





#### The solar dinosaur

BISOL Group is active in the solar industry **since 2004**, when it started manufacturing solar PV modules. PV mounting solutions and investments in solar power plants were added to the portfolio in 2009. Due to its long-term presence in a still rather young, but highly competitive industry, some prefer to call us "one of the solar dinosaurs" or "the glowing rocks" due to our stability and financial strength.



#### The biggest real EU manufacturer

A complete range of solar solutions and services from BISOL can already be found in **more than 100 countries worldwide**. With 750 MW of yearly production capacity, BISOL is the **biggest real EU manufacturer** according to material and equipment suppliers.



#### **Carbon-neutral company**

With more than 70 solar power plants owned by the company, BISOL Group produces **ten times more electricity** than it uses in the production of solar modules.



#### A trustworthy brand

With commitment to the premium quality of the solar solution, BISOL Group regularly receives the prestigious **Top Brand® Award** for our solar modules on various European markets, such as Italy, Belgium, France, Austria and Slovenia.

EUPD RESEARCH	RESEARCH	RESEARCH	ces for Solar
TOP BRAND PV	RAND PV	RAND PV	SUPPLIER OVENIA
MODULES	ODULES	ODULES	ODULES
FRANCE	BELGIUM	ITALY	powered by
2023	2023 / 2		2023

BISOL Milestones

SOL MINCS (VIICS)

2008

Start of full-black modules production

2010

Opening the representative office in Italy

2013

Launching BISOL Spectrum coloured modules 2017

Opening the representative office in France

Launching BISOL
Supreme™, the first
module in the world to
offer 25 years of 100%
output power guarantee

2020

2022

Implementing
machine learning
techniques with
automatic installation
of the junction boxes

2024

20 years of BISOL

#### 2004

Start of BISOL solar modules manufacturing

#### 2009

Adding PV mounting solutions and investments into solar power plants in BISOL portfolio

Opening the representative office in Belgium (covering Benelux market)

#### 2011

Opening the representative office in Great Britain

Launching BISOL BIPV (building-integrated PV) modules

#### 2015

Major production capacity increasement

Launching highly transparent BISOL Lumina modules

#### 2019

Production facility modernization with advanced technology and new machinery

#### 2021

Advanced automatization of the production with auto-bussing and complete switch to half-cut technology

#### 2023

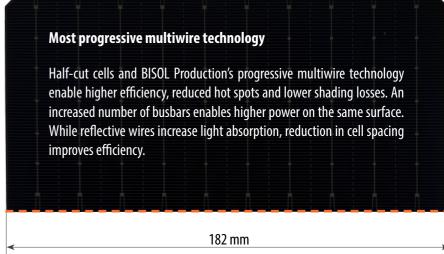
Switch to M10 technology

25% production capacity increase due to the introduction of new laminator



#### Al-powered industry

BISOL Production's advanced manufacturing techniques include the use of artificial intelligence and robots that not only work precisely on their own but also learn along the way. This level of automation, data exchange, and cognitive computing could be labeled as "Industry 4.1", signifying the next step in manufacturing technology.



3 to 7 laser passes and final mechanical cell halving for a precise cut to avoid edge-cracks.

#### Invaluable expertise

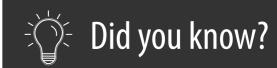
Even the most modern technological equipment cannot replace knowledge and decades of experience. BISOL employees play a major role in the product development process and control of production processes, as well as in quality control.

#### 100% traceability for higher quality and productivity

The in-house tailor-made BISOL Tracking System offers monitoring of all the important data about every module produced through the serial number carrying fully comprehensive information about used materials, machine recipes, workers and customer details.

#### Rigorous testing and inspection

BISOL solar modules undergo more than 20 separate tests and inspections while their uncompromising quality is confirmed by hundreds of international and country specific certificates as well as independent client audits.



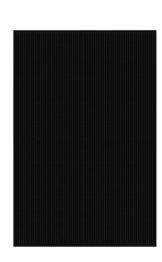
The process of lamination is one of the most complex technological processes that enables the longevity of BISOL solar modules. In almost two decades of operation, BISOL has not had a single case of complaint due to moisture intrusion or module delamination.

# BISOLPYModules

### 2 module sizes



High-powered, but larger BBO



Lightweight and compact BD0

#### **BDO**

108 half-cut solar cells

Dimension: 1,722 x 1,134 x 30 mm\*

Weight: 22 kg\*

Maximum output power up to 420 Wp

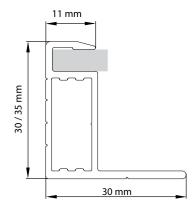
#### BB0

132 half-cut solar cells

Dimension: 2,094 x 1,134 x 35 mm\*

Weight: 26 kg\*

Maximum output power up to 510 Wp



### Reinforced frame

#### A thinner frame for the same strength and stability and lower transport costs

Our R&D managed to redesign our modules' frame to ensure more strength and stability although it is thinner. The extra 3 mm wider internal walls are now reinforced to assure the same certified load of 5400/2400 Pa as required by IEC standard, while optimizing transport costs and lowering the impact on the environment.

# 5 reasons why to choose BISOL PV modules

BISOL solar modules are both **designed and manufactured in Europe** to substantially reduce the time from order to installation, and enable a considerably higher quality control in production together with a personal customer support.

BISOL modules have a **record low claim rate at just 0.01%**, which is 10-times lower compared to the automotive industry.

BISOL is the first solar brand in the world offering a product with 25 years of 100% Output Power Guarantee, called BISOL Supreme™.

BISOL's world-unique practice of sorting modules by power output, voltage and current eliminates 70% of the mismatch losses, and improves power plant performance.

Since the energy consumption for the manufacturing process is supplied by carbon-neutral sources based on solar and nuclear energy, the carbon footprint per BISOL solar module is zero.

<sup>\*</sup>Sizes of PV modules with standard frames.

Special framing brings specific dimensions and weight.

# BISOL Supreme<sup>™</sup> Series

#### BISOL Supreme™

... the first solar module in the world with 25 years of 100% output power guarantee.

When compared to the best-in-class solar panels with the linear output power guarantee currently available on the market, BISOL Supreme™ shows off with at least an 11% higher energy yield in the guarantee period. Together with 0% effective degradation and exceptional efficiency, the series also sets global trends in the field of complete traceability of the production process of every individual product.



100% output power guarantee



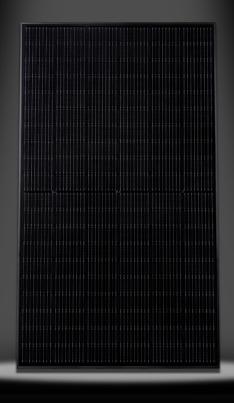
0% effective degradation rate



11% more energy

Module Type	BD0
Power Class	400 Wp
Frame Colour	black
Backsheet Colour	black
Dimension	1,722 x 1,134 x 30 mm
Weight	22 kg

See datasheet





#### 100% traceability for Supreme™ quality

To better understand why your solar module is able to offer 25 years of 100% output power guarantee, BISOL Supreme™ offers complete module traceability. By simply scanning a QR code, you will be able to find features like datasheet, serial number, customer order details, the material used, EL and visual images of each module, personnel responsible for quality check and all other important information.

#### BISOL Supreme™ Cashback

... be rewarded when buying the most luxurious solar module in the world.

With free and non-binding registration to obtain **BISOL Supreme™ Cashback**, end-customers receive a partial refund for every purchase and installation of photovoltaic modules with a 100% guarantee of BISOL Supreme™ output power.

#### Premium quality for an excellent power output

BISOL premium quality PV modules are manufactured in accordance with the highest quality standards within the industry. Components and materials used in the production originate from well-established suppliers with all of them being pre-certified, tested and meeting the highest quality standards.

**BISOL Duplex** 

**BISOL Laminate** 

**BISOL BIPV** 

**BISOL Spectrum** 

**BISOL Lumina** 

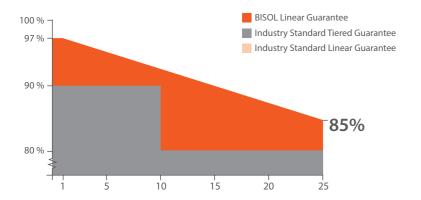
**BISOL Bifacial** 

#### Guarantees





Linear Guarantee 85 % output in 25<sup>th</sup> year

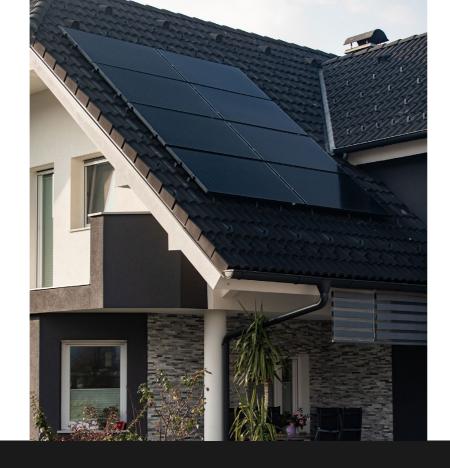




# **BISOL Duplex**

#### ... answer to your question about the best power/size ratio!

BISOL Duplex is one of BISOL Group's best sellers. It not only offers the best power/size ratio, but also significantly higher power and conversion efficiency compared to other products on the market.



#### **BISOL Premium Series**

## **BISOL Laminate**

#### **Endless possibilities for integration**

BISOL Laminates are frameless BISOL Duplex modules that enable different mounting methods and are ideal for integration in buildings, replacing traditional building materials, and all kinds of solar projects such as solar heat pumps or aesthetic solar integration on boats and yachts.





Higher shading performance



Ideal for the industry and households



Three colour variations



Ideal for integration



Effective in PVT



Suitable for special solar projects



### "Triple-black" BISOL Duplex

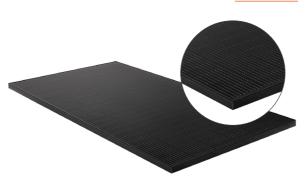
To achieve fully monochromatic look of PV modules, BISOL developed an immensely aesthetical full-black BISOL Duplex with all 3 ribbons black-coated.

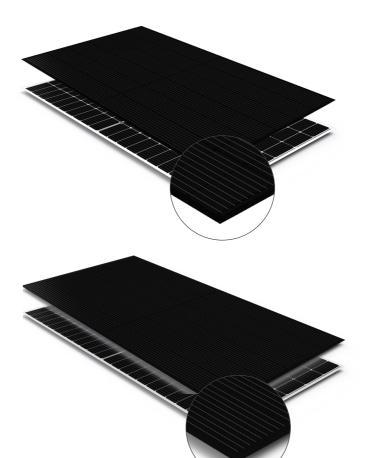
Module Type	BDO
Power Classes	400 — 420 Wp
Frame Colour	silver, black
Backsheet Colour	white, black
Dimension	1,722 x 1,134 x 30 mm
Weight	22 kg

#### See datasheet

Module Type	BBO
Power Classes	500 — 510 Wp
Frame Colour	silver, black
Backsheet Colour	white, black
Dimension	2,094 x 1,134 x 35 mm
Weight	26 kg







Module Type	BDO
Power Classes	400 — 420 Wp
Backsheet Colour	white, black
Dimension	1,715 x 1,128 x 20 mm
Weight	20 kg

See datasheet

Module Type	BBO
Power Classes	500 — 510 Wp
Backsheet Colour	white, black
Dimension	2,087 x 1,128 x 20 mm
Weight	23.5 kg

See datasheet

### **BISOL BIPV**

#### Energy efficient solution that replaces the conventional roof

BISOL BIPV building integrated PV modules have been developed in cooperation with a Swiss company Schweizer (Solrif® system) as an elegant and aesthetic solution that replaces traditional roof tiles.





Watertight and seamlessly integrated\*



For 10 – 70° roof pitches



Luxurious assortment of colours

\*Usage of specially designed BISOL BIPV foil as secondary roofing / water barrier required.

BSO	
400 — 420 Wp	
black*	
white, black	
1,765 x 1,160 x 25 mm	
22.5 kg	

<sup>\*</sup>Other colours available on demand in bigger quantities.

See datasheet

#### **BISOL Premium Series**

# **BISOL Spectrum**

#### No more compromises between aesthetics and efficiency

BISOL Spectrum modules were designed not only to conform, but also to refine the architectural traits of buildings and roofs of various types and styles. Their unique look allows discreet blending with the scenery, hence preserving the timeless beauty of diverse natural and historical settings.





Available in a variety of colours



Ideal for culturally protected areas



Adds aesthetical value

Module Type BDO	Deep Red	Forest Green Terracotta Orange Al		Alabaster White
Power Classes	350 Wp	335 Wp 305 Wp		255 Wp
Backsheet Colour	black	black	black	black
Frame Colour	Red (RAL 8017)	Green (RAL 6009)	Orange (RAL 8004)	White (RAL 9016)
Glass Colour	Red (RAL 8015)	Green (RAL 6007)	Orange (RAL 8023)	White (RAL 9016)
Dimension		1,722 x 1,134 x 30 mm		
Weight		22 kg		

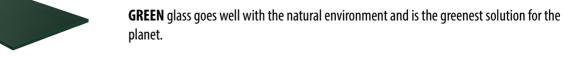
See datasheet



#### Choose a perfect match for your roof

**ORANGE** glass matches the shades of brick roofs all around the world, and maintains the colour recognition of the environment.

WHITE glass is a great solution for easy blend-in with large surface buildings to keep them cooler.

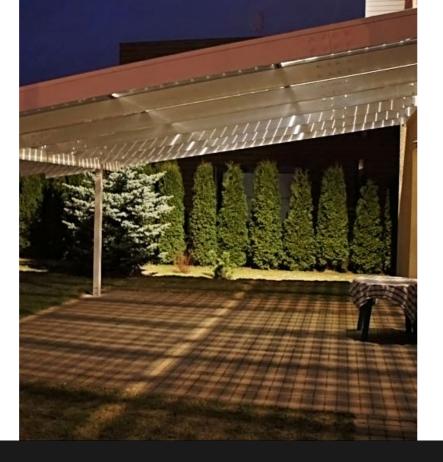


**RED** glass is a good choice for most European roofs, especially if the building is under cultural heritage protection, since the panels will be almost invisible.

## **BISOL Lumina**

#### The best power/transparency ratio

Transparency is not just about functionality, it is about aesthetics too! To meet the diverse needs of solar energy consumers, BISOL decided to offer BISOL Lumina transparent solar modules in two versions: an aesthetically pleasing matrix for residential projects and a cost-effective solution for various commercial projects.



#### **BISOL Premium Series**

### **BISOL Bifacial**

#### Maximum power potential and yield

BISOL Bifacial with a standard full-power set of cells and a transparent backsheet enables important bifacial gains and is an ideal solution for projects where power is much more important than the transparent area.





Two versions for residential and commercial projects



The best power/transparency ratio



Bifacial gain from the rear side of the module up to 40%



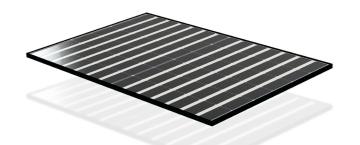
3% transparent area

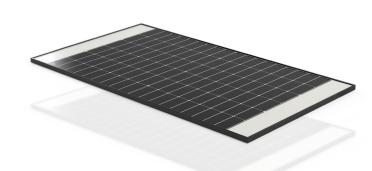


Suitable for ground-mount, flat roofs and similar



Bifacial gain up to 60%



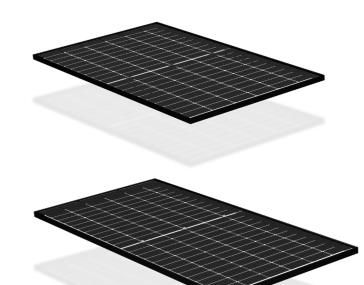


Module Type	BDO
Power Classes	320 Wp
Matrix	6 x 7 + 6 x 7
Transparent Area	26.5 %
Frame Colour	black
Backsheet Colour	transparent
Dimension	1,722 x 1,134 x 30 mm
Weight	22 kg

See datasheet

Module Type	BBO
Power Classes	410 Wp
Matrix	6 x 9 + 6 x 9
Transparent Area	22.5 %
Frame Colour	black
Backsheet Colour	transparent
Dimension	2,094 x 1,134 x 35 mm
Weight	26 kg

See datasheet



Approxima	ate bifacial <u>c</u>	jain		30-50%	40-70%
7–23%	9-25%	10-27%	18-23%		
Cement	Grass	Sand	Red tiles	White paint	Fresh snow

The exact number depends on many factors, such as the colour shade of the surface as well as the ammount of diffuse sunlight, the reflected diffuse sunlight and the reflected direct sunlight.

Module Type	BDO
Power Classes	400 Wp
Frame Colour	black
Backsheet Colour	transparent
Dimension	1,722 x 1,134 x 30 mm
Weight	22 kg

#### See datasheet

Module Type	BBO
Power Classes	500 Wp
Frame Colour	black
Backsheet Colour	transparent
Dimension	2,094 x 1,134 x 35 mm
Weight	26 kg

See datasheet

# No sunset for BISOL.

From Hawaii to Australia, from Norway to Antarctica.





# Your solid solar base.

With EasyMount<sup>™</sup> smart mounting structures, BISOL is already present in more than 50 countries worldwide and installed in more than 150 MW of solar power plants. More than 15 years of experience in solar mounting, superior design, quality supporting materials with installation videos, brochures, datasheets and manuals with the support of our passion project and sales team are the key reasons that make EasyMount<sup>™</sup> the best solution for any residential, commercial or industrial project.



# Flat roofs



BISOL EasyMount™ Slim BASE



BISOL EasyMount™ Twin Slim BASE



# **Inclined** roofs



BISOL EasyMount™ Home HOOK



BISOL EasyMount™ Robust BOLT



BISOL EasyMount™ Quick RAIL



BISOL BIPV (developed with Schweizer®)

BISOL EasyMount™ Mounting Solutions

Flat roofs

# BISOL EasyMount™ Slim & Twin Slim BASE

#### Cost-effective & lightweight solution for hassle-free installations

EasyMount™ Slim & Twin Slim BASE flat roof mounting solution portrays ease of mounting with high wind and snow resistance, together with an elegant look. The optimised packaging bundles ensure that all the components are ready for in-place install construction, with only basic mounting tools and no need for cutting.

#### BISOL EasyMount™ Mounting Solutions

#### Flat roofs

# BISOL EasyMount™ Alpine TRIANGLE

#### **Customisable solution for extreme weather**

This mounting structure fits perfectly on flat roofs or pitched roofs with larger spans between the supporting elements, and at the same time withstands higher wind and snow loads. It is easily installed on flat roofs without any penetration.

# Why this mounting solution?



**Fits most** PV modules



Extremely fast and easy installation and adaptation without cutting



**High wind** and **snow load** resistance



No roof drainage interference

# Why this mounting solution?



Designed to withstand extreme wind & snow conditions



**Preassembled elements** for short installation time



Various incline angles

orthogonal direction.



penetration option

**Back leg & snap-on annex** enable high load-bearing capacities and easy adaptation to 20° or an east-west installation.



The wind deflectors improve the aerodynamics of the system resulting in less required additional ballast which lead to shorter labour times and reduced stress to the building.

**The rubber** shields the roof membrane from penetrations at installation, thermal expansions, contractions and vibrations. Extra 8 mm rise absorbs the roof unevenness.

**The wind deflectors** improve the aerodynamics of the system resulting in less required additional ballast, which leads to shorter labour times and reduced stress to the building.

The triangular A-frames come preassembled to significally reduce installation time.

**EasyMount™ 48 profile** is a highly optimised

shape that connects the main frames in the

BISOL EasyMount™ Mounting Solutions

**Inclined roofs** 

# BISOL EasyMount™ Home HOOK

#### Universal solution for most of the tile-covered roof types

This precisely designed solution was made with simplicity and long-term rigidity in mind. The hook can be used with most types of roof tiles and can rise and slide adjusted to smoothly fit on different roof battens heights and tile shapes. Its exceptional load carrying capacity and usage of high-grade materials ensure that the installation offers stability and longevity even under extreme weather conditions.

# Why this mounting solution?





Cost effective: number of hooks can be adjusted to fit the project's needs



non-corrosive materials



Exceptional load-carrying capacity

#### BISOL EasyMount™ Mounting Solutions

#### **Inclined roofs**

# BISOL EasyMount™ Quick RAIL

#### Universal and flexible solution for trapezoidal metal sheets

Design of this ultimate mounting solution allows it to be installed on most types of trapezoidal metal sheet roofs — no matter the span between the trapezoidal waves or metal sheet thickness and material. Installation requires no cutting or drilling that could produce metal swarf and potentially damage the roof. Short rails are easy to handle and reduce the installation time by 30% compared to the industry standard.

# Why this mounting solution?



Suitable for lower metal sheet thicknesses



snow load resistance



No on-site cutting, no swarf

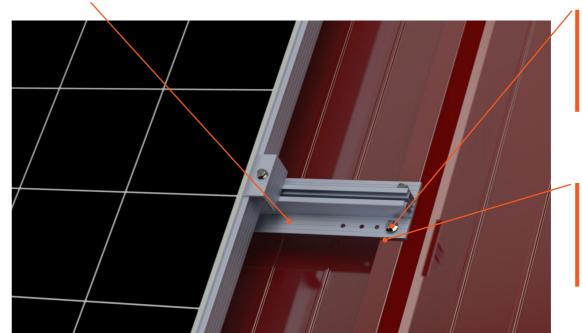
The clamps are fixed directly into rails and do not require end nuts due to their self-tapping design. Consequently, the clamp can only get untwined with a tool to offer long-term safety and stability.



EasyMount™ 48 profile is a highly optimised shape that connects the main frames in the orthogonal direction.

The adjustable hook is a universal solution that will fit most of the tile covered roofs.

The universal rail fits most trapezoidal sheets, and requires no cutting or drilling.



The screws offer high stability even at lower sheet thicknesses without metal swarf. With an extra thick EPDM rubber they protect from leakage.

#### The self-adhesive rubber strips are cut on size and offer

leakage protection between the aluminium rail and the roof metal BISOL EasyMount™ Mounting Solutions

**Inclined roofs** 

# BISOL EasyMount™ Robust BOLT

#### Functional solution for all types of corrugated roofs

This functional solution for any trapezoidal and corrugated pitched roofs is customised for all kinds of individual needs, depending on spans and materials of the roof carrying structure.

#### **Mounting Solutions**

#### **Inclined roofs**

### **BISOL BIPV**

#### Aesthetic solution that seamlessly integrates into roof

BISOL BIPV in-roof system forms a water tight solar power generating roof surface and thus removes the need for traditional roof tiles. An assortment of colours for the system components as well as the BISOL PV modules form a sleek and luxurious appearance to satisfy desires of the most demanding and detail-oriented customer.

# Why this mounting solution?



Suitable for **steel or wooden roof structures** 



Suitable for **any roof inclination** 



**Lightweight**, but **rigid** 



High-load capacity

# Why this mounting solution?



Elegant and aesthetic



For **10** — **70**° roof pitches



**Easy** installation and servicing



substructure

**The hanger bolts** can be attached to any type of roof substructure (wood, steel) no matter the thickness of the roof cover layer.

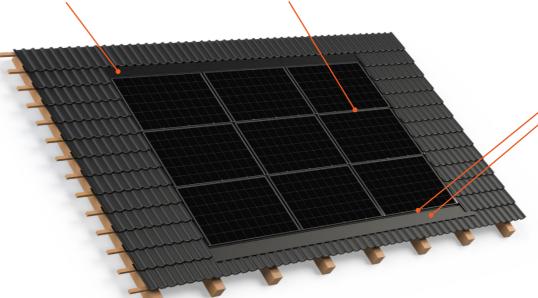


The clamps are fixed directly into rails and do not require an end nut due to its self-tapping design.

**EasyMount™ 48 profile** is a highly optimised shape that connects the main frames in the orthogonal direction.

The click-in flashings are ready to install without any adjustments to the flashing on field.

The module clamps hold the BIPV module in place and provide stability and security during extreme snow and wind conditions.



#### The profile Solrif® foam is

installed on the bottom of the installation and it helps to seal the small gaps that may occur between the wooden batten and the PV module. In case of larger height tiles, the foam can also be installed on the side flashings.

The foil is a highly robust and weather resistant self-adhesive foil which is used to seamlessly drain roof water from the PV modules to the bottom of the PV array. The foil is not required on PV arrays that reach to the bottom of the roof as the roof water is guided directly into the gutter.

