Schletter Solar Mounting Systems

Park@Sol Solar Carports

- Allow the generation of renewable energy even on sealed soil surfaces
- Roofed parking spaces make a parking lot more attractive
- Make you ready for the mobility of the future
- An efficient modular system based on the experience gained in hundreds of projects

We have the right solution for your parking lot.
Your competent project partner
We have year-long experience with carport systems of very different sizes - no matter if you want a carport for 1 vehicle or for hundreds of vehicles, with a power of 2 kW or 6 MW. Almost everything is possible!
Schletter Solar Mounting Systems
Park@Sol Solar Carports by professionals

With a carport, a high percentage of the power required in a building can be provided. In many cases, there even is a power surplus that can be used for "power gas stations" for your electric vehicles. In certain cases, storing solar power is also a reasonable option. The carport is simply used as a self-consumption plant: As much power as possible is used directly on location or for charging electric cars. The rest is fed into the power grid. If required, power can also be taken from the grid.

You can take advantage in several ways.
The solar carport reliably protects people and vehicles from intense solar irradiation, snow, rain and hail. In addition to that, it generates clean power for self-consumption and for the charging of electric vehicles.

Areas of application
- Single homes or apartment buildings
- Industrial companies and trade firms
- Theme parks
- Building supplies stores and supermarkets
- Hotels
- Hospitals
- Community facilities
- Parking garages
- Airports

Everything from one source! "Made by Schletter!"
Incorporating a photovoltaic plant on the company roof can be a convenient way of improving the energy balance of a building. But in many cases, the roof areas are too small and cannot make a relevant contribution to the power supply of the building.

Solar carports provide an ideal completion respectively alternative to the generation of solar power on big areas. Our Park@Sol system is a logical further development of our Schletter ground-mounted FS solar systems. The FS ground-mounted systems already have been used for numerous large projects all over the world. Our experience is not limited to individual structural optimization for the diversity of regional snow and wind conditions, but also includes the fastening of all module types.

There can be no doubt that the cost for electric power will keep rising. In contrast to that, a solar carport will provide you with free electric power for many years as soon as it has paid itself off. This will give you planning security. Invest in the future and in an independent power supply with affordable electricity.

**A stable carport by Schletter gives you many benefits**
- Swift and unproblematic mounting
- Optimum area utilization
- Suitable for all types of modules
- For any desired alignment or module inclination
- Competent advice for your project planning and creation of drawings
- Complete structural analysis free of charge for each individual project
- Complete carport structure made of aluminium or steel
- Durable and corrosion-free
- Customized foundation options
- Complete documentation in the form of system drawings

**Optional services**
- Designs can be adapted to individual requirements
- Purchasing and sale of pre-cast concrete elements with vehicle impact protection
- Anchoring of the pre-cast concrete parts using a special concreting technique
- Mounting of the complete carport system
- Module mounting
Parking lot solutions
A real plus. Many options.

Schletter solar carports
Economically priced. Steady. Safe.

Our carport systems are designed in such a manner that the area of already existing parking spaces is used in the most efficient way and as much roof area as possible for solar power generation is created at the same time.

Schletter can provide a customized solution for almost any carport project. The foundations of our carports are always arranged in such a way that people can easily enter and leave their vehicles.

For small carports and carports at remote places, the manufacturing of cast-in-place concrete foundations is usually done by a local construction company. We will provide a complete foundation drawing including specific data about the required reinforcements.

Especially with bigger carport plants, micro-foundation is an unrivalled alternative. It saves money and allows the construction of carport plants with almost no groundwork required. Thus, the parking lot can be used almost without restrictions. Apart from that, micro-foundations are a visually attractive foundation system with a very high level of structural safety on almost any subsoil.

No matter if you want an individual carport or a company carport, we have installed fastening systems for solar plants with a total power of about 20 GW which gained us considerable experience.

1. Drilling of the hole using a cross-cut drill bit
2. The injection of cement mortar creates root piles and increases the structural safety of the foundation
3. Drilling and filling of the second foundation
4. Installation of the vehicle impact protection
5. Mounting of the supporting structure
6. Completion of the supporting structure
Our offers
From simple to very complex

Unit assembly system for the suitable solution

There are several designs to get the best possible and most economical layout for the area that is available. Each plant is individually configured to the customer’s requirements on the basis of the chosen basic design, taking the following parameters into account:

- Module type and design
- Plant size
- Soil conditions
- Distances between supports / apportioning of the parking area
- Optional: Design adaptations

Different designs
- Unit assembly system in any desired size
- Steel carports as individual or row carports in any desired size
- Cast-in-place concrete foundation
- Micro-pile foundation
- Pile-driven foundation (special design on request)

B1 1-row vehicle arrangement (max. depth 6.0 m)

B2 2-row arrangement of vehicles (max. depth 13.5 m)

B3 2-row arrangement of vehicles (max. depth 13.5 m)
The foundation
Carpots need a robust and stable foundation. Only like this, structural safety, long durability and reliable weather protection can be taken for granted. We can offer you the following options.

Cast-in-place concrete foundation
*The economical solution for small carport plants*
- The foundation is made of cast-in-place concrete
- Concrete foundation as impact protection
- Unimpeded door opening
- Central foundation

Micro-pile foundation
*The unrivalled solution for large carport plants*
- Small pre-cast concrete foundations
- Firm anchoring using micro-piles
- Only minimal construction works on the parking lot surface required
- Suitable for almost any type of subsoil
- starting from 200 kW thin-film thin-film modules
- starting from 300 kW crystalline modules

Foundation posts
*Special design on request*

R1 1-row vehicle arrangement

The lower boarding is made of trapezoidal aluminium sheet metal
A trapezoidal aluminium metal sheet is fastened from below to the rafters or to the profiles. Like this, a tight roof cladding is created.
Product information
an overview of the most important items

Technical data
Park@Sol

Material
Fastening elements, screws/bolts: Quality steel 1.4301; Profiles: Aluminium MgSi05/EN AW 6063, EN AW 6005
- High life-expectancy, high residual value, no disposal costs
- Easy plant re-powering due to modular design

Logistical details
- Quick and easy assembly
- Maximum level of pre-assembly
- Optimized transport to the construction site

Accessories
- Cable channels, cable ducts
- Components for internal potential equalization
- Clamps for different types of modules
- Fastening systems for large-scale laminate modules (OptiBond system)
- Drainage, advertising space and much more!
- Optional: Lightning protection system (PSProtect system)

Guarantee information
We provide a voluntary guarantee on our systems as far and to the extent mentioned in the respective product information. Please look up the details on the internet at www.schletter.de/AGB_en.
Delivery and services
- Assistance for your project planning
- Documentation in the form of system drawings
- Production and delivery of the complete carport system
- Optional: Purchasing and sale of pre-cast concrete elements with vehicle impact protection
- Optional: Anchoring of the pre-cast concrete parts using a special concreting technique
- Optional: Mounting of the complete carport system
- Optional: Complete module assembly

Design calculation
- Individual system structural analysis based on regional load values
- Load assumptions according to DIN EN 1990 (Eurocode 0), DIN EN 1991 (Eurocode 1), DIN EN 1993 (Eurocode 3), DIN EN 1999 (Eurocode 9) and further resp. corresponding national standards
- Patented profile geometry with an optimum material utilization
- Structural verification of all structural components based on FEM-calculation
- Optional: Wind load vibration simulation
- Optional: Earthquake simulation

Construction
- Cost-optimized complete construction due to structural optimization
- For framed and unframed modules
- Only minimal sealing of the soil surface

Please note: Depending on the design, the risk of snow masses sliding off the roof must be considered in the planning. Accessory parts to reduce the risk of snow sliding off are available on request. Depending on the alignment, the modules can cast shadows on each other.

Lightning protection, earthing, potential equalization
- Enhancement with external lightning protection systems possible
- Components for internal potential equalization
- Potential equalization certified for Germany acc. to VDE 0100, part 712

Certifications
At customer request, all member companies of the Schletter group can purchase goods manufactured in the Schletter factories in Germany, China (Shanghai) and the USA. All three of these factories have been certified according to ISO 9001. Further details about the certifications are available on the respective Schletter websites.
Schletter carport systems
Modular and customized at the same time

Individual enhancements
Optional accessories

Schletter is known for individual solutions. Of course, this also applies to our carport systems.

Our individual carports are designed according to your requirements, wishes and ideas. Numerous enhancements are already available - simply contact us!

Examples:
- Effective drainage systems
- Cable routing
- Inverter fastenings
- Optimum advertising spaces
- Available in all RAL-colors

Private Park@Sol
This modular system for standard module sizes allows an even quicker project implementation. Due to their modular design, the carports of our Private Park@Sol series with one or two parking spaces are ideal for private parking lots and parking lots of small companies.

Examples:
Carport with 2 parking spaces / for 15 modules
Dimensions: 5.22 m x 5.11 m
Span: 5 m
Power: approx. 3 KW (modules are provided by the customer)

Advantages
- Ideal unit assembly system including mounting instructions
- Applicable for most standard module sizes
- Drawing, reinforcement plan and LGA structural calculations (in Germany) included
- Roof inclination 10 degrees - optimized for custom arrangements

Please take a look at our carport reference plant on our homepage www.schletter.de in the solar mounting system area.
Design Park@Sol
More and more solar carports are used as "solar power stations" in commercial and municipal electric mobility infrastructures. In such cases, aspects like design and corporate identity play an important role.

On request, our in-house industrial design team will create a customized design for your carports which reflects your own corporate identity.
Please just contact us!
We use the power of the sun

The best example is our Schletter company parking lot

A total of 260 parking spaces on our company parking lot in Germany are roofed with our solar carport system Park@Sol. Within only 3 weeks, we were able to enhance our current output gained from the existing roof plant by a further 500 kW, without interrupting our operations.

Not only did we gain experience through the construction of this plant, but we are now able to present all our carport design options first hand when you visit us. We cordially invite you to see for yourself!

By the way: On sunny days, our solar roof plant and our solar carports generate even more eco-friendly and carbon-neutral power than our production plant requires. The surplus is partially used to charge of our electric vehicle fleet.
Schletter solar carports
The benefits - an overview

Municipalities and communities
- Creation of an infrastructure to support the mobility of the future
- Eco-friendly and innovative image
- Very convenient for tourist areas
- Value creation in your region
- Electric cars reduce noise and exhaust emissions in inner cities
- Reduction of carbon emissions
- Reduction of power costs
- More independence from increasing power prices
- Better energy balance of your building

Shopping centers, central markets and supermarket chains
- Snow-free parking lots in winter, and cool and shady parking lots in summer
- Protection against the rain while loading and unloading vehicles
- Customers stay longer which creates customer connectivity and gains new customers
- Eco-friendly and innovative image
- Improved energy balance
- Reduction of power costs
- More independence from increasing power prices
- With charging station for electric cars
- A relief for environment and climate
- Better energy balance of your building

Businesses
- Charging of the electric vehicles of your vehicle fleet
- Eco-friendly and innovative image
- Improved energy balance
- Reduction of power costs
- More independence from increasing power prices
- A relief for environment and climate
- Better energy balance of your building

Private households
- Very convenient, no snow in the winter and cool and shady in the summer
- Protection against the rain while loading and unloading vehicles
- Reduction of electricity costs by self consumption and more independence from power suppliers
- With "charging station" for electric bicycles/scooters or electric cars
- Better energy balance of your building
Schletter solar carports
You will find them all over the world

Customer projects

We already have installed solar fastening systems for solar plants with a total power of about 20 GW - benefit from our experience. Schletter: Your partner for a cost-efficient system dimensioning!

Customer satisfaction is always the best recommendation, so we would like to show you a few projects of our customers worldwide. Minimum mounting time, long durability and high economic efficiency as well as individual and creative design have convinced our customers.

B1 - Naples carport
Plant size: 1 MWp
Customer: Schneider Electric
Country: Italy

B1 - Tibet Museum Carport
Plant size: 102.9 kWp
Customer: Beijing Corona Science & Technology Co., Ltd.
Country: China

Special construction - HRC PV
Plant size: 3.8 MWp
Customer: Enviromena Power System
Country: Jordan

B1 - Tesla
Plant size: 20 kWp
Customer: Tesla
Country: China

B2 - Naples carport
Plant size: 1 MWp
Customer: Schneider Electric
Country: Italy
Reference projects
Solar carport systems

B2 - Lausitzring
Plant size: 999.2 kWp
Customer: Yoku
Country: Germany

B2 - CLK
Plant size: 30 kWp
Customer: AWI Solar
Country: Germany

B2 - EVO Offenbach
Plant size: 83 kWp
Customer: Juwi
Country: Germany

B2 - Wörstadt
Plant size: 100 kWp
Customer: Juwi / BV Wörstadt
Country: Germany

B1 - Seeg
Plant size: 37.44 kWp
Customer: Elektro Uhlemayr / BV Seeg
Country: Germany

B2 - Naples carport
Plant size: 1 MW
Customer: Schneider Electric
Country: Italy

B2 - Maadi
Plant size: 20 kWp
Customer: emeco Egypt
Country: Egypt
B1 - Bergheim
Plant size: 122.5 kWp
Country: Germany

B2 - Solar farm Mollnhof
Plant size: 840 kWp
Customer: Guggemos
Country: Germany

B1 & B2 - Parking deck "am Rebstock"
Plant size: 700 kWp
Customer: Sunlight Electric, LLC.
Country: USA

B2 - Langgöns
Plant size: 52.8 kWp
Customer: Gecko Logic / BV Langgöns
Country: Germany

B2 - Heiden
Plant size: 44.4 kWp
Customer: B&W Energy / BV Velen
Country: Germany

B2 - Grosseto
Plant size: 6 MWp
Customer: Phönix Solar AG
Country: Italy
Reference projects
Solar carport systems

B1 & B2 - Special solution
Plant size: 1 MW
Customer: Phoenix Solar
Country: Germany

B2 - Döbeln
Plant size: 33 kWp
Customer: Wagner Solartechnik / BV Döbeln
Country: Germany

B2 - Larotonda
Plant size: 18.72 kWp
Customer: AS Solar / Energia e Sole
Country: Italy

B3 - Sydney Markets Limited
Plant size: 170 kWp
Customer: Autonomous energy
Country: Australia

Special construction - Burger King Waghaüsle
Plant size: 52.3 kWp
Customer: Wirsol
Country: Germany

B1 - Chengdu
Plant size: 15 kWp
Customer: Dongfang Hitach
Country: China

B1 & B2 - Sauber Motorsport AG
Plant size: 150 kWp
Customer: SIDITek
Country: Switzerland
B1 & B3 - Sparkasse Bad-Tölz
Plant size: 288.2 kWp
Customer: S-Tech-Energie
Country: Germany

B1 - CS Soleos
Plant size: 31.68 kWp
Customer: SOLEOS
Country: United Arab Emirates

B1 - Tesla Nanjing
Plant size: 16.38 kWp
Customer: EPC Hanergy
Country: China

B1 - Dornbirn
Plant size: 4.68 kWp
Customer: SOLATECH
Country: Austria

B1 & B3 - Al-Zahraa Coop CarPark
Plant size: 752 kWp
Customer: Life Energy
Country: Kuwait

Special construction - Saerbeck
Plant size: 5 MWp
Customer: F+S-Solar
Country: Germany

B1 - CS Olbernhau
Plant size: 25.34 MWp
Customer: GÄFGEN Elektrogroßhandel GmbH
Country: Germany
Our members of staff are available to provide comprehensive and competent technical advice for the planning of your solar plant and to answer questions regarding logistics and order processing.

Subject to general and technical changes.