ONDEX
Stretch the future



ONDEX BIO

Bi-stretched PVC sheets for greenhouses and garden centres

www.ondex.com

ONDEX BIO

MADE IN FRANCE

The control of light!

The range of ONDEX BIO sheets was designed for claddings and roof coverings of greenhouses and garden centres.

ONDEX BIO sheets are available in 5 colour shades from crystal to opaque. They are suitable for all types of cultures and are also used for storage buildings or technical rooms.

3 ranges for all your projects

Renovation or new construction

BIO 1

The economical range

Even if thinner ONDEX BIO 1 sheets still have excellent optical and mechanical qualities.

This range was developed for projects with less demanding specifications where the characteristics of polycarbonate sheets are considered to be sufficient.

BIO 2

For all types of greenhouses

ONDEX BIO 2 sheets have been used for more than 40 years throughout the world. They adapt to all types of applications.

HP version (High Protection) for very sunny regions

GOOD PERFORMANCE IN CYCLONIC AREAS

BIO 3

The thickest range for extreme conditions

They are mainly intended for cyclone prone and high altitude areas.

NB: Product available upon request

HP version (High Protection) for very sunny regions

GOOD PERFORMANCE IN CYCLONIC AREAS



- RESISTANCE TO CHEMICAL AGENTS
  List upon request
- VERY HIGH SHOCK RESISTANCE
- RESISTANCE AT LOW TEMPERATURE
- FIRE CLASSIFICATION EUROCLASS B s1 d0
- ADAPTED LIGHT TRANSMISSION
- HAIL RESISTANCE
- 100% RECYCLABLE
- MADE IN FRANCE



PRODUCT BENEFITS

Light transmission adapted to different types of sunshine for optimised crops

Increased mechanical resistance to

- Hail
- Wind
- Snow falls

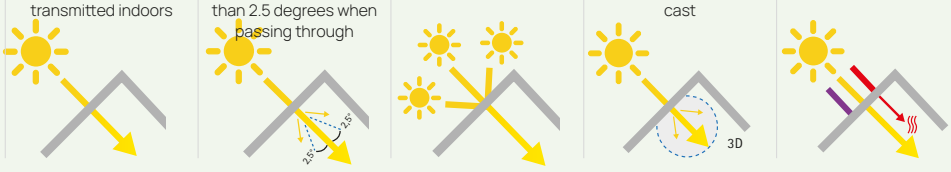
PRODUCT PERFORMANCE

- Better chemical resistance than most plastic materials (PET,polyester polycarbonate, ...)
- Increased light in the greenhouse thanks to a reduced number of supports
- Reinforced UV protection
- Resistance at low temperatures
- Cold bendability (min. radius 3 m)
- Compatibility with many phytosanitary products and products used in agriculture

Light diffusion and transmission

Optical data

Colour shades - Profile	① Light transmission %	① Haze Diffusion %	② Hemispherical light transmission %	② Hortiscatter %	③ G value	④ Compatible crops
Crystal - TOG 77 x 20 - TO 76 x 18	90	13 max.	76	4	0.83	Tomatoes - Peppers Melons Early courgettes CBD Sludge drying
Crystal DIFFU80 - TOG 77 x 20	85	80 mini.	65	63	0.75	Flowers Strawberries Courgettes Salads Organic in high summer
Mixt DIFFU100 - TOG 77 x 20	80	95 mini.	61	89	0.75	Flowers Orchids Anthuriums
Mixt 50 - TO 76 x 18	45	95 mini.	34	81	0.50	Green plants Vanilla
White Opaque - TOG 77 x 20	completely opaque	-	-	-	0.08	Endives Mushrooms Pre-shipment storage
	Percentage of direct solar radiation that passes vertically and is transmitted indoors	Percentage of light that deviates from the incident beam by more than 2.5 degrees when passing through	Incoming light beam despite the slope and the glares	Ability to transform the beam into a wide beam limiting the shadows cast	Total solar energy transmittance factor (0 – 1 Max)	



Values for the BIO 2 range. The values given are nominal and may vary according to manufacturing tolerances.
Technical specifications are subject to change without prior notice.

① Determined with a haze-guard

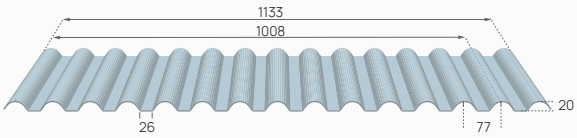
② Data from Wageningen UR light lab (The Netherlands) between 400 and 700 nm

③ Determined with the Lambda 950 spectrometer between 200 and 2400 nm

④ Non-exhaustive list

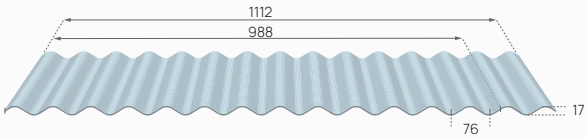
Profiles
Installation

TOG 77 x 20



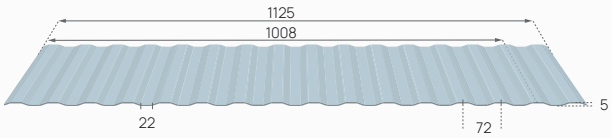
Longitudinal overlap	Useful width (mm)	Area of sheet for 1 m² of roofing/cladding (m²)	Range	Maximum gap between supports (m)
2 waves	1 008	1.14	BIO 3	1.5
			BIO 2	1.4
			BIO 1	1.3

TO 76 x 18 - 15 waves



2 waves	988	1.14	BIO 2	1.2
			BIO 1	1.1

GRECA 72 x 5 Low cladding - sliding door - interior partition



2 waves	1 008	1.13	BIO 2	0.6

Ranges
Features

	Thickness (mm)	Weight (kg/m²)	Hail warranty	Light transmission warranty	Minimum slope (%)
BIO 3 range	1.0	1.6	10 years	10 years	10
BIO 2 range	0.9	1.45	10 years	10 years	10
BIO 1 range	0.7	1.10	7 years	10 years	15

Colour shades
6 standard formulations available *



Crystal | Crystal 80 | Mixt DIFFU100 | Mixt 50 | White Opaque

INNOVATION

OPTI*red*



- Increased photosynthetic efficiency
- Increased yield for certain varieties
- Product tested on an experimental greenhouse

Further information can be found in our specific brochure No. GB 26 043.

* Colour shades available for some profiles, other profiles possible upon request

Laser test: Simulation of light transmission and diffusion.

Non-contractual representation

60°C maxi





Types of buildings

- Greenhouses
- Storage buildings
- Garden centres
- Photovoltaics
- Technical rooms



Applications

- Roofing
- Cladding
- Gables
- Openings
- Partitions

WHAT IS BI-STRETCHING?

An exceptional resistance «Made in France»

Invented and patented in 1964, this process is unique in the world for the production of cladding and roofing sheets.

Bi-stretching involves stretching the sheet in both width and length before giving it its final shape.

This entirely mechanical process is perfectly stable over time and gives the **ONDEX** sheets their incomparable resistance.

More than four times higher than non bi-stretched PVC sheets!

WHAT IS PVC?

POLYVINYL CHLORIDE

It has been produced industrially since the 1960s and is now the most widely used plastic material in the world in the construction industry.

It is a thermoplastic resin that easily accepts the shape you want to give it.

ONDEX uses the bi-stretching of PVC to manufacture its sheets.

NaCl

PVC IS MADE FROM SALT (57%).

0% PHTALATE AND BISPHENOL A

PHTALATE AND BISPHENOL A FREE

Download our assembly instructions



French

English

Italian













PRODUCT DEVELOPMENT PARTNER





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