PV-Energiedach
QUAD40

SolteQ

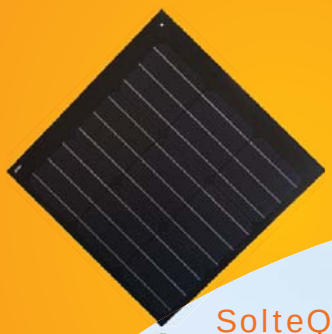
The roof of the future:
PV Slate Roof Shingle SolteQ-Quad40

Chic roof + Photovoltaic + Solarthermics in one

The perfect solution for buiding integrated photovoltaik (BIPV)
Energy Roof with high efficient PV-Shingles with brilliant Slate look
with integrated Safety System BFA

A Roof like a Diamond

Building integration with style:
classic and rustic slate look, combined
with High Tech Photovoltaic technology



SolteQ-Energy Roof
with nice slate look
...the next generation

- Monokcrystalline High Performance PV-Module with 156x156 mm monocrystaline cells (=154Wp/m²)
- Easy to install on the conventional laths
- Maximum and efficient use of roof area
- Up to 36% more efficiency as conventional PV
- Surface with self cleaning effect
- Safety glas
- ca 4 mm solar glas, mechanic loading up to 8500 Pa
- Anti reflexion, prismatic glas
- 100% quality control in all steps
- TPS certificated
- Power tolerance +3%
- Frameless design
- 100% water proof, Storm resistant
- UV- and wheather proof
- Integrated Safety System, automatic or manuell safety
- Over heat protection
- Fire prevention
- Efficiency 15 years: 90% of Nominal Power
- Efficiency 25 years: 85% of Nominal Power
- Efficiency 40 years: 80% of Nominal Power
- Product warranty: 5 years, expandable up to 20 years
- **Estimated Lifetime: >50 years with >>90% power**
- Made in Germany

www.DAS-SOLARDACH.eu

Made in Germany

Our Sun

Distance from earth:	150 million km
Diameter:	1,39 million km (109-times diameter of earth)
Age:	4,5 billion years
Surface temperature:	5.800 Kelvin
Mass:	1 989 000 000 000 000 000 000 000 million kg

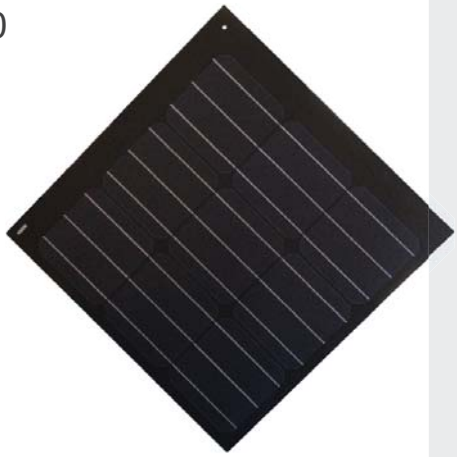
She burns 637 million tons of hydrogen, thereby comes up 632 million tons of helium and 385 billion billion megawatt energy. Therefrom is falling 1,300 W per squaremeter. This energy is 10,000 times more than the total need of menkind. What do we want more ? There is more than enought energy for heating and electricity available, than needed.
To burn other poison recources is absolutely unneeded.

The most beautifull planet of the galaxy

100% energy tanking with the sun -
and all for free !
- heat and energy -

The energy roof with PV-Roof-tile-Quad40

Architecture and aesthetic pure !



The best roof of the world is the one,
which is looking great on your home
Classic, rustic look, combined with modern technology:
The new Energy-Roof with little, chic Roof tiles
Why a second Roof skin of PV-Modules ?
Better use PV-Modules as roof cladding directly and safe double costs !
No Roof tile + PV-Module - use only ***nice looking PV-Roof Tiles*** *!*

How is the energy of the futures ?

- *However, a roof is needed, but it can be same time including power*
- *100% rain- and water proof*
- *Chick and powerfull, you can not see directly a photovoltaic system*
- *The house get ecological and optical added value - nice and aesthetic look is at first*
- *Nice looking roof and not a PV-System. Everyone want's to have a nice home with a nice roof.*
- *Suitable also for east/west-roofs, for new or sanitation, and for historic buidlings*
- *Easy to install*
- *Including safety system SolteQ-BFA*
- *Energy storage*
- *Additional use of the thermal energy of the roof heat for heating + warm water*
- *Target 1: no more electricity, oil or gas costs !*
- *Target 2: completely autarkic supply for electriciy + heating*
- *long lifetime, low maintenance*
- *fair in cost*

Exactly this is the SolteQ-Quad40-Energie-Roof !

SolteQ-Quad-Energie-Roof - the Power-Package

Use directly PV-Roof-Tiles to keep your home warm and dry, to produce energy and look chic and nice. Each SolteQ-PV-Shingle has a power of ca. ***40,5 Wp****, what gives your roof a big power package. The efficiency of one m² is about* ***161,6 Wp.***

A Roof like a Diamond

Let your roof earn money - The roof pays itself !

The new ***PV-Roof Tiles SolteQ-Quad*** *consists of Glas with integrated high efficiency monocrystalline cells, wich makes your home to a very modern and energy safe house. With help of the profit the roof pays itself and you will get a roof for free.*
Conventional rectangle modules on a normal tiled roof are not looking really harmonic and nice.
The fantastic ***„fish scale look“*** *is looking very harmonic with your house and makes it to a real jewel with electricity factor !*

Black and noble look with Roof shingles composed of high quality glass and modernest solar cells with high efficiency.
Perfect for new build and roof sanotation.

Plenty of Energy, completely for free as a big gift rom our Sun - use this gift !

... always in harmony with your home

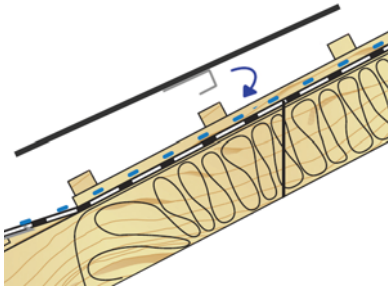
100% Made in **Germany**

The Roof of the future

Das SolteQ-Energiedach bildet die perfekte Lösung für die zukünftige Energiegewinnung bzw. Gebäudeintegration von Photovoltaik. Aufdach-PV-Anlagen als zweite Dachhaut sehen unschön aus, Indach-PV-Anlagen sind optisch meist zu modern oder mit Ziegeln umbaut. Das SotleQ-Energiedach ist ein vollkommen neues Dachkonzept, welches eine tolle Optik und gleichzeitig maximale Energie bietet.
Jedes Haus sollte mit einem tollen Energiedach ausgestattet sein.

Easy installation

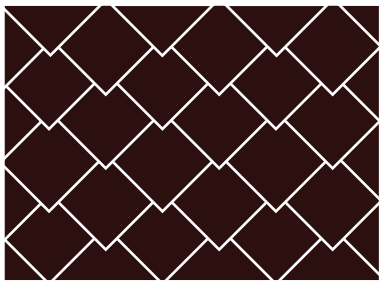
The PV-Tile will be hang up directly onto the wood laths and do not need any further aluminium underconstruction.
On the backside of the tiles there are two hooks.
Hang it on, fix it - ready !



Maximum roof area utilization

Fantastic look and maximum roof utilization !

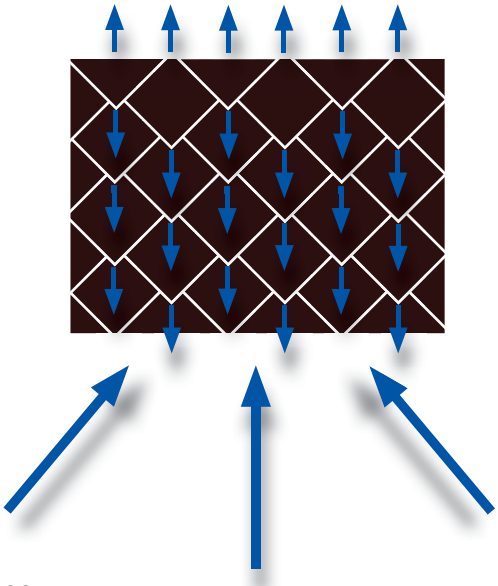
The new SolteQ-PV-Roof-Shingle has a nice „fish scale design“, which makes your roof to a modern and still nice-looking roof.
Your new roof is a high-class Photovoltaic System, that holds your home dry and earns money in the same time.
By overlapping layout the cells are near by near over the complete area. This will guaranty maximum efficiency and power.



Optimal cooling

PV-Modules become warm in normal operation. Conventional shingles in the sun certainly become warm too.
By the „Fish scale layout design“ of the SolteQ-Quad-PV-Shingles, your home get not only a very nice optics. It has been realized also a perfect Single-Module-Cooling by natural convection.
Cool air gets under the shingles at the lower border of the roof, cools the shingles and comes out at the lower corners of each single shingle and at the roof ridge.
This cooling is much even better, than at On-Roof-PV-Systems.
Other roof integrated PV-Systems are completely without cooling.

-> Perfect Single-Module-Cooling and more efficiency !



Power generation as direct roof cladding
Building integration - BIPV, but with style !

Sun is ilfe,
Sun is energy,
Sun is SolteQ.

Patent pending

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SolteQ-Quad-Roof-Tiles as direct roof cladding - the advantages

Frameless and clean

*The fantastic frameless design and the „Fish scale design“ of the **SolteQ-Quad-Energy-Roof** makes your roof to a jewel.*
The frameless design looks very nice, but not only that.
It helps also to keep the roof absolutely clean for 30 or 40 or more years. Quality glas do not grow old.
*The **SolteQ-Quad-Energy-Roof** has no frame, where water can be collected and dirt can be backed for ever.*
*On **SolteQ-Quad-Energy-Roof** the water cannot be collected at the borders and will completely drained away.*

With integrated self cleaning effect !

Frameless and overlapping layout = all over roof utilization

By framless and overlapping design the cells are laying very close over the hole area. No lost space with aluminium frames etc. The roof will be used up to the borders.

Modular Design

The SolteQ-Quad-PV-Shingles-System is a modular system, which is flexible and can be adapted to every roof.

Lightweight

Coventional shingles or tiles has a weight of 50-80 kg per squaremeter.
A SolteQ-Quad35-PV-Shingle has got a weight of only 3,3 kg. This makes a weight of only ca. 14 kg per square-meter. Perfect for new building and sanitation.

Self cleaning effect = lifetime new !

The glas of the Shingles owns a antistick surface, which makes water and dirt drain away. Even after 20, 30 or 40 or even more years, the roof will have a look like it was new.

Weather proof

Perfect weather proof by robust material and over-lapping laying.

Thermal insulation

The (low) self heating of the roof has a positive effect: This gives a thermal insulation against cold.

Acoustic insulation

The robust Quad-Roof-Tiles gives also an acoustic barrier for sound with a damping ca. 38..42dB

Safe costs

Only one roof skin, PV-Roof-Tiles as direct roof cladding. Building integrated Photovoltaics, but with a great look and nearly for same cost like a conventional Roof.

... das gibt‘s nur bei SolteQ !

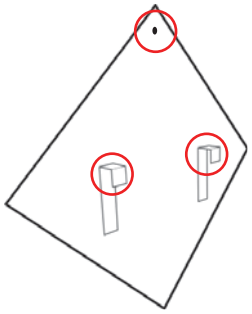
High area power

The power per squaremeter is about 161Wp. This is similar to conventional PV-Modules with a power of 260Wp and the dimensions 1x1,6 m. But by laying over the full area up to the borders, the SolteQ-Energy-Roof will produce more energy.

Up to 36% more efficiency

***The SolteQ-Quad-PV-Shingle-System** provides full use of the roof area without any losen regions, like alu frames, distances to the border of the roof, distances between the module rows etc. By overlapping mounting of the shingles the cells will lay very close, so the efficiency is very hight.*

only 14 kg per m²



Storm and hail proof by 3 point safety mounting

The backside hang up aluminium hooks makes sure that the shingles cannot lift up. With help of the tick rubber seal the wind will get no possibility to get a grip to lift up the shingles.

Energy efficiency

- *Conform to the latest terms of EnEV und EEG.*
- *Fully integration of photovoltaic, thermal solarsystems and roof windows*
- *South roof systems are high profitable and covers a part of the building costs*
- *Also suitable for east/west and north roofs*
- *Perfect wheater protection*
- *Energy will be self produced and cost will be safed month by month*

... Top products, fair costs - SolteQ

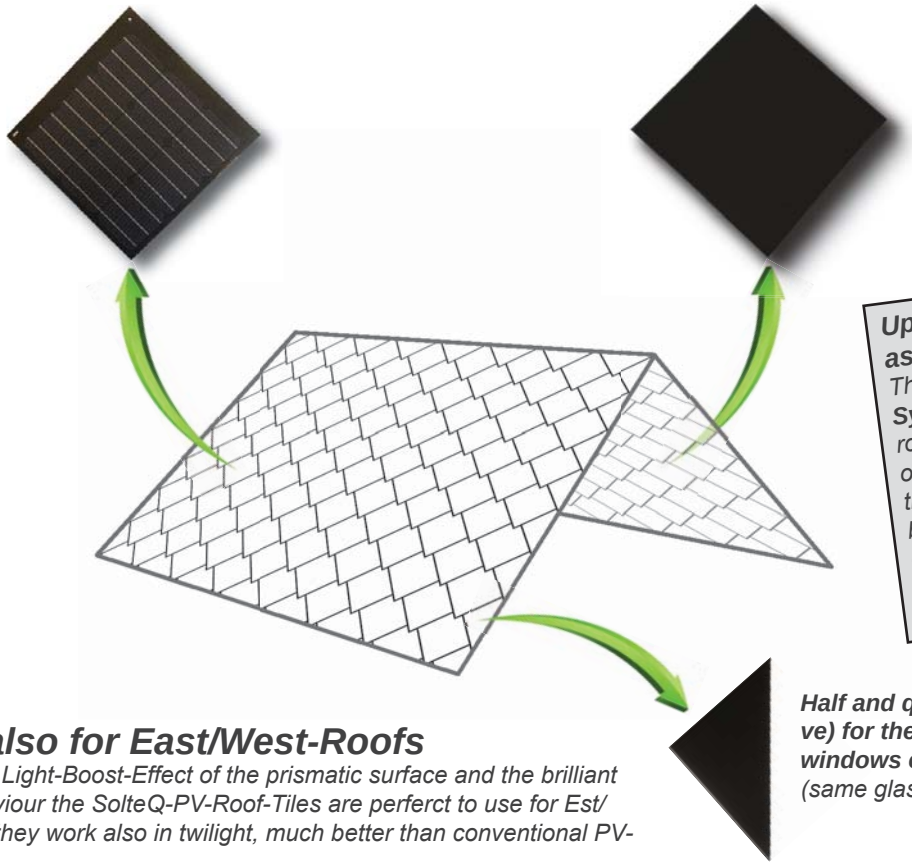
... always in harmony with home and nature

Holistic system

The product line SolteQ-Quad-Roof-Tile is a holistic system for the hole roof, means south and north side. The sunny side will be layed out with active tiles, for the north side same tiles are available, but without cells. The borders and edges will be filled with half and quarter shingles.
The SolteQ-Energy-Roof is first line a Roof, not only a PV-System.

Active Quad-Tiles
for the sunny side

Passive Quad-Tiles
for the north side
(same material, same look, without cells)



Up to 36% more efficiency, as conventional systems
The **SolteQ-Quad-PV-Shingle-System** provides full use of the roof area without any losen regions, like alu frames, distances to the border of the roof, distances between the module rows etc. By overlapping mounting of the tiles the cells will lay very close, so the efficiency is very high

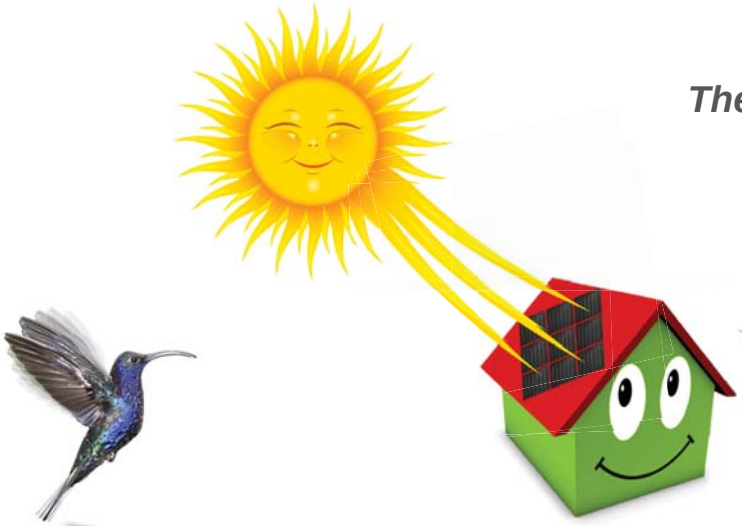
Half and quarter elements (passive) for the border zones and to fit windows etc.
(same glas and material, without cells)

Suitable also for East/West-Roofs

With help of the Light-Boost-Effect of the prismatic surface and the brilliant Low-Light behaviour the SolteQ-PV-Roof-Tiles are perferct to use for Est/ West direction, they work also in twilight, much better than conventional PV-Modules.

Need-Based Power Adaption

The sun side of the roof can be used for maximum power generation with active tiles on the total area.
In case of no need of the maximum power, the System can be adapted to the power which is really needed, by using passive tiles on a part of the area. The nice look still remains.



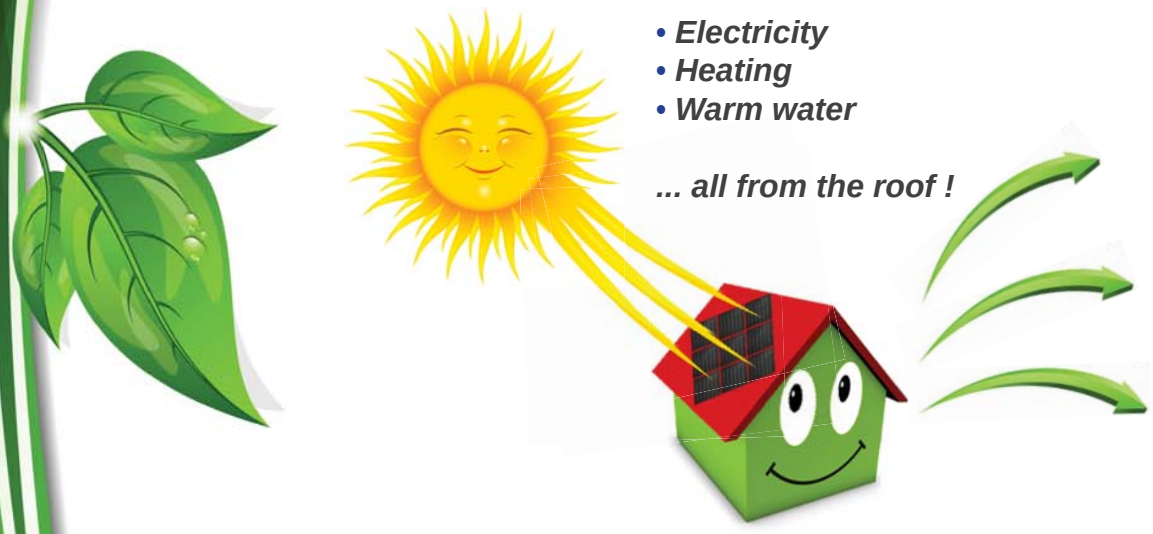
The formula of the future: $E = S \times PV^2$

Energy = Sun x PV²

... Energy from the sun - for free !

Clean energy, in harmony with the nature

The roof of the future: Electricity + Heating



- *Electricity*
- *Heating*
- *Warm water*

... all from the roof !

We will help you to cover your complete energy require-ment !

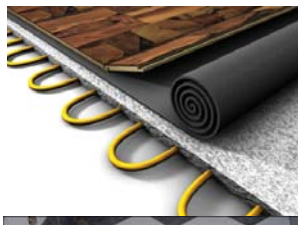
Photovoltaic and und Solarthermics in one:

Use also the thermal heat of the roof area !

ENERGY SAFE
with modern HEATING

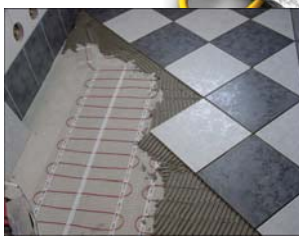
... the complete energy demand can be covered by the roof !
1. Electricity will be produced by the photovoltaic of the roof
2. Heat will be produced by using the thermal heating up of the roof by vauum off the heat behind the tile ba a thermal air/water-heat pump and fill the Heating buffer with this free and additional energy. The big roof area is like a big solar collector and can supply even in wintertime a huge volume of energy.

a) Heating via electric energy

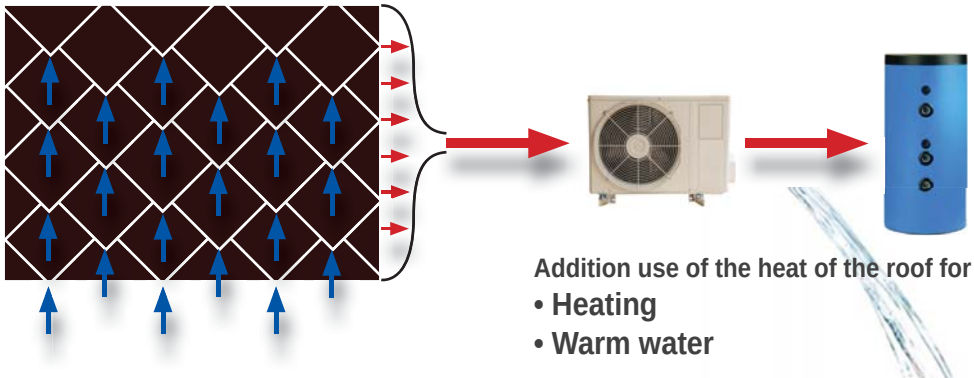


The SolteQ-Energy-Roof ia able to produce mostly more electrical energy as needed. The buffer of the heating. and also the buffer for warm water can be heated up with the electri-cal energy via heating elements in the buffer. The advantage is, there is no need for water hydraulics and additional pumps etc.

Electric floor heater / Infrared heaters
In new builds a heating via electric heating cables in the floor is the simplest and cheapest way to realize a perfect heating.
Advantages: high efficiency, low maintenance, no water pumps, which need electric energy.



b) Heatung via thermal energy from the roof with help of a heat pump (Air/Water)



Addition use of the heat of the roof for
- **Heating**
- **Warm water**

The big roof area represents a huge energy source, which is comparable with solar coll-ectors. A normal home needs only round two of these collectors. Now you can imagine, which huge amount of energy the roof can deliver over the complete area. For free.
Use this free energy which gains double effect:

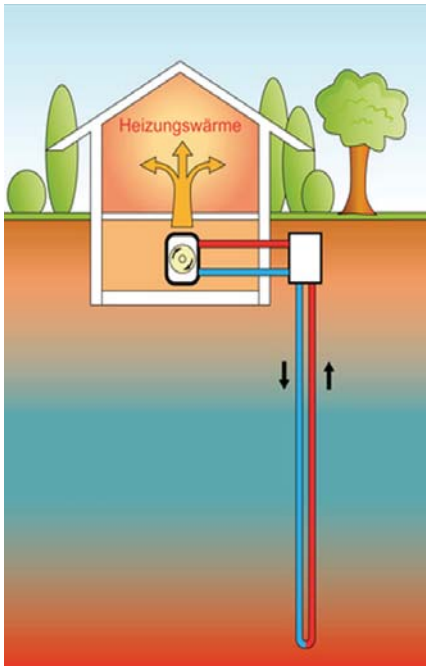
Double Advantage:
a) Heat energy for heating and warm water => more free electricity is at free disposal
b) Cooling of the PV-Tiles => better efficiency

Think about the future - now!

c) Heating via Geo-Thermal Heat Pump

The SolteQ-Energy-Roof produces enough energy to supply a pump of a Geo-Thermal heat pump.
A Geo-Thermal Heat Pump gets the geothermal heat energy via a probe in about 100m depth. This heat can be used for heating your home.
For this a pump is used, which will be supplied with electric energy. Such a Geo-Thermal Heat Pump has got a Power factor with ca. 1:4, this means 100W Power-In to get 400W Power of heat energy.
This pump can operate for free by beeing supplied by the SolteQ-Energy-Roof.

... heat for free...



Example: geo-thermal heat pump

SolteQ-Energy Roof
Perfect pension plan !

Tip: Positive fiscal effect !

The SolteQ-Energy-Roof is a complete PV-Roof. You can get the total tax for the complete system, incl. roofer work, insulation, laths and PV-Tiles (!) This makes this system cheaper as a conventional PV-System.
(Please note: this is not a fiscal consulting, pls. ask your tax consultant concerning your possibilities)

Diamond Surface
Hardened Glas with Prismatic Surface

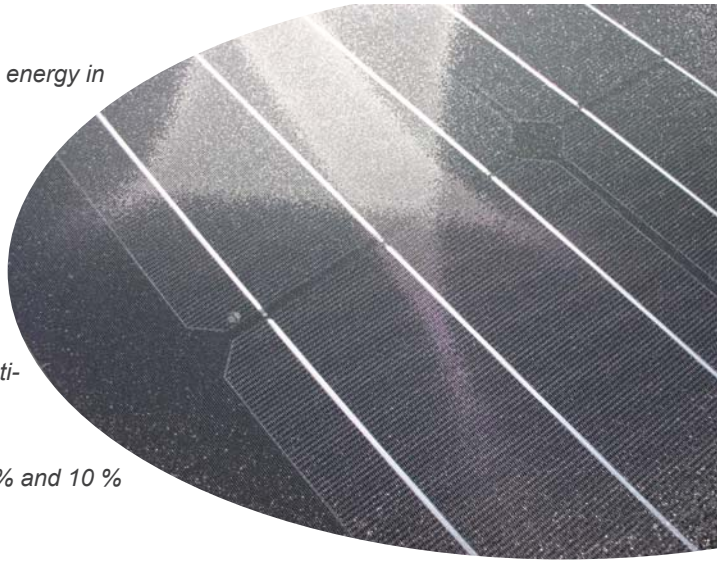
- For new and old buildings
- Roof sanitation
- Maximum efficiency with mono crystalline cells
- Light roof timbering, with cost saving with the under construction
- Available in several premium colors
- Shiver like optics for monument protection objects

... übrigens:

100% made in EU

For safety:
- Integrated is the proven SolteQ-BFA-Safety-System (Option)
- Fire prevention with lot's of accessoires
- Maximum protection against high voltages
- Maximum personal protection
- 100% water proof

Die monokristallinen Zellen der SolteQ-PV-Schindel mit feinen Streifen verleihen dem Dach eine edlen „Nadelstreifen-Anzug"-Optik



Extra white glass and unique design
By using glasses with very low rate of iron the apsorbtion of the Irradation energy in the glass close to zero.
The prismatic surface provides a special aesthetic aspect.

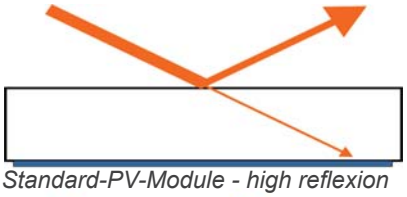
Anti-glare and satiny Surface
The satiny surface of the Quad-PV-Shingle makes that the roof prevents reflection and gives it a smoth look.

Light-Trap-Effect
The structures has a „trap-effect" for incoming light beams. Once in the glass never go out again. The light will drop directly onto the cells. This is why the SolteQ-PV-Shingles work also in twilight much more than conventional photovoltaic modules.

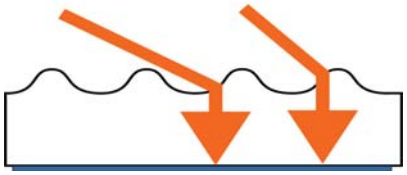
Raising of efficiency
Because of the Light-Trap-Effect, the SolteQ-PV-Shingles has between 2% and 10 % more effiziency (depending on Light angle and type cells)
(under standard test conditions IEC 61215)).

Low chance for pollution
Because of the rounded structures of the surface dust and pollutiuon will be washed by rainwater. The frameless design makes sure to get a long term clean and powerfull energy roof.

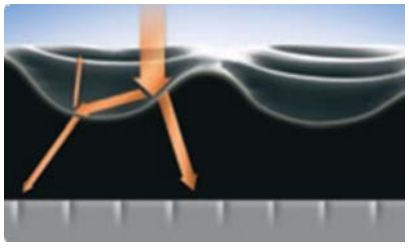
East / West-Roofs
The sophisticated use of the light in the prismatic glass makes it possible to raise the power and efficiency up to 3.5 % in normal light and up to 20% more in twilight times and slanting incoming light.
The effect will be amplified in in an unfavorable lighting conditions, for example in morning or evenong hours, or even on roof with east or west direction.
This makes it possible to use east and west roofs with effective and maximum Power generation.
The long term availability and safety will be confirmed by the international standards IEC61215 und IEC61730.



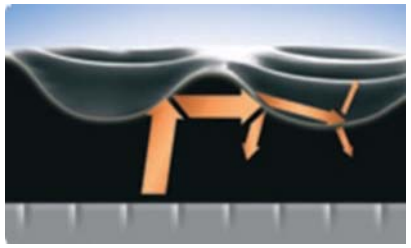
Standard-PV-Module - high reflexion



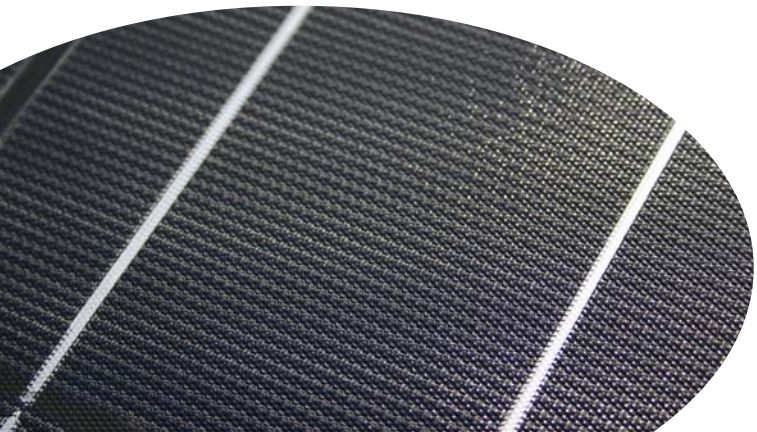
SolteQ-Surfauce - 100% use of the incoming light



Low reflexion at the air-glas barrier



Light trap effect



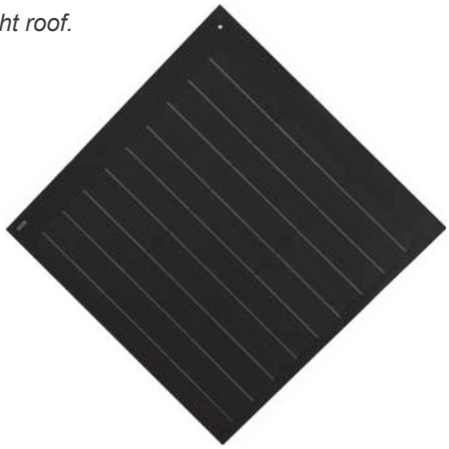
SolteQ-Energy-Roof „Black Diamond“

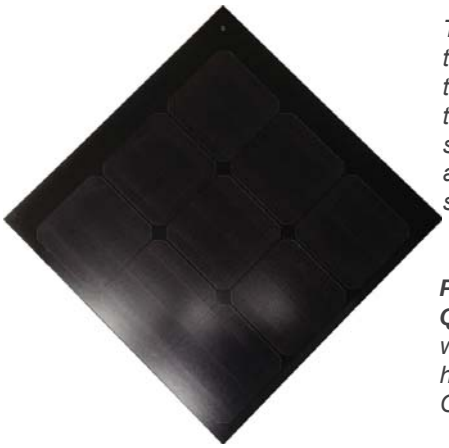
*„**Anthracite**“ is the classic color tone, which looks universal and timeless. To the most house types and designs the anthracite color roof will look harmonic and brilliant.*
Even for classic or modern home, cathedral or country home - The new SolteQ-PV-Shingle adapts to every Building.
*You will have much fun for years with your new **Energy Roof with SolteQ-PV-Shingles**.*

... for every home the right roof.

Quad-PV-Roof-Tile „Black Diamond“
(Standard-Version)
in fine pinstripe suit.
Cells: dark blue,
Mono crystalline
Spezial attribute:
Slate effect

Selectable surfaces:
a) Standard: velvet, prismatic (antireflex)
b) strong prismatic
c) glossy





The prismatic structures are a feature of the glas, wich have got the structrure on the surface,and it is not an additional vanish or something else.

Black-Quad PV-Roof-Shingle
with fine and premium „pinstripe suit“ with fine silver stripes.
Cells: Mono crystalline

Premium-Black Quad-PV-Roof-Shingle
with total black cells, without silver stripes in sight
Cells: Mono crystalline

The best roof is the one, wich looks great on your home.

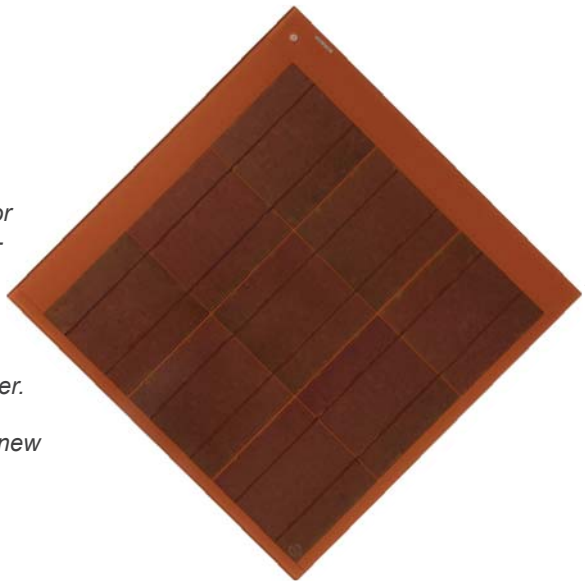
Picture.: Quad-Energy-Roof with Quad-Black-Diamond-PV-Shingles

SolteQ-Energy-Roof „Terracotta“

… the mediterrane style

„Terracotta“ *is the ultimative look for mediterrane regions, where conventional photovoltaic is not allowed, to protect the landscape.*
Even to roman periods homes were covered with tone shingles to protect them against wind and weather.

... gentle and elegant colors for your new roof.



SolteQ-Quad-Color-Roof-Tiles Polycristalline

Beside of the classic colors with monocrystalline cells, the product series with polycrystalline sells offers a lot of space to realize the color of your desire for your new roof.
The Quad-Poly product range is available in further brilliant colors with mono or poly crystaline cells. The colored poly crystalline cells give the roof a fantastic flair.

SolteQ

SolteQ-Energy-Roof Terracotta

Farbton: ähnlich Tonziegel-Rot

Standard olors:
Terracotta RAL 8004
Forest-Green RAL 6020
Silvergrey RAL 7036
Antrazit RAL 7016
Winered: RAL 3005
(colors similar)

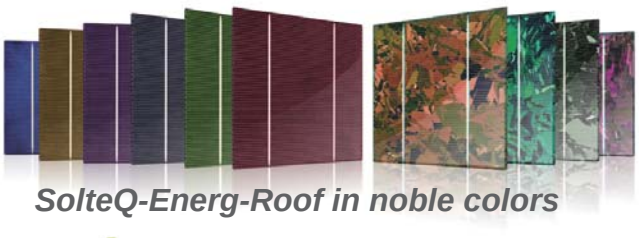
Polycrystalline Photovoltaic Cells consist of nature grown silicon crystals and will be colored afterwards. The colors and structures can vary in size and color in each production lot. These pictures shows the nearly optics of the cells, what is also depending on the light and viewing angle.

Illustrations similar

Amber

Color: bernstein / gold

SolteQ-Energy Roof Amber



SolteQ-Energ-Roof in noble colors

Amethyst

Color: Lavendel

... for ever summer freh

Ruby

Color: Ruby / Winered

Noble and gentle, the shade of the gourmet

Emerald

Color: Emerald / Forest green

Allignes perfect to the nature

Sapphire

Color: Dark blue

Blue is the color of silence and relaxing

Historic buildings with slade look
Perfect for monument protection

the SolteQ-Energy-Roof with its slade and rustic look is perfect for sanitation of historic buildings to install Photovoltaic in it, but safe its monumental look also.
Conventional PV is not allowed for those kind of objects. With its features like rustic and slade look and the light weight of a SolteQ-Energy-Roof makes it perfect for historic buildings.
Gauges, windows, of chimneys can be integrated very easy with help of half, quater or tiles out of aluminium, which can exact adapted by cutting them.

Advantages:

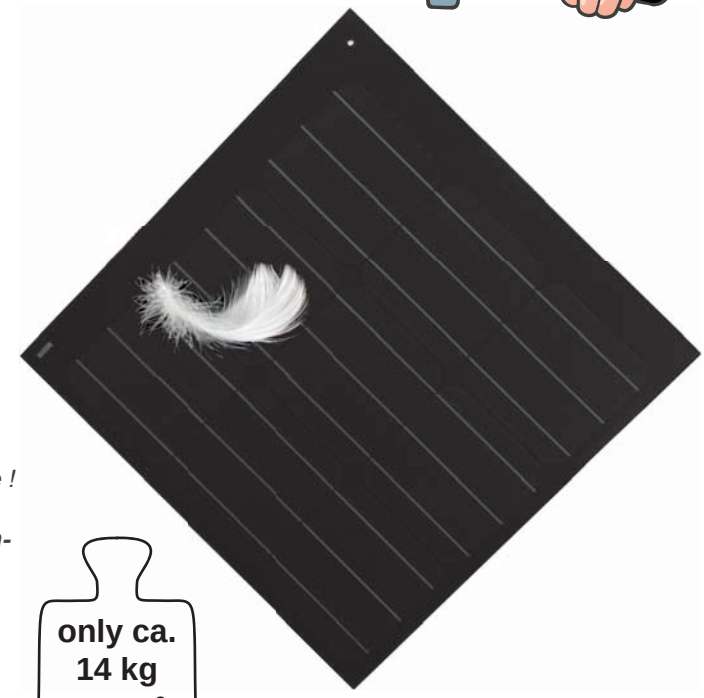
a) The SolteQ-Energy-Roof offers the look nearly of a real slade roof. You cannot see a Photovoltaic system, but a nice and rustic roof. The dark blue cells give the roof an effect like a slade stone.
Perfect for historic buildings.

b) This way even historic buildings can also enjoy now the great gift of our sun: Energy for free !
And without loosen the historic value.

c) Enhancement of the Object by 100% rain- and waterproof roof with a „old style“ look and a lonf lifetime.

d) Historic buildings are made up of stone without any insulation and a huge requirement of heat energy.
With help of a SolteQ- Energy-Roof the heating can be complete for free !

The thermal energy of the roof can be used to cover the complete requiremt of heating energy !



only ca. 14 kg per m²

... like slade, but much lighter!

-> Electricity + Heating completely from the roof !

With help of a heat pump the heat energy under the roof tiles can be used to fill the heating buffer.

With the features of a SolteQ-Energy-Roof is first time possible to supply also historic objects with free energy from the sun.

A SolteQ-Quad-Roof-Tile has got only ca. 3,3kg per each and a weight of only ca. 14 kg per m².

Tip: Positive fiscal effect !
... for the <u>complete</u> Roof !

The SolteQ-Energy-Roof is a complete PV-Roof. You can get the total tax for the complete system, incl. roofer work, insulation, laths and PV-Tiles (!) This makes this system cheaper as a conventional PV-System.
(Please note: this is not a fiscal consulting, pls. ask your tax consultant concerning your possibilities)

Smart sanitation !

Brilliant look and enhancement in value for your object

Advantages for roof sanitation with a SolteQ-Energy-Roof:

a) With a weight of only ca. 14kg is the wooden lath (like a normal roof) very quick done.

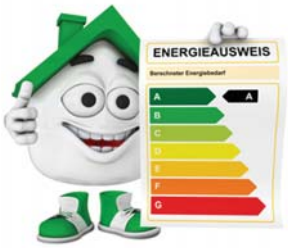
b) great look and value enhancement

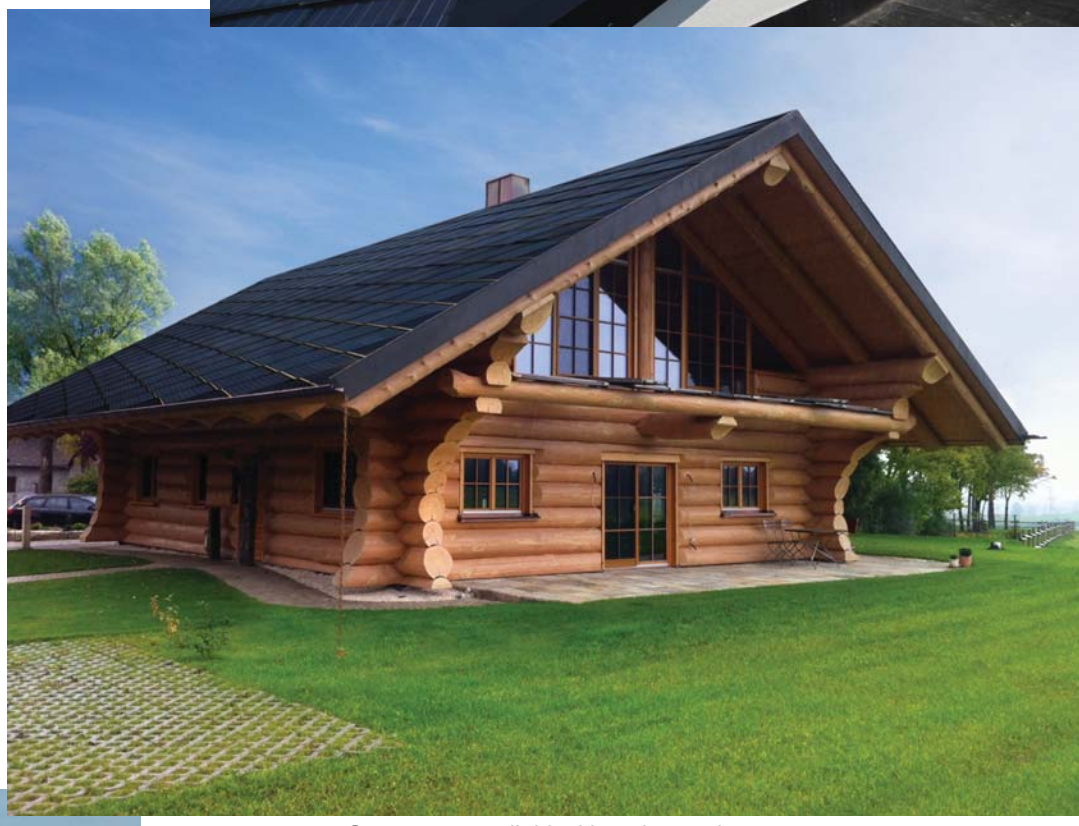
c) Please note the enormously advantages in case of regetting the tax.
(Please note: this is not a fiscal consulting, pls. ask your tax consultant concerning your possibilities)

d) Biuld a Plus-Energy-Home with the best oekological condition.

e) and all of that with only low costs

Energy roof silver grey





From One-Family-Home to apartment building

Solutions for every need.

Source: www.dieblockhausbauer.de

Air conditions

...are really huge power eater - doesn't matter !
Let your air condition work free, because the power comes from the roof for free !

Natur und Technik im Einklang - es geht !

SolteQ-Energy-Storages

For an autarkic energy supply a energy storage is required to use sun energy also in the night.
Loaded in daylight, used in the dark hours.
Energy around the clock.

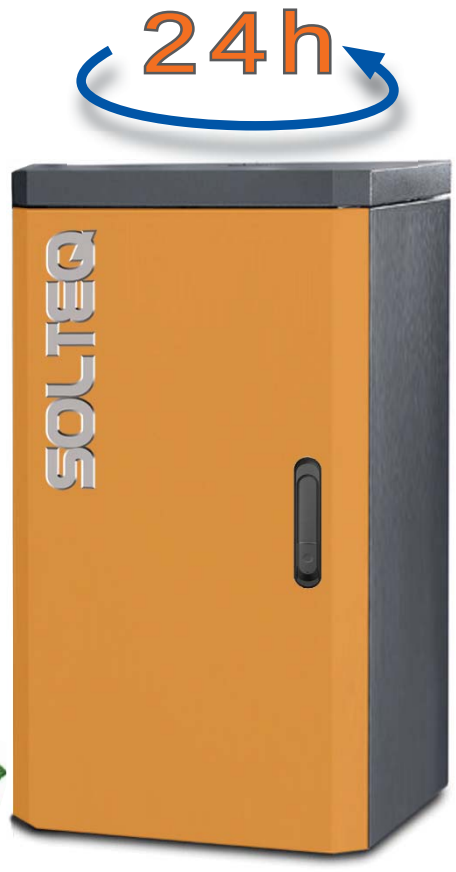
Store the sun
... with SolteQ

Maximum efficiency and 100% autarkic energy supply

Our Energy-Design-Team will create a perfect construction for your perfect energy supply. No more external costs like electricity, oil, gas etc.
-> Total energy supply for free - we make it possible for you !

Perfect adapted to your requirements

The energy strorage will be planed optimal for your requirement.
If needed the system can be extendet every time.
Long lifetime, reliability and high quality - that makes the SolteQ difference.



Increasing of the creditworthness by self using

Drop of the position „energy costs“ brings much better points at your bank.

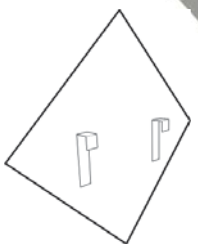
Sun is ilfe,
Sun is energy,
Sun is SolteQ.

Energy storages by SolteQ

... and the sun will shine also in the night for you

Suitable for Roof and Facade

The product range SolteQ-Quad-PV-Roof-Shingle is suitable for angles between 10° and 90°.
Flat roofs with 10°, over Standard-Roofs with 22° up to a front facade with 90° walls.
... Quad-PV-Shingle - universal and nice.



Looks like slate roof - Old Style

From distance the Quad-PV-Shingle has nearly the optics like a classic shever roof. In addition the wheigt with only 14kg / m² makes it possible to install on old or historical protected buildings or even half-timbered houses and much more.

Storm proof

The SolteQ-Quad-PV-Shingle is absolutely resistant against storm. The hang up aluminium hooks on the backside make sure that the shingles cannot lift up. With help of the tick rubber seal the wind will get no possibility to get a grip to lift up the shingles.
With the spezial seal the wind has no chance to get a grip on the shingles and cannot grip under the shingles to lift them up.

Storm and hail proof

The backside hang up aluminium hooks makes sure that the shingles cannot lift up. With help of the tick rubber seal the wind will get no possibility to get a grip to lift up the shingles.

Guaranty up to 20 Years

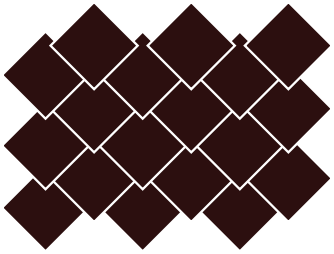
The standard warranty is 5 years. Optional it can be extendetd up to 20 Years

... that‘s SolteQ Quality.

Several patterns

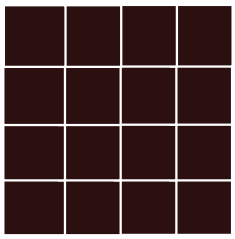
Let your phantasy play ... architecture, aesthetics and high product quality for a fair cost price - these are the targets of the SolteQ-Quad-Product-Range.
All SolteQ-Products are produced in the SolteQ-Group. This makes it possible to fulfil your wishes and requirements.
This not only for the colors of the shingles, also for variations of the patterns. Accordingly to your choice the shingles can be produced.
„Diammond"-Pattern (A), skew angled (B), horizontal nested (C) or horizontal composite (D) - everything is possible !

A

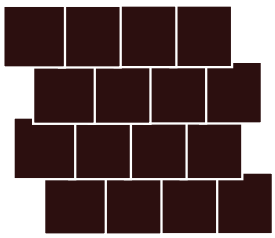


B

C



D



SolteQ Planning Support

The technicians of SolteQ are always on your side. To make it easy for you, we support you to plan the roof with free planning tools and our team. As Reseller you can generate within minutes a exact offer for your customers. With help of the graphical tools you can simulate the roof and see, how much shingles are needed for the custom roof.

Adaptable for nearly every roof type + easy installing by handy size of the shingles

The handy size makes an easy and quick installation possible. One square meter has only 4 shingles, which makes the installation very easy.

SolteQ Installation service

Training for installation is available, but basic knowledge of PV systems combined
With normal roofing experience will normally be sufficient.

Customer service

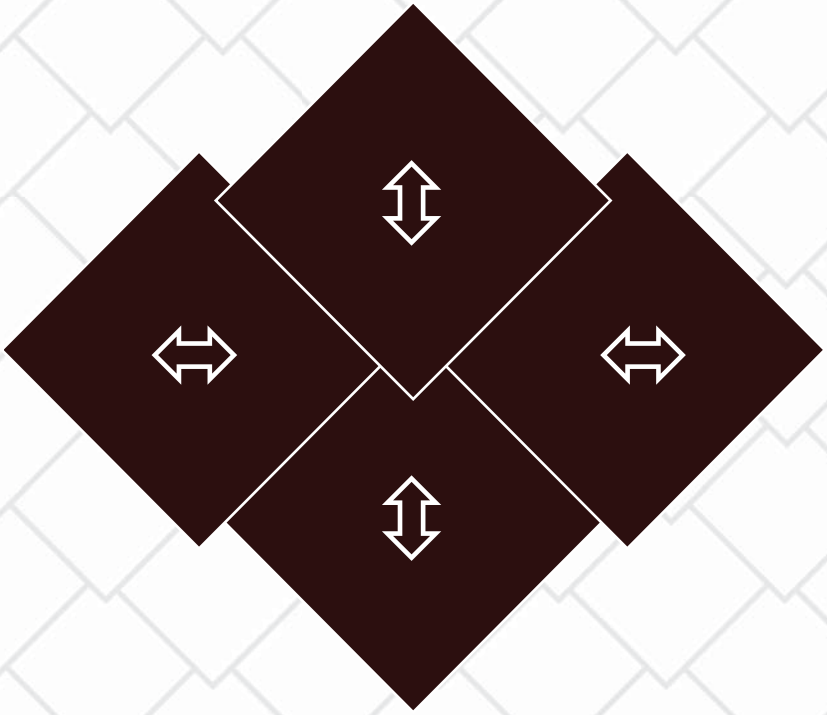
For home builders we can help to find a authorizied SolteQ-Installation-Partner in your near.

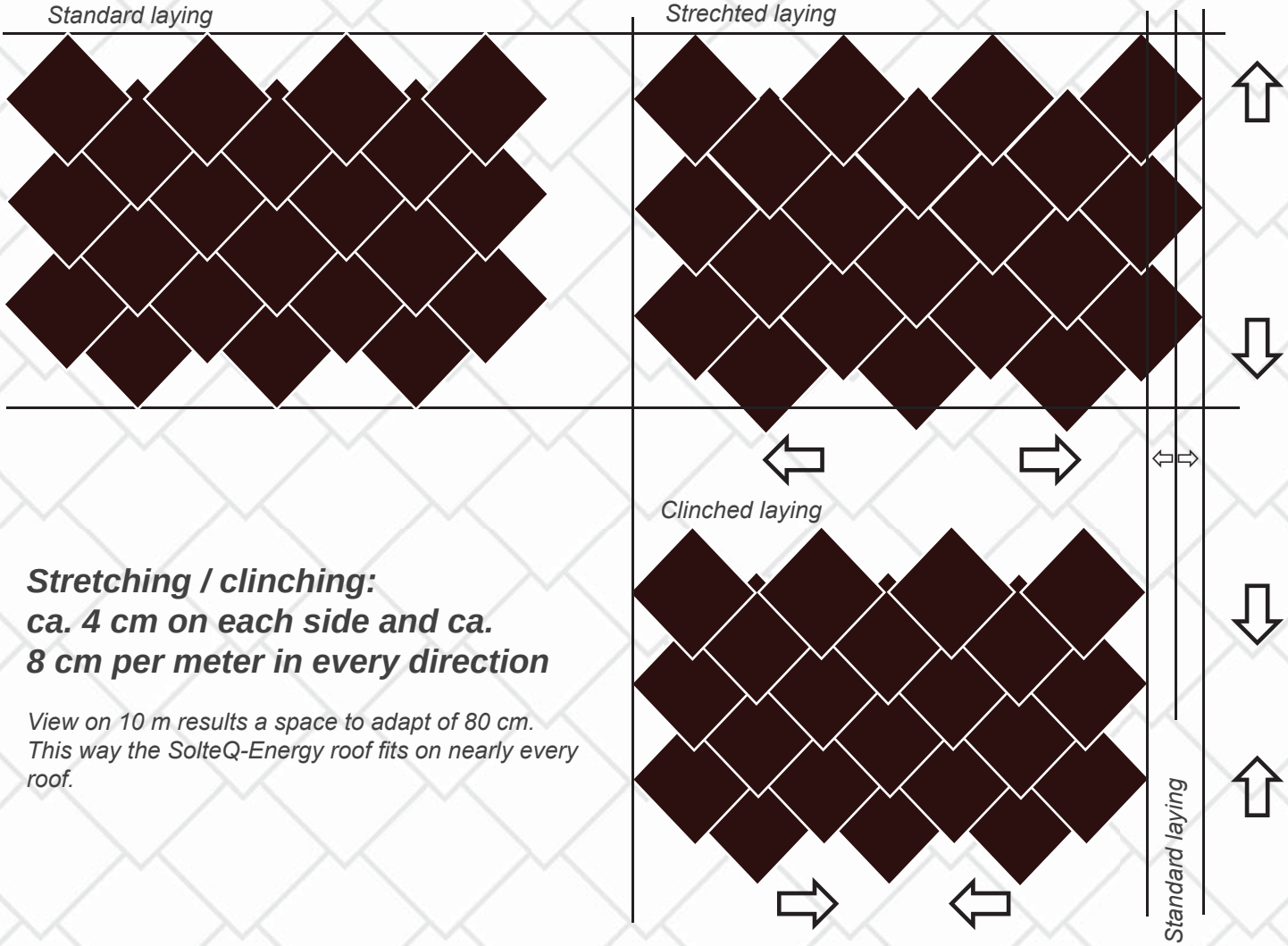
... easy, nice and full service.

Nature and Technique in harmony - it works!

Easy and flexible installation with „accordion“ effect

The SolteQ-Energy-Roof with Quad-PV-Roof-Shingels is adaptable.
By overlapping installation the shingles can be moved some cm to left and right and the hole area of the shingles can be stretched and clinched. The overlapping can be more or less, what makes the system very flexible.
The Border will be done by half elements and rounding metalsheets with the same color, which gives the roof a brilliant look.





Stretching / clinching:
ca. 4 cm on each side and ca.
8 cm per meter in every direction

View on 10 m results a space to adapt of 80 cm.
This way the SolteQ-Energy roof fits on nearly every roof.

Easy installation - Pictures

Look how easy the installation is: ***... easy like laying tiles.***

Starting basis: conventional wood laths

1. Plugging the connectors ...

2. Easy hang up the shingles in the laths ...

3. fixing with a spezial screw ...

... this way laying from down to upside ...

... the new Energy Quad Roof is finished !

... easy like laying tiles.

All pictrues and texts are copyright by SolteQ GmbH

The Energy roof with integrated Safety and fire prevention

Integrated Safety system with emergency power down for

Emergency - Fire (Fire switch)

+ Cleaning - Maintenance

+ Overheat protection

+ flooting protection

+ VSG safety glass

+ Fire prevention

Emergency - Fire (Fire switch)

In case of emergency the firebrigades should kill the fire without danger and fear of electrical shock.
*The **SolteQ-Quad35-PV-Shingle-System** is equipped with the popular Safety System „SolteQ-BFA-Safety-Box.*
For detailed informations please see the brochure „SolteQ-BFA“ an.

Cleaning and maximum profit

With help of the integrated Safety System BFA the Shingles can be cleaned easy and periodically. The produced voltages can be switched off by pressing the button, from Module (Shingle) up to the inverter. This eliminates the danger of electical shock, even by cleaning with normal water. After all works the system can be power up again by turning the key, easy.
This keeps the profit on maximum and a clean roof.

Overheat protection: automatic switch off in case of overtemperature

*The **SolteQ-Quad35-PV-Shingle-System** is a roof integrated photovoltaic system.*
Our engineers have an eye on maximum safety. With help of a temperature sensor (option/accessoire) the temperature of the roof will be measured. If a critical temperature of 90°C is reached, the system will be switched off immediately. At the same time a malfunction message will be given out, if yu want directly with a SMS on your mobile phone.

Safety Glass

The surface of the Shingles is safety glass. In case of a damage, the glass will not be splintered. It is like car window shatterproof glass.

Accessoires for all cases

To increase your safety you will find a rich sortiment of accessoires, like a Smoke Sensor and much more.
A Smoke Sensor makes that the PV-System will be powered down with the first amount of smoke.
Dangerous electrical light arcs wil be eliminated in it‘s early process of borning. Firebrigades are not able to kill an electric light arc, but the **SolteQ-Safety-System-BFA** can do this.
This way the PV-System will be switched off, far before the firebrigades arrive and can prevent a fire caused by the PV-System.

With a external Relais the A/C-Side can be switched off also and free the way for the firebrigades to do theire work.

For detailed information please order the brochure *„SolteQ-BFA-Safety-Box“.*

SolteQ ... *easy, perfect !*

SolteQ-BFA

Fire safe

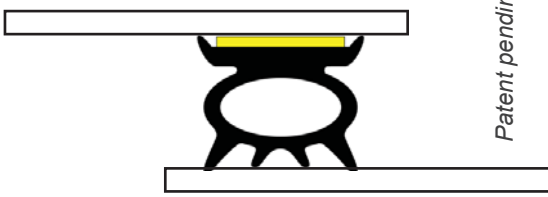
Certified by

Renewable Energy Technical Institution
RETI

CE

100% water proof with under foil and special seal

Quad-Special seal



Patent pending

a) The SolteQ-Energy-Roof is 100% rain proof

Each shingle has backside on the two lower shanks a patended special seal with multi lips, which prevents the entering of water in upwards direction, if a stron wind or storm comes up.

The house skin with the Quad-PV-Shingles offers proofness against rainwater and mechanical safety. Only a little opening at the lower edge with ca. 2cm length is an open point for air circulation. By this way the proofness against rainwater is guaranteed with 100% and water proofness of the hole area with 90%.

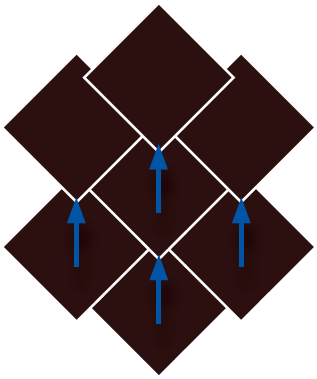
Only in case of stong winds or storm there is a little possibility for water to get under the shingle througt the opening for cooling.

b) The SolteQ-Energy-Roof is 100% waterproof

By the recommended waterproof foil under the shingles the Roof will be 100% waterproof, but diffusion-open (s. also System manual and specifications) with the guaranty of the manufacturer. Alternative also tarred roofing felt can be used as well.

This gives the guaranty that the remaining 10% possibility of entering water in case of storm will be switched off safely.

So will the new SolteQ-Energy-Roof be safe and 100% waterproof.



c) The SolteQ-Energy-Roof is 100% safe against UV

The Shingles are absolutely light-tight and UV resistant. By overlappig installation and the light-tight seal on the borders, there is no possibility for light to get under the shingles. This will safe the waterproof foil under the shingles also.

d) The SolteQ-Energy-Roof is mechanical robust

The Special seal has besides of water proofnes, the order to give mechanical stability for the roof skin as a unit. The patented seal is constructed like a spring to allow and catch horizontal and vertical movements and forces of the shingles.

Not only in case of storm, even the wooden under construction will work by time. The Special seal makes sure to protect the roof for very long time.

e) The SolteQ-Energy-Roof is storm and hail safe

The shingels are fixed on the middle of the backside with robust hooks out of aluminium to hanging up on the laths. These makes sure, that the shingles cannot lift up even in heavy storms.

We suggest:
Waterproof roof foil with guaranty:

PREMIUM-QUALITY

Delta-ALPINA

the diffusion-open, tearproof universal roof foil

Highly tearproof PES-Spezial fleece with top and bottom side PU vanish

Delta-EXXTREM

Highly UV- and termperature proof and diffusion open universal roof foil

Highly tear-proof PES-Spezial fleece with water-proof dispersi-on vanish and integrated glu-eing zones on both borders

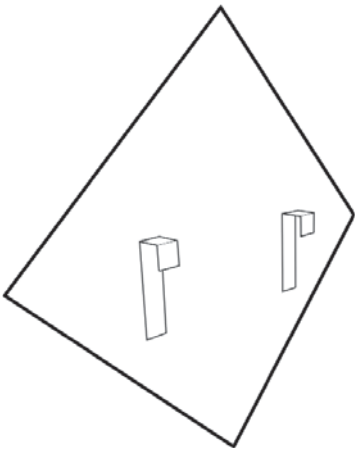
GEPRÜFTE DELTA®-QUALITÄT
Erfüllt
auch
österreichische-
+ schweizer
Normen

DÖRKEN

Easy installation

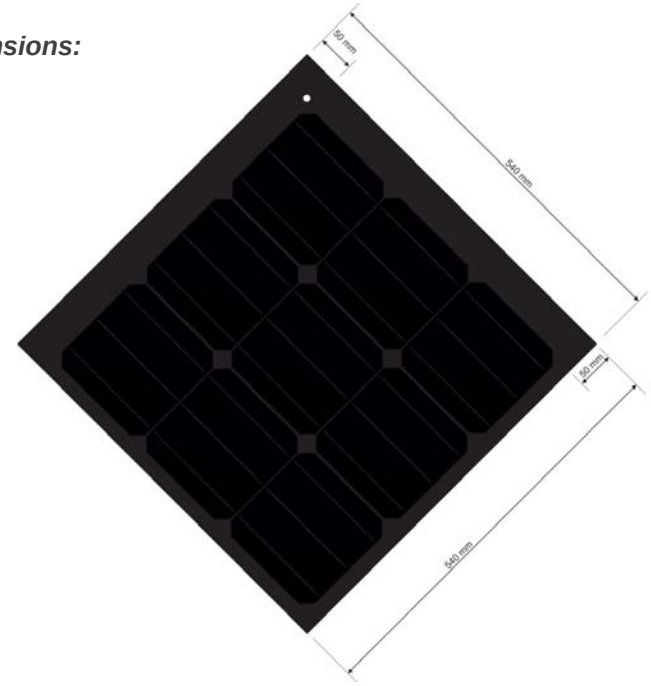
Hang up - fix with one screw - finish ! ***... very easy.***

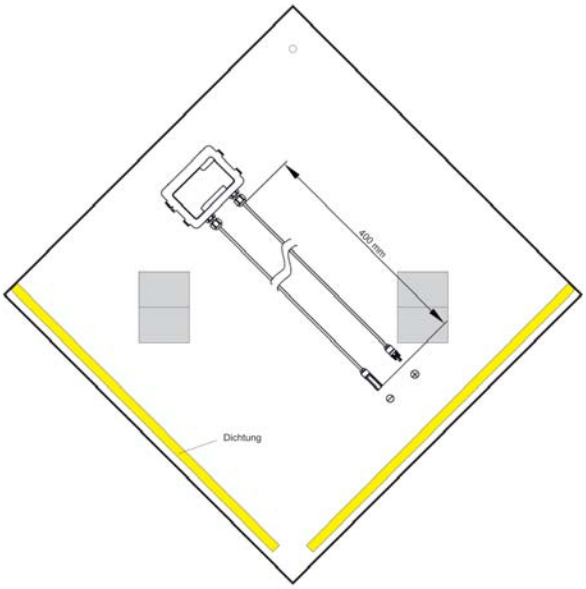
The installation is done easily by hanging the shingles onto the wood lath. Preventively the shingle must be fixed with a metal cable tie, that‘s all.



Hooks on the backside
On the backside are two aluminium hokks to easy hang up on the laths.

Dimensions:



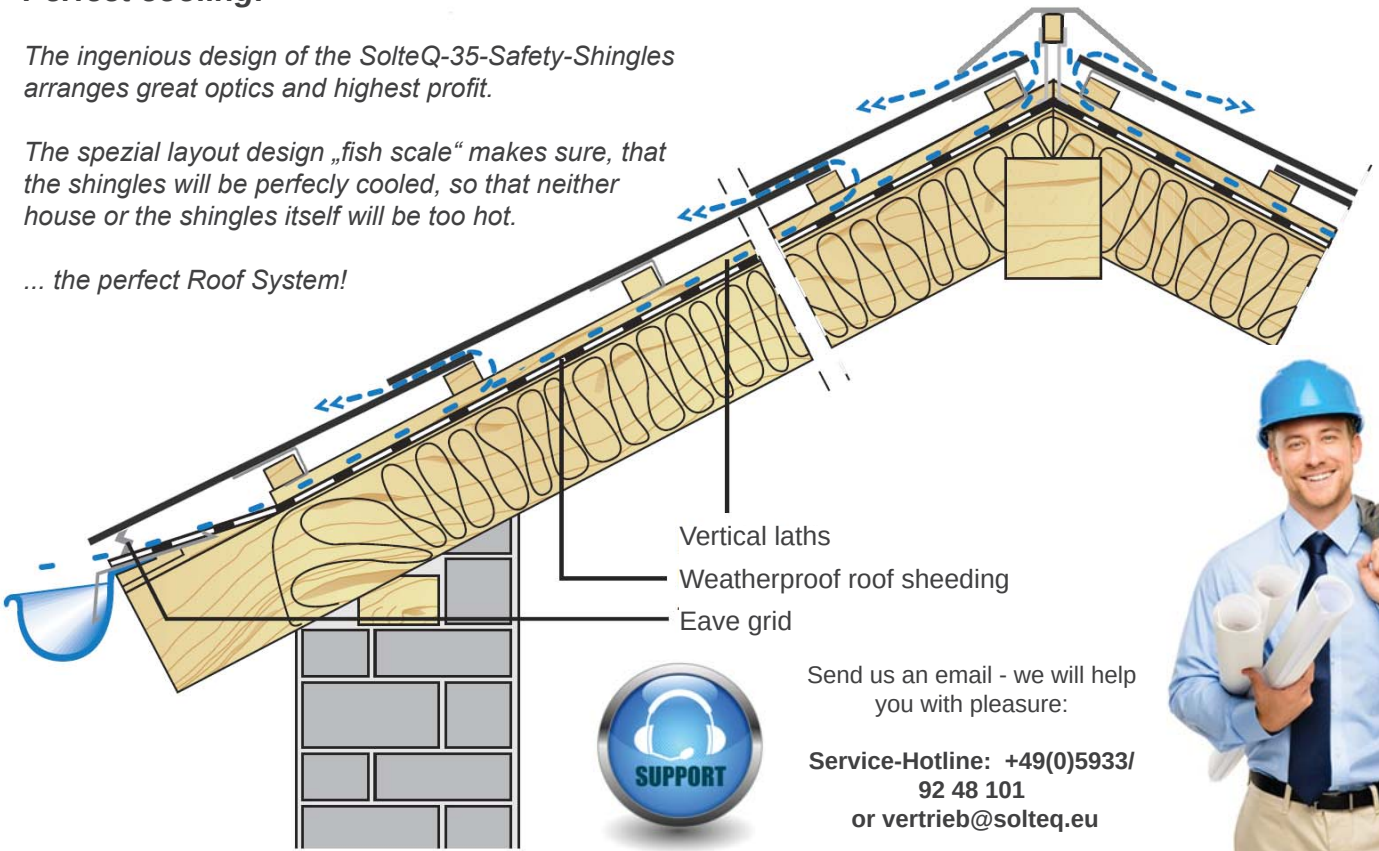


Perfect cooling:

The ingenious design of the SolteQ-35-Safety-Shingles arranges great optics and highest profit.

The spezial layout design „fish scale“ makes sure, that the shingles will be perfecly cooled, so that neither house or the shingles itself will be too hot.

... the perfect Roof System!



Send us an email - we will help you with pleasure:

Service-Hotline: +49(0)5933/ 92 48 101
or vertrieb@solteq.eu

Well thougt out system - Accessiores

The new Handy-App for iPhone

Switch your Energy-Roof and up to 3 more devices easy with your smart phone as remote control.
In case of emergency the firebrigades can switch off the roof simply via SMS, even if you are not at home.

Lightning and overvoltage protection

For protection against overvoltages the right devices are deliverable for each project.

Box SMS unité d'émission / de réception)

Cuttable and stepable Tiles

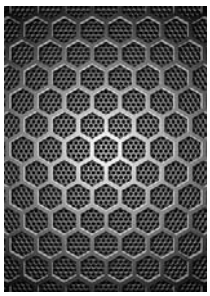
Tiles for cutting are available for steps to enter the roof by chimney sweeper or for hooks for ladders or to fit them for windows, gauges etc.

- *Steps*
- *Sanitary ventilations*
- *Antennas*
- *Snow catch grids*

System Pass

Each SolteQ-Energy-Roof will get a own System Pass, which includes specifications, performances and system values and measurements. Same time this is a certification for a high quality and well working system.

TPS SOLAR Intercart

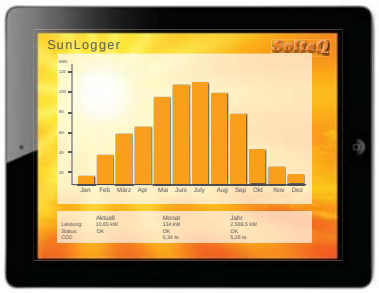


Shielding

Optional the PV-Roof-Tiles are available inkluding with a protector mash laminated in the backside against electromagnetic fields.

Monitoring

If wanted also with monitoring with you mobile phone or PC . Everytime and everywhere you can recall the data of you Solar system. You have always an overview over your profit with your PV-Roof.



Use your smartphone as Remote control

Switch with your smartphone easily:
- *Garden watering*
- *Garten illumination*
- *Garagen gate*
- *Alarm system etc...*

proved

Technical Specifications

Safety included !
The Energyroof is including the emergency and fire switch SolteQ-BFA for maintenance and emergency.

SolteQ FIRE SAFE BFA

SolteQ

BASIC DATA AND MECHANIC DESIGN

Module type	Quad40
Cell material	Monokristalline Silicon
Zell size	156 x 156 mm
Modul dimensions	540x540 mm
Weight	ca. 3,3 kg
Weight per m²	ca. 14 kg
Cooling	Single module cooling
Connectors	MC 4 kompatible
Cables	2x ca. 50 cm, 4mm²
Bypass Diode	1 Diode
Thickness of Glass	4 mm, prismatic
mechanical resilience	8500 Pa
Back side laminat	UV- and weatherproof
Roof angle:	10 - 90°

ELECTRICAL DATA **Monokristalline (Std.)**

Nominal Power / Shingle	ca. 40,5 - 42,5 Wp
Power per m²	ca.161,6 - 170 Wp
Efficiency	18,8 - 19,8
Tolerance/ STC	+5%
Max. System voltage	1000 V DC
Nominal voltage	4,7 V
Nominal current	8,75 - 9,0 A
Voltage without load	5,6 - 5,8 V
Short cut currend (ISC)	9,0 - 9,1 A
Operation temperature	-40 ºC bis +85 ºC
Min. Power 15 years	90% of nominal power
Min. Power 25 years	85% of nominal power
Min. Power 40 years	80% of nominal power
Estimated lifetime	> 40 Years with > 90% of nominal power

Shade light

Intensity [W/m2]	Vmpp* [%]	Impp* [%]
1000	0	0
900	–0,3	–10
500	–1,94	–50
300	–3,91	–70
200	–6,06	–80

These electric data are at 25 °C und AM 1,5 (IEC 60904-3 ed.2 2008).

TEMPERATURE COEFFICIANTS

UOC	- 0,33 ± 0,02% / K
ISC	+ 0,04 ± 0,0015% / K
PMPP	- 0,41 ± 0,05% / K

STANDARD TESTING CONDITIONS (STC)

E=1000W/m² AM=1,5 T=25ºC

Fire classe - Module/Shingle -

Front:	Solarmodule Glass, tempered,prismatic
TPT-Folie (Rear):	PYE/PET (Polyethylene Terephthalate)
Spezials:	Safety hang up
Certificate-TPT-Foil:	Testet reg. ANSI/UL94 (Tests for Flammability of Plastic Materials for Parts in Devices and Appliances) IEC60695-2-12/13 + IEC60695-10-2, IEC60112, ISO75-2, ISO527-2, ISO178, ISO179-2, ISO180

*These values are typical average measurements of historical production data. Future production data can be different.

DATA SAFETY SYSTEM BFA

Max. count of modules	no limit
Certifikates	TPS Intercert, RETI
Emergency Button Specification	EN54-11, Typ B
Conform to standards	VDE0100-537, IEC60364-5-537_VDE0100-537 and E VDE-AR-E 2100-712:((2010-09))

- please order separate data sheet of the SolteQ-BFA-System -

Priced with the Environmental seal „The Green Tree“ for energy safe and environmental innovations.

CERTIFICATE / Warranty - Module -

Certificate	CE, TPS Intercert (Technische Prüfstelle für Solartechnik), RETI, IEC61215, Safety IEC EN 61730, Salt corrosion tested IEC EN 61701
Windload	DIN 1055-4
Rain proofness	CEN/TR 15601
Hail class	IEC 61215, Extension Swizzerland: Hail resistance class 3
Protection class	II, IP65
Product-Warranty	**5 Years (in Europe)**
Power guarranee	**90%: 12 years + 85%: 20 years**
Spare part delivery guaranty	**30 Years**
German standards	conform to DIBt Bauaufsichtliche Regelungen and rules of roofers
Safety	konform nach den Regeln der Liste der Technischen Baubestimmungen
Fire safety	schwer entflammbar, Fire Class 1 gem. UNI 9177
Breaking safety:	VSG-Safety glass DIN EN 12150, higher beat and burst stability, high breaking stability and strongness, small glas break parts (crumb formation) Certification of the mounting mechnism conform to CSTB Eu conditions

Renewable Energy Technical Institution RETI

CE

Technical changings and errors reserved

SolteQ Europe GmbH
Willesch 6
D-49779 Oberlangen

Tel: +49 (0)5933 - 92 48 101
Fax: +49 (0)5933 - 92 48 29
email: vertrieb@solteq.eu

www.DAS-SOLARDACH.eu + www.SOLTEQ.eu