance and excellent light transmission make it the ideal choice for a range architectural, industrial and visual communication applications.

Safety & Security

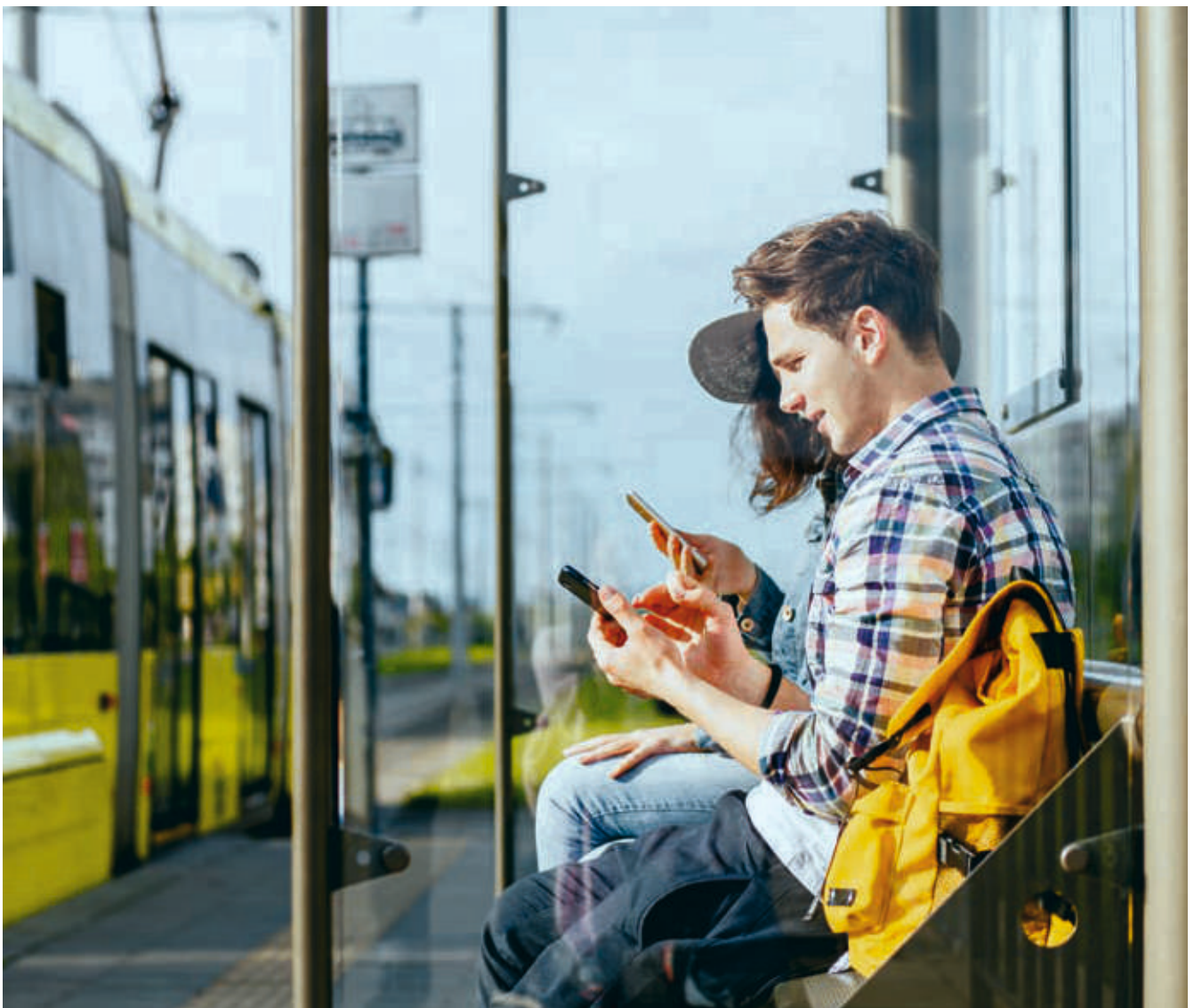


Delta excellent impact resistance and optical clarity combine to make it an ideal choice for safety and security applications. Easy to fabricate, it can be cut, bent or thermoformed into whatever shape is required to protect people or property.

- Partitions
- Safety glazing
- Security glazing
- Machine guards
- Visors

Applications

Fabrication



Delta can be easily fabricated cut, drilled, cold curved, thermoformed, laminated, bonded and welded allowing a range of fabricated applications to benefit from its strength, light weight, optical clarity and technical performance.

Bus shelters

Vehicle glazing

Guard rails

Shields

Sound barriers

Vending equipment

Sign & Display



Delta impact resistance, weight and optical clarity combined with its print-ability make it perfect for sign and display applications. For environments with increased potential for scratches, marks, graffiti or vandalism, **Delta** FS Hards abrasion resistance offers an addition degree of performance.

- Signage
- Poster covers
- Sunrooms
- Traffic signage
- Light fixtures
- Point of sale
- Store fixtures



Delta lite® FS

Delta FS polycarbonate provides 200 times more impact resistance than glass at only half the weight, making it the ideal solution for fabrication or internal glazing applications. **Delta** FS can be thermoformed, fabricated and cold curved. Providing high impact resistance, **Delta** FS is the preferred material for use in safety glazing, protective screening, machine guards and visors.

Applications

Vertical glazing for internal applications e.g. partitions	Protective screens and visors
Safety and security glazing	Illuminated and non-illuminated signage
Sports courts	Light fixtures
Machine guards	Displays
Vending equipment	Poster covers

Features & Benefits

Excellent impact resistance 200 times greater than glass
 Lightweight - half the weight of glass
 High natural light transmission
 Optically clear
 Thermally insulating
 Offers design flexibility
 Suitable for thermoforming
 Ability to cold curve
 Service temperature up to 100°C
 Easy to handle, install and clean
 Excellent fire performance
 100% recyclable

Product Options

Sheet Size (mm)	Thickness (mm)
1220 x 2440	3, 4, 5 & 6
1250 x 2050	0.5, 0.75, 1, 1.5, 3, 4, 5 & 6
1250 x 2500	0.5, 0.75, 1 & 1.5
2050 x 3050	2, 3, 4, 5, 6, 8, 10, 12 & 15*

Textures:

Embossed, Diamond
 Embossed*, Crushed Ice*

Options:*

Strong Adhesion Film for heavy fabrication, anti-reflective surface

Specials:

Special transparent, translucent and opaque options are available on request



Clear



Opal



Bronze



Green*

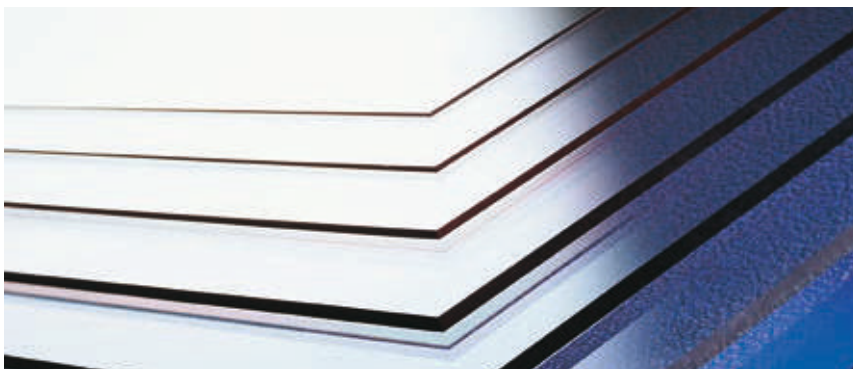


Blue*



Grey*

*Subject to request. Minimum order quantities may apply. Please contact **Delta** for further information.





Delta lite® FSX

Delta FSX is a flat polycarbonate sheet with dual sided UV protection which prevents 98% of damaging UV radiation from penetrating the sheet, making it perfect for external glazing applications. The UV protection layer enables longer sheet life expectancy in tough climatic conditions, prevents yellowing and guards against loss of strength.

The UV resistance offered by **Delta** FSXs coating can extend the life expectancy of the plastic in its final application, thereby reducing its lifetime environmental impact.

This superior glazing material is 200 times stronger but less than half the weight of glass. Combining UV protection, a wide service temperature range, impact and chemical resistance, light weight and high light transmission, **Delta** FSX is ideal for architectural rooflights, barrel vaults, vertical glazing and specialist glazing applications.

Applications

- | | |
|--|---|
| External vertical glazing | Sound barrier walls |
| Curved and flat rooflights and architectural roofing | Bus shelters, tram stops and taxi stands |
| Sunrooms | Exterior signage, including illuminated signage |
| Canopies | |
| Covered walkways | |

Features & Benefits

- | | |
|--|--|
| Enhanced protection against the effects of UV | Optically clear with high light transmission |
| Service temperature up to 100°C | Ability to cold curve |
| 200 times greater impact resistance than glass | Excellent fire performance |
| Lightweight - half the weight of glass | 10 year warranty |
| | 100% recyclable |

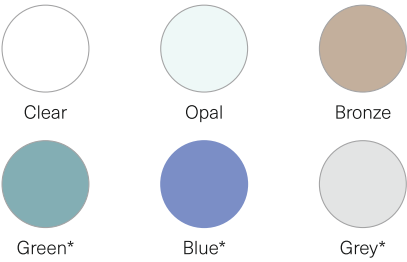
Product Options

Sheet Size (mm)	Thickness (mm)
1220 x 2440	2, 3, 4, 5 & 6
2050 x 3050	2, 3, 4, 5, 6, 8, 10, 12 & 15*
2050 x 6110	3, 4, 5, 6, 8 & 10

Textures:
Embossed, Diamond
Embossed*, Crushed Ice*

Options:*
Strong Adhesion Film for heavy fabrication, anti-reflective surface

Specials:
Special transparent, translucent and opaque options are available on request



*Subject to request. Minimum order quantities may apply. Please contact **Delta** for further information.





Delta lite® FS Hard

Delta FS Hard is a flat polycarbonate sheet with an abrasion and chemical resistant coating. The coating makes it ideal for the toughest glazing environments high traffic areas where marks and scratches are inevitable, as well as areas where there is the potential for vandalism and graffiti.

The abrasion and chemical resistance offered by **Delta** FS Hard coating can extend the life expectancy of the plastic in its final application, thereby reducing its lifetime environmental impact.

Light in weight, but with a superior impact and abrasion resistance, **Delta** FS Hard provides uncompromised protection to people and property across a diversity of applications including safety glazing, guardrails, machine guards, riot shields, visors, train windows and other glazing applications with an increased likelihood of damage.

Applications

- | | |
|--|--|
| Safety and security glazing
e.g. prison windows | Street furniture e.g. bus shelters |
| Anti-vandal glazing | Guard rails |
| Anti-graffiti protection
for displays | High traffic vehicle windows
e.g. train windows |
| Protective visors and shields | Sound barriers |

Features & Benefits

- Double sided advanced abrasion resistance
- Excellent impact resistance 200 times greater than glass
- Lightweight - half the weight of glass
- Optical clarity and high light transmission
- Service temperature up to 100°C
- Easy to handle, install and clean
- Excellent fire performance
- 5 year warranty
- 100% recyclable

Product Options

Sheet Size (mm)	Thickness (mm)
2000 x 3000	2, 3, 4, 5, 6, 8, 10 & 12

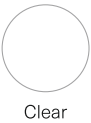
Other thicknesses available on request.

Option:

Coating on one side only to allow reverse printing*

Specials:

Special transparent*, translucent* and opaque* options



*Subject to request. Minimum order quantities may apply. Please contact **Delta** for further information.



Product Options

Delta
FS

Delta
FS Hard

Delta
FSX

Material Properties

Property	Standard	Value	Unit
Density	ISO 1183-1	1.2	g/cm ³
Transmission at 3mm	ISO 13468-1	90	%
Flexural Strength	ISO 178	97	MPa
Tensile Strength at Yield	ISO 527	62	MPa
Heat Deflection Temperature	ISO 75-2	145	°C
Thermal Expansion	ISO 11359-2	0.065	mm/m°C
Service Temperature - Long Term	-	-20 to +100	°C
Service Temperature - Short Term Unstressed	-	-40 to +130	°C

Processing

Fabrication
Routing, milling, sawing
Guillotining, die cutting
Drilling
Cold curving
Thermoforming (**Delta** FS)

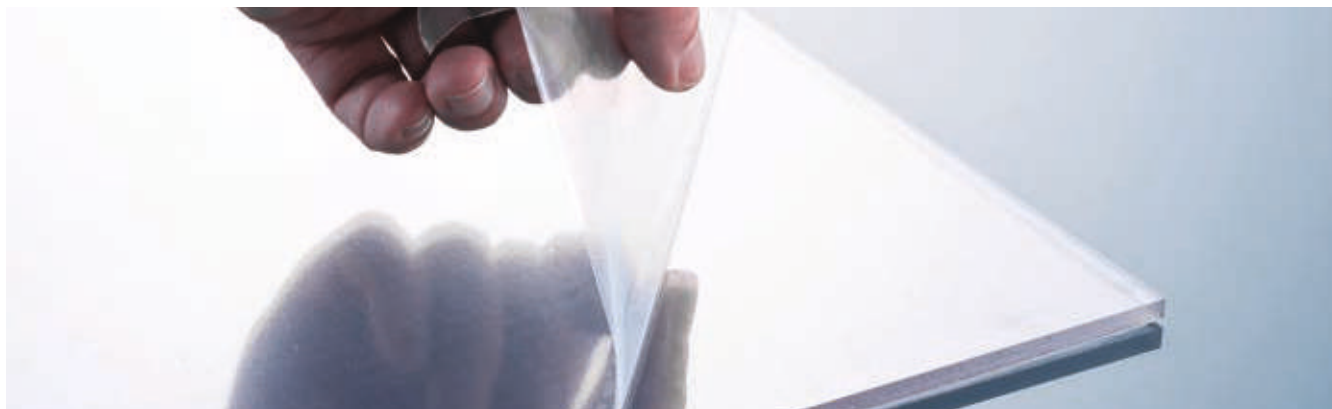
Welding
Laminating
Bonding
Vinyl application
Digital and screen
printing (**Delta** FS)

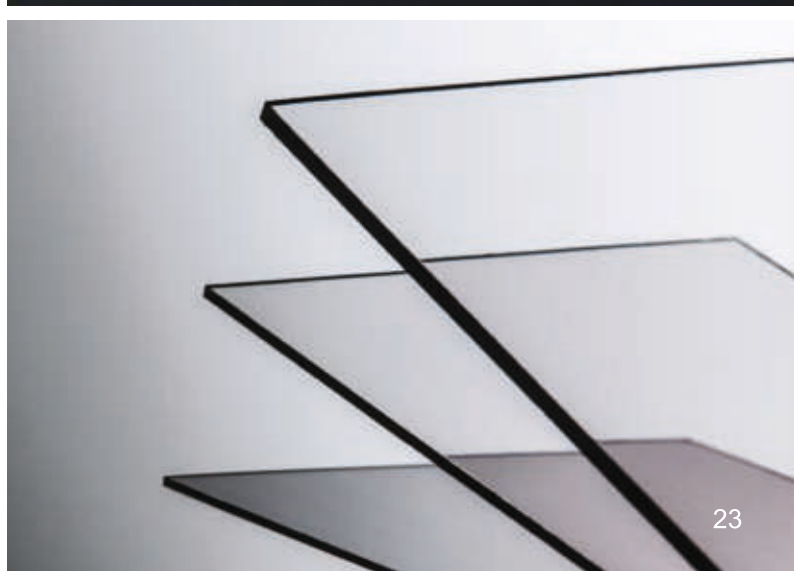
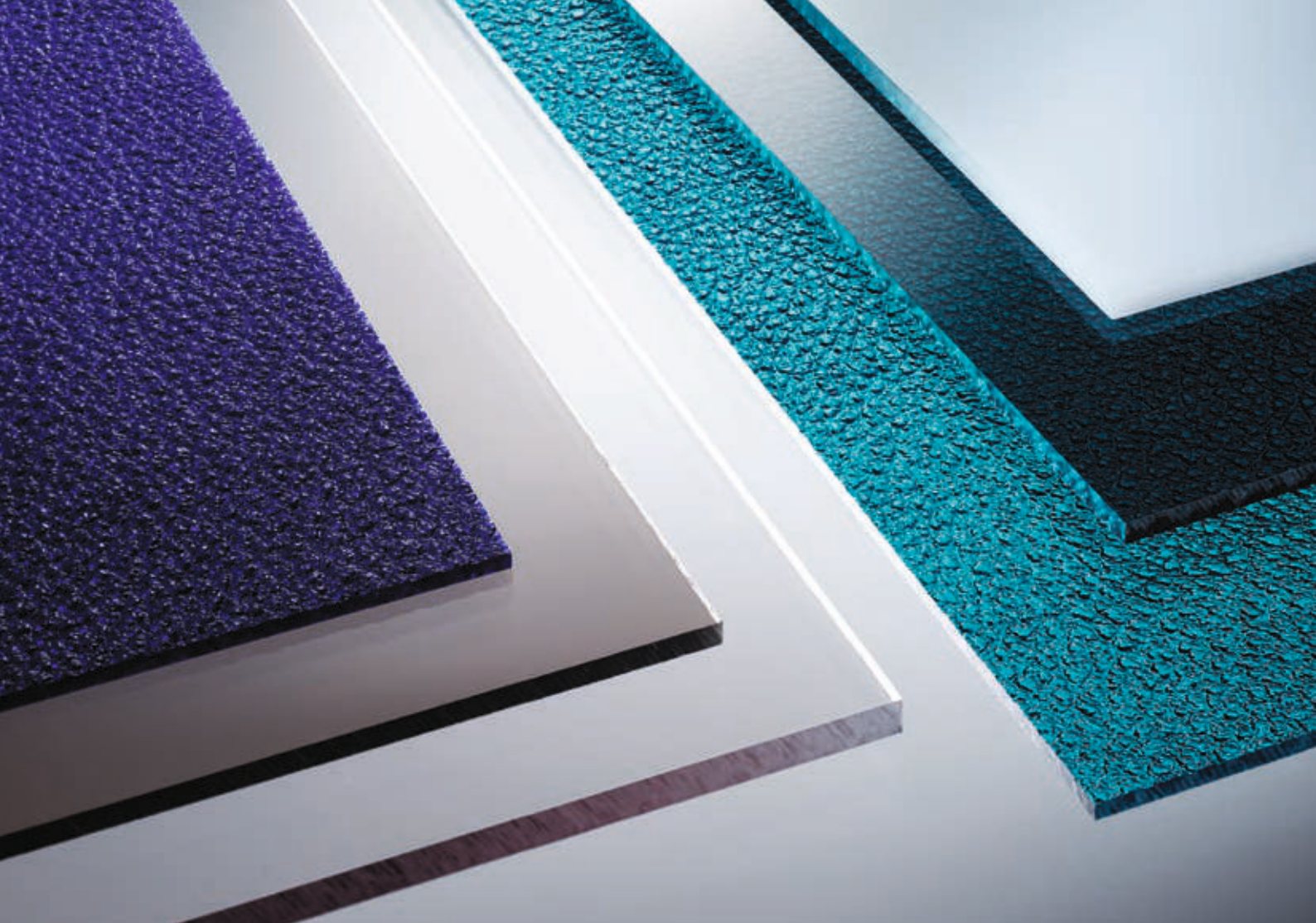
Strong Adhesion Film

A Strong Adhesion Film (SAF) is available for the **Delta** FS and **Delta** FSX polycarbonate product ranges, specifically aimed at high-end engineering and fabrication projects that require extra protection during repeated processing, including drilling, 3D milling, warm & cold bending, thermoforming and cutting.

The polycarbonate sheets that are used for these heavy fabrication projects, often go through different or aggressive mechanical processes before the end product is made. Offering an adhesion level three times that of standard film, SAF withstands these rigorous fabrication processes, protecting the surface of our polycarbonate sheet from scratching and abrasion.

The film is glue-free making it suitable for warming or bending. It is easy to remove without leaving a residue. It is also suitable for thermoforming, conditional on the shape of the design.





Solid Polycarbonate Sheet

Delta lite⁺Plus 2uv sheets are made from clear-transparent **LEXAN** polycarbonate Resin With UV protection on both sides. They are the perfect choice for a long service life owing to their good weathering resistance. These attributes are backed up by our 10 year limited manufacturing guarantee on weathering resistance and a 10-year guarantee on retaining their mechanical properties.

Colors: Clear, White, Bronze, S.Grey, Blue, Green(For other colors upon request subject to MOQ)

Thickness: Available in thicknesses of 1–15 mm

Available Sizes are: **Plus 2uv** According to thickness available sizes are as following.

(Other sizes are available on request and also according to transportation facility.)

For over than 4.0 mm thickness 1220 X 2440 mm, 3050 X 2050mm, 2050 X 1500mm

For 4.0 mm thickness 2050 X 6100mm, 1220 X 6100mm

Up to 3.0 mm thickness 1220 X 30500 mm, 2050 X 30500 mm (100 feet long rolls), 1220 X 2440 mm

Application: **Plus 2uv** UV2 is ideal for outdoor applications:

- covered walk ways and bus shelters, signboards
- barrel vaults and skylights

Plus 2uv solid

Polycarbonate sheets

Strong, Durable & Long Lasting

Advantages:

Extreme Impact strength

Virtually unbreakable

Good fire rating

Thermoformable

Good Light

transmission

ISI approved

Both side UV

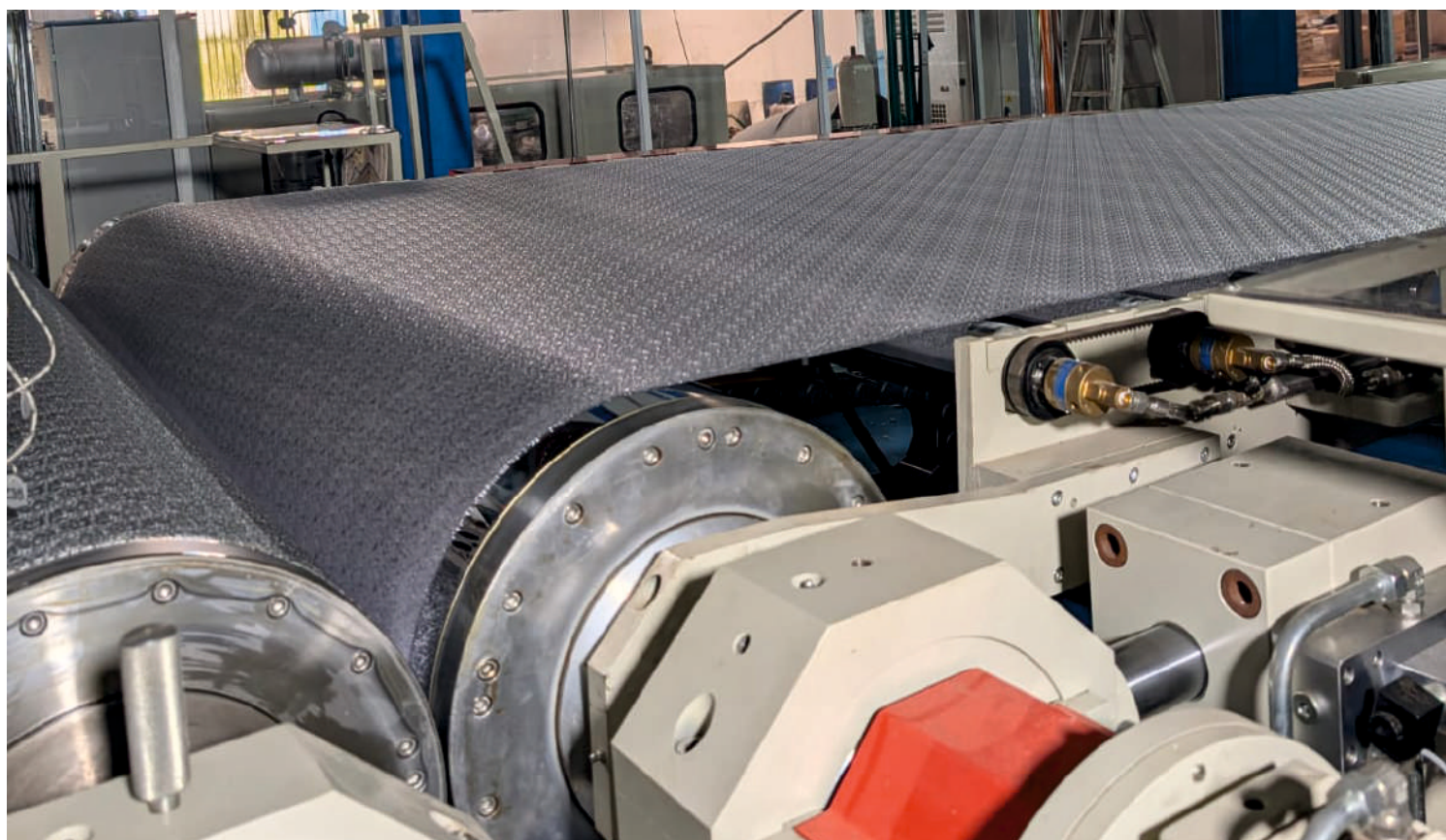
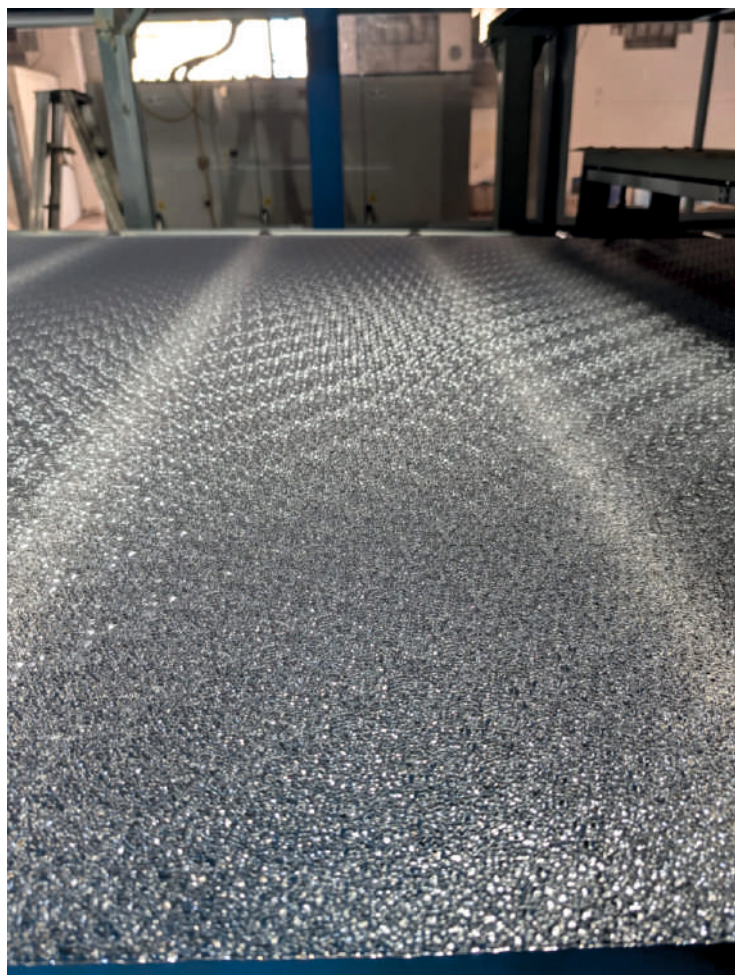
Coated

Technical data

Property	Test conditions	Typical	Unit	Test Method
Physical				
Density		1.2	kg/cm3	ISO 1183-1
Moisture absorption	23°C/50%RH(equilibrium)	0.12	%	ISO 62
Moisture absorption	Water at23°C(Saturation)	0.30	%	ISO 62
Refractive Index		1.58	-	ISO 489
Mechanical				
Tensile Modulus	1mm/min	2350	MPa	ISO 527-1,-2
Yield stress	50mm/min	65	MPa	ISO 527-1,-2
Yield strain	50mm/min	6.3	%	ISO 527-1,-2
Nominal strain at break	50mm/min	>50	%	ISO 527-1,-2
Flexural Modulus	2mm/min	2350	MPa	ISO 178
Flexural strength	2mm/min	96	MPa	ISO 178
Charpy impact strength	23°C, unnotched	No break	KJ/m ²	ISO 179-1eu
Charpy impact strength	23°C , 3 mm,notched	80P	KJ/m ²	ISO 179-1eu
Izod impact strength	23°C,3 mm, notched	70P	KJ/m ²	ISO 180-A
Thermal				
Vicat softening temperature	50N,50°C/h	148	°C	ISO 306
Thermal conductivity	23°C	0.20	W/(m.K)	ISO 8302
Coefficient of linear thermal expansion	23-55°C	0.65	10 ⁻⁴ /K	ISO 11359-1,-2
Temperature of deflection under load	1.8 Mpa	128	°C	ISO75-1,-2
Temperature of deflection under load	0.45 Mpa	141	°C	ISO75-1,-2
At 3.0 mm thickness Fire rating		V2		UL 94

*The mechanical properties were measured on sheets of 4mm or 3mm thickness.

Product Liability Clause: This information and our technical advice whether verbal, in writing or by way of trials are given in good faith but without warranty, and this also applies where proprietary rights of third parties are involved. Our advice does not release you from the obligation to verify the information currently provided especially that contained in our safety data and technical information sheets—and to test products as to their suitability for the intended processes and uses. The application, use and process in go for products and the products manufactured by you on the basis of our technical advice are beyond our control and, therefore, entirely your own responsibility. Our products are sold in accordance with the current version of our General Conditions of Sale and Delivery.



Authorized Channel Partner

