Invent®

Designer photovoltaic system

We bring art in photovoltaic.
We bring beauty to sunlight.

The Invent® photovoltaic system is a revolution in the field of renewable energy. Discover the solutions for your company and your home.

A new photovoltaic concept

The Invent® designer photovoltaic modules are a real revolution in the field of renewable energy, bringing a change to the concept of photovoltaic solar panels. A photovoltaic panel is a uniquely functional product with a low aesthetic value, but now it has become a designer object that can customise walls and roofs of homes, public facilities and company buildings.

Custom artistic compositions

Thanks to the patented InvisibleCell® technology, electrical connections are invisible and the photovoltaic modules are completely black. Just as a painter with a canvas, photovoltaic design allows us to create patterns and graphic motifs directly on the surface of the panels. You can choose amongst the different options available or create a personalised product. When the sun sets, the fixed or intermittent LED lighting system mounted on the frame creates striking lighting and depth visual effects that add a touch of magic to your artistic compositions.

Elegant functionality for your home

These photovoltaic design panels enhance the outer architecture of a home with a variety of decorations: designs or symbols can be customised according to our clients' specifications. Modules can be mounted onto the roof or on the outside walls of your home to create a solution that meets domestic energy needs, as design and functionality come together.

Eco-sustainable business marketing

With Invent designer photovoltaics, medium and large sized companies will be able to find a solution to two different needs: on the one hand they are optimising energy costs and using renewable energy sources to improve their environmental footprint; on the other hand they have original and elegant supports for company signs mounted on the building. An environmentally friendly solution that improves the company's image and reputation.

A high-tech skin for public buildings

The public building sector can draw valuable insights from photovoltaic designs to create cutting-edge solutions in the energy, architectural and advertising fields.
The façades and walls of stations, airports, skyscrapers, shopping centres and other public buildings can host large-format advertising installations made up of customized photovoltaic modules. Museums, art galleries and cultural institutions can create artistic compositions, while producing eco-sustainable energy.
Photovoltaic design is a solution with a strong visual impact that is particularly suitable for organizations and companies wishing to stand out with an original means of communication that is green at heart.

Features and functionality

The aesthetics of these crystalline silicon modules do not penalize energy efficiency. They are composed of a 4 mm thick sheet that guarantees a mechanical pressure resistance that is 50% higher than similar products on the market.

Thanks to an innovative home automation system and the E-Gate application, you can use a tablet to manage energy consumption and to control the heating and air conditioning systems as well as the alarm system of your company or your home.

EXCLUSIVE FEATURES

Here's why you should choose Invent photovoltaic panels:

Invent adheres to the PV Cycle disposal consortium, which ensures easy disposal of your modules when its time.

Invent's patented InvisibleCell® technology makes the module's electrical connections invisible. The panels are aesthetically pleasing with an elegant and modern design.

Invent photovoltaic modules are all made in Italy according to certified quality systems and with a high-output automated production line.

SIMPLICITY IS THE KEY TO PERFECT DESIGN

Invent's patented InvisibleCell® technology allows for all-black photovoltaic panels despite being based on crystalline silicon technology, which ensures high yield.

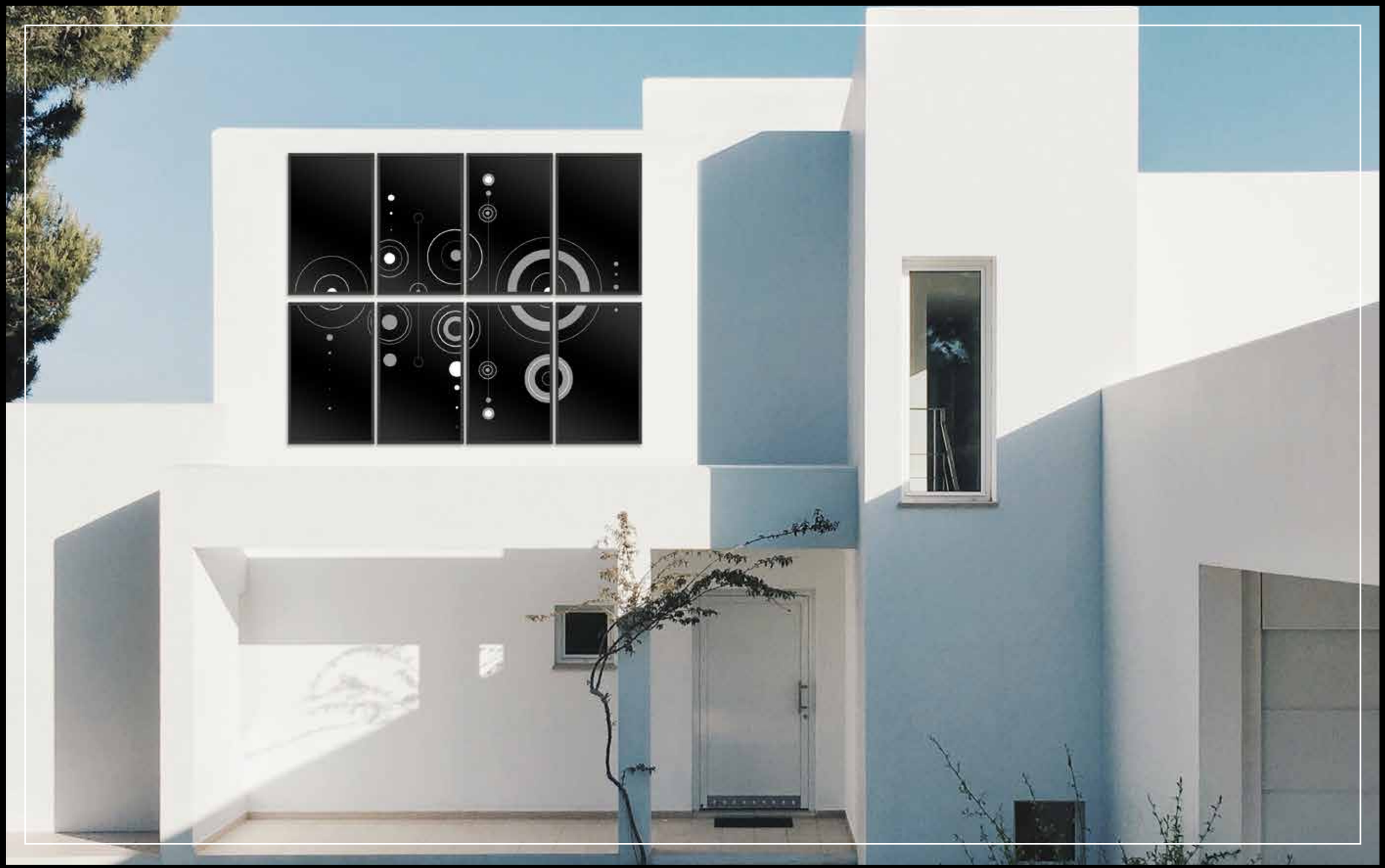
This characteristic allows us to create three-dimensional patterns that make these panels true designer objects.

InvisibleCell
TECHNOLOGY

NEW PATENTED ITALIAN TECHNOLOGY

ARTISTIC COMPOSITIONS

With Invent photovoltaic solutions, you can create true art installations. In fact, we can personalise the panels with images so they can fit into the setting they are placed in. Photovoltaic panel compositions: transform your home into an art gallery.



Module Invent:
ITALIAN QUALITY IN PHOTOVOLTAICS

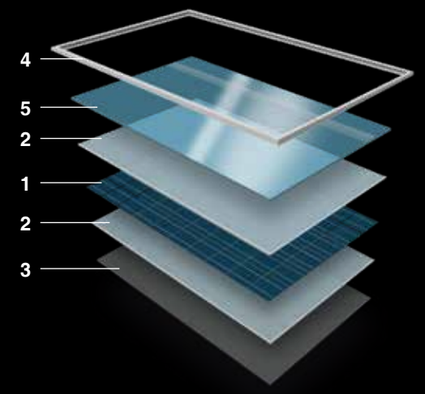
The solar modules Invent Q are all made in Italy according to certified quality systems and with a high-output automated production line.
They are characterized by the exceptional quality of workmanship and its components.

The modules Invent Q are provided with only positive tolerance (0/+3%), this ensures that the module will in any case, produce more than the declared energy, resulting in exclusive advantages for purchasers.

All Invent Q modules are equipped with Invent's patented InvisibleCell® technology, which makes the module's electrical connections invisible, making the panels aesthetically pleasing with an elegant and modern design.

At the end of their lifespan, these modules will not give you any problems because Invent is a member of PV Cycle.

Up to **15** years of **warranty on materials**	**25** years of **warranty on power**	**+25%** **Glass Thickness** High trasmittance **4mm**	**+50%** **Mechanical Load** Subjected to a pressure of **7500 Pa**	**Ammonia test**
InvisibleCell TECHNOLOGY	Power tollerance **0/+3%**	**+20%** **Hail Resistance** Subjected to hail of **30mm**	PV CYCLE	**Salt spray test**



Q panel consists of 60 polycrystalline silicon photovoltaic cells (1), which generate high power in each module.

Cells are laminated between two layers of EVA (ethylene-vinyl acetate)(2). In addition, a polyester laminate (PYE) (3) guarantees an effective sealing of the module and long lived, creating a barrier to oxygen and moisture.

The structure (4), is available in different oxidations, it is made of a solid aluminum alloy, stress-resistant, corrosion-resistant, and easy to fasten.
The front part of the module consists of a tempered solar glass of 4 mm of thickness (5) with high light transmittance, that guarantees a 25% greater thickness compared to the market standard, a 50% higher mechanical load and a 20% higher hail resistance.

On the back of the module, a junction box is fixed, equipped with bypass diode, which prevents the overheating of the individual cells (hot-spot effect). It is resistant to changes in temperature within a range of – 40°C, + 85°C, with a degree of protection IP65.

It is equipped with fast connections ("plug & play") which help to speed up the installation of the modules and of the two cables (4 mm2), each of 100 cm long.

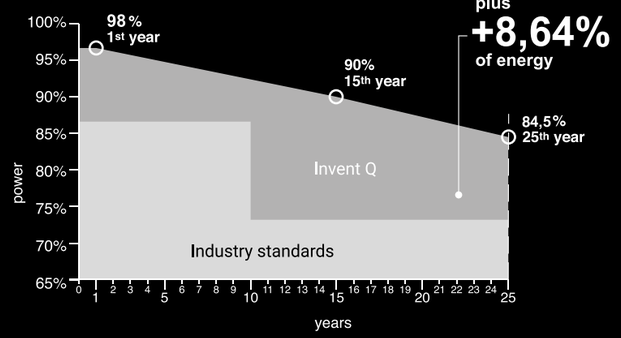
WARRANTY

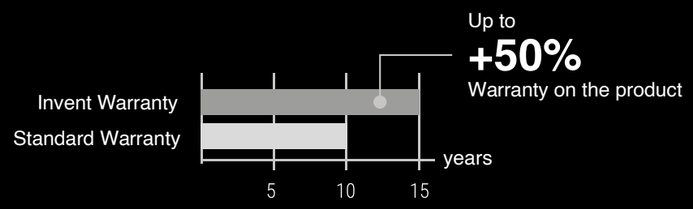
Power is guaranteed: 98% the first year, the 15th year >/= 90%, the 25th year >/= 84,5% of the power.
Invent grants a 10 year warranty for manufacturing defects and materials, that can be extended to 15 years.

As shown in the graph, these warranty conditions signify advantages to the system's productivity compared to
present standards on the market:

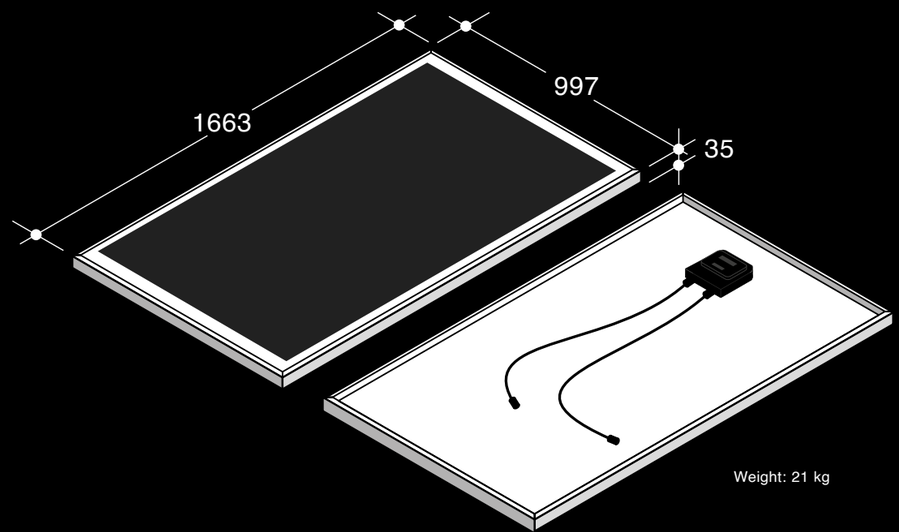
- More energy in the module's life cycle: 8,64% higher than the industry standard
- More power: minimum peak power 98% in the first year
- Only 0,6% reduction of annual power in 24 years

The warranty on chromatic variations of InvisibleCell® is of 2 years.





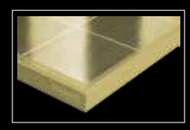
DIMENSIONS

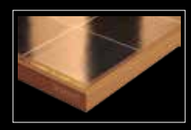


ARCHITECTURAL INTEGRATION

By request, the modules Q are available in version:


Red


Gold


Green

TECHNICAL DATA

Power class	**Wp**	**300**
Efficiency	**%**	**18,09**
Nominal tension	Vmp	32,2
Nominal power	A	9,31
No load voltage	Voc	39,6
Short-circuit current	A(Isc)	9,46
Full load voltage	V	1.000
Short-circuit current's temperature coefficient (α)	Pm	4,60 mA/°C
No load voltage's temperature coefficient (β)	Vo	-0,132 V/°C
Power's temperature coefficient (γ)	Voc	-1,021 W/°C
Power tolerance		**0/+3%**
NMOT		**45,10°C**

Values obtained under standard conditions: 1,000 W/m – 25° C – AM 1.5

INSURANCE

All Invent products are covered by RCP Insurance. Insurance also includes:

- wrong ideation, design, manufacturing
- wrong, omitted or missing instruction of use
- wrong or defected conservation
- wrong or defected packaging
- assembling and disassembling expenses

CERTIFICATIONS

Invent photovoltaic modules are certified according to the European standard CEI EN 61215-1: 2017, CEI EN 61215-2: 2017, CEI EN 61215-1-1: 2016. Safety tests were performed according to CEI EN 61730-1: 2018, CEI EN 61730-2: 2018, IEC 61730-1: 2016, IEC 61730- 2: 2016, EN 61730-1: 2018, EN 61730-2: 2018 (Safety class II).

In the laboratory the modules successfully pass all tests demonstrating high resistance to different types of stress.

CEI EN 61215 (2017)
Hail resistance test
ice ball of 25mm launched at a speed of 23,0 m/s-1 directed to 11 points of impact.
In addition, a simulation of an impact with energy equal to a ice ball of 30 mm of diameter was made.

CEI EN 61215 (2017)
Damp heat test
the module is put into operation with an ambient temperature of 85°C and relative humidity of 85%.

CEI EN 61215 (2017)
Mechanical load test
the module is subjected to a pressure of 5400 Pa.
In addition, Invent tests the modules at a pressure of 7500Pa, that guarantees greater panel strenght.

CEI EN 61215 (2017)
Moisture and freezing test
the module is put into service with an ambient temperature of - 45°C and relative humidity of 85%.

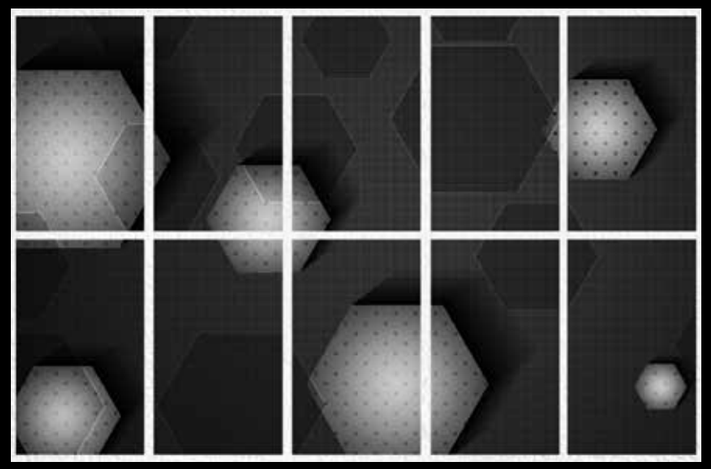
CEI EN 61730-2 (2018)
Temperature test
5 hours exposure to 1,000 Wm

CEI EN 61215 (2017)
Thermal cycle test (50 and 200 cycles):
50 and 200 cycles from –40°C to +85°C with the supply current peak.

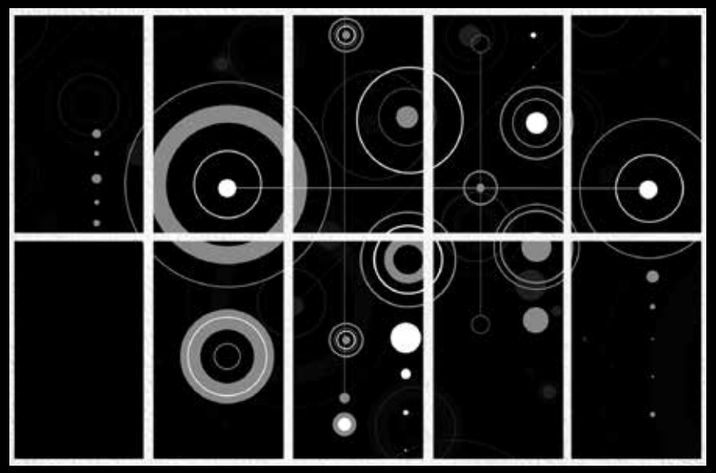
IEC62716:2013
Photovoltaic (PV) modules - Ammonia (NH3) Corrosion Test

IEC61701:2011
Photovoltaic (PV) modules - Salt mist corrosion test Severity Level 1

SUPERIOR Collection

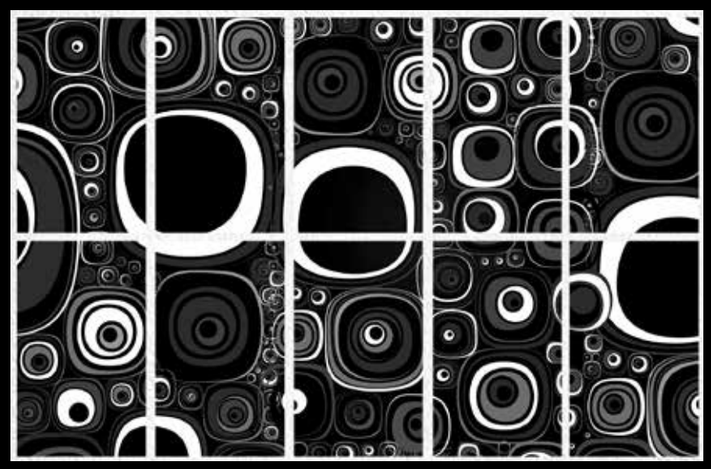


“BEES” Composition 10 modules 300 Wp

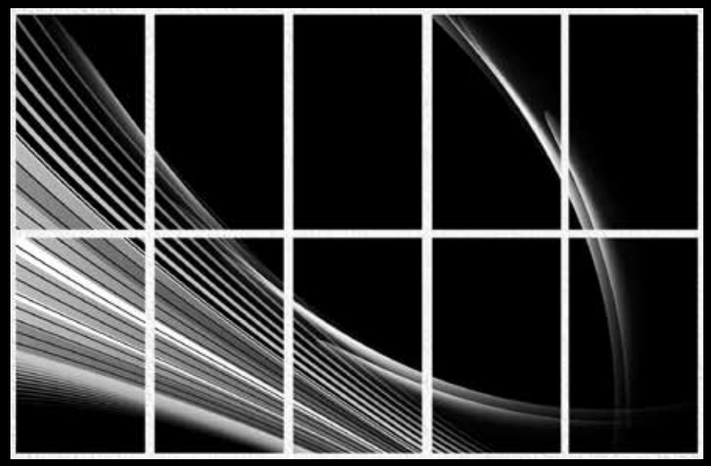


“CIRCLES” Composition 10 modules 300 Wp

DELUXE Collection

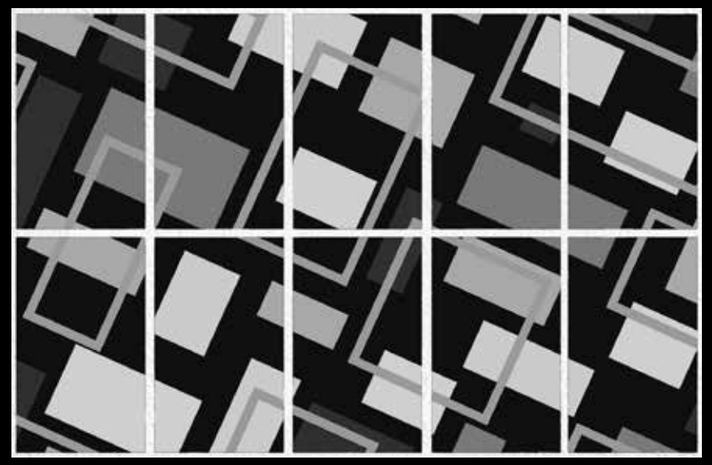


“EYES” Composition 10 modules 300 Wp

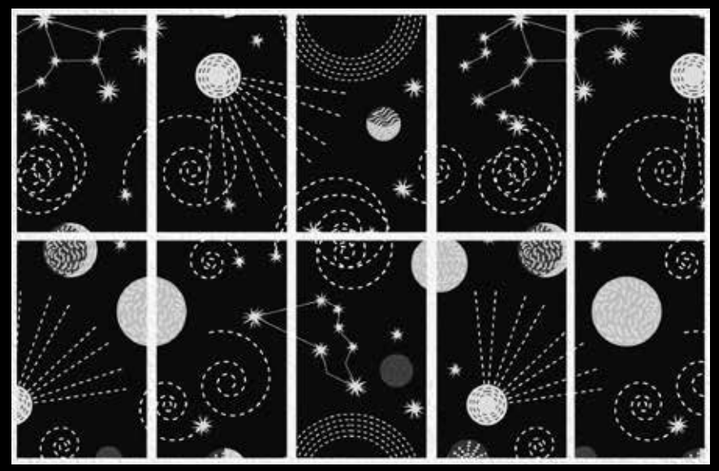


“TRAILS” Composition 10 modules 300 Wp

LUXURY Collection



“BAUHAUS” Composition 10 modules 300 Wp



“PLANETS” Composition 10 modules 300 Wp

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