MAIL
INFO@PARKINGWARE.COM
OR VISIT
WWW.PARKINGWARE.COM
FOR CONSULTATION.

PARKINGWARE

HOW TO BUILD YOUR OWN PARKASOL

PARKINGWARE

FREE E-BOOK

HOW TO BUILD YOUR OWN PARKASOL©

SOLAR CARPORT

Version 1.03 © 2017

Starting with the conviction that mobility should be powered by the sun, we offer you this free e-book to build your own solar carport, a so-called Parkasol. Add an EV-charger to it and you can start your journey, powered by the sun.

EV-mobility is inextricably bound up with charging. Every driver deserves a guaranteed parking place with EV-charger on his/her place of destination. We can assist you. Parkingware's powerful technology platform allows drivers to effortlessly identify the best local charging point and book directly from a smartphone or PC. Parkingware's vision: **"Booking a charging point" is the key to smart and efficient (energy)management at parking facilities.**

We do our utmost to power up your parking :)

I hope you will enjoy this free e-book and start building your own Parkasol!

Regards,
Gerard Spin
Founder of Parkingware
https://nl.linkedin.com/in/gerardspin

P.S.: The next free e-book will show you how to build your own EV charger

CREATE A **BETTER TOMORROW** WHILE ENJOYING **SAVINGS TODAY**.

THE PARKASOL, SOLAR CARPORTS, COVERS YOUR PARKING IN A BEAUTIFUL WAY FOR YOUR EMPLOYEES AND GUESTS WHILE YOU ARE SAVING ON ENERGY COSTS.

FOR POWER - FOR THE PLANET – FOR A BETTER TOMORROW

Imagine you are driving an electric vehicle. Driving miles and miles, powered by the sun. Energy from every drop of sunshine.

DESTINATION SOLAR CARPORTS REPLACE THE FUEL STATION

The children in the back ask “Daddy, what is gasoline? Well, liquid that use to power vehicles which are in the museum now”.

REDUCE MONTHLY COSTS

You can use the generated solar power for your home or business. With the Parkingware Powersharing service you can share your charger with others when you’re not using it yourself. Earn back your investment and reduce your monthly cost.

MORE ENERGY FROM EVERY DROP OF SUNSHINE

The 20 solar panels on the PARKASOL can produce 5300 Kwh a year which stands for 26.500 electric kilometers or 16,500 Mile.

CHANGING THE WAY OUR WORLD IS POWERED

Off the grid? If you add the Lithium-ion battery pack, then you are totally independent of the energy companies.

INDEX

PERMITS

IMPORTANT:

Get the necessary building permits. Check with your local city planning office to make sure the carport project is up to code.

INTRODUCTION PARKINGWARE

100	Parking Spaces with estimated revenue from power generation
5 years	**$238, 000**
10 years	**$560, 000**
25 years	**$2,380, 000**

Parkingware helps commercial and institutional building owners to generate their own renewable energy from the sun in their parking lots. For this, we offer this FREE HOW TO BUILD YOUR PARKASOL solar carports.

Think about the potential of producing your own clean energy from the sun. Imagine using this power at home, filling up your car, and driving to work. Consider the possibility of then charging your car again at work while your car is parked, and again repeating the cycle when you arrive at home. Anything is possible now, with PARKASOL!

PARKASOL KEY BENEFITS

PARKASOL Key Benefits

You can equip the Parkasol with dimmed LED lighting , motion sensor, security camera, advertising space and two charging stations for electric vehicles.

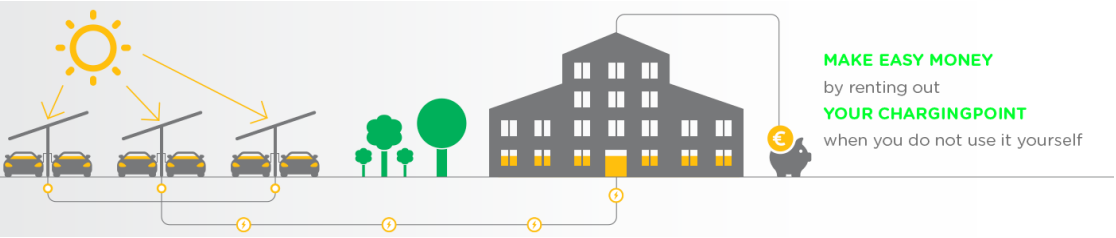
- 5300 Kwh = 26.500 electric kilometres per year
- Integrated LED lighting. Saves lighting costs up to more than 70%;
- Dramatically reduces your facility's carbon footprint;
- Our "parking guiding" system decreases carbon emissions with faster parking times;
- Integrates electric vehicle [ev] chargers and other eco-friendly amenities;
- Off the grid solution. You can be independent of the major electricity companies;
- You can also use the generated solar power for your home or business;
- You can use the carport for advertising space;
- In a lot of countries you will benefit from fiscal advantages;
- All-in-one SOLAR CARPORT with LED light and security camera.

PARKASOL Key Features

- Space for 20 solar panels;
- Space for 2 on-demand, level 3 EV chargers;
- Space for build-in lithium ion energy module;
- Space for build-in outdoor display;
- The PARKASOL is equipped with Ethernet communication;
- The password protected web browser interface allows you:
  - to change network settings;
  - to view the last transactions;
  - to view the energy reports;
  - to view the live security camera image;
  - to set the advertising images on the outdoor display.

PARKASOL Service

Parkingware offers a Powersharing© service to share your charger with others when you're not using it yourself. We offer you the opportunity to earn back the investment.



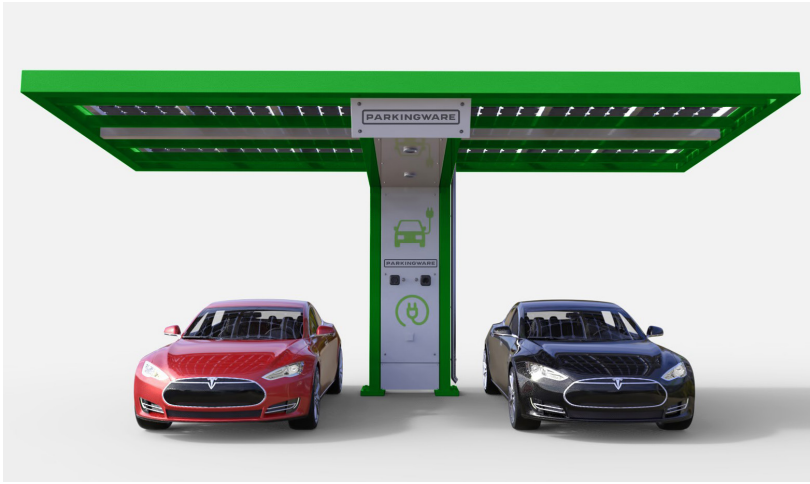
PARKASOL WOOD OR STEEL MODEL

WHY WE PREFER THE WOODEN MODEL IN THIS E-BOOK:

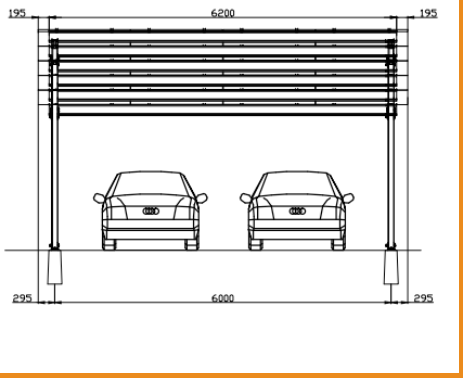
- The wooden model is more stable than the steel model because it has two legs.
- The wooden model has (20x) more solar panel roof space than the steel model (14x)
- The steel model requires a solid underground, concrete base.

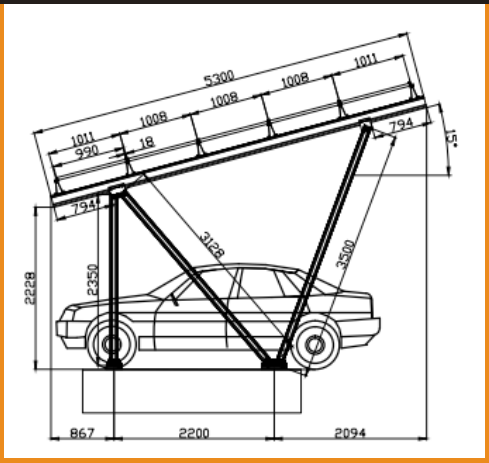
IMAGE:
PARKASOL WOOD

IMAGE:
PARKASOL STEEL
(not in this e-book)

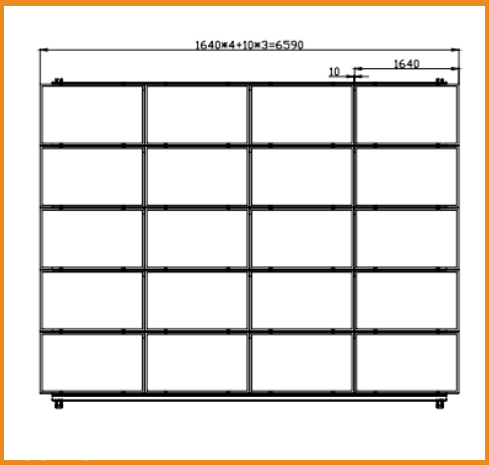


DIMENSIONS & MOUNTING POSITIONS





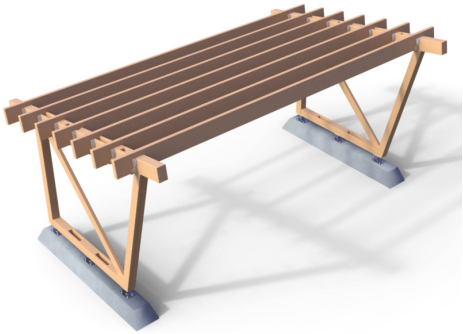
PARKASOL DIMENSIONS



DEPENDENT ON THE SUN YOU SELECT
FRONT- OR BACK VIEW POSITION

FRONT VIEW POSITION

BACK VIEW POSITION



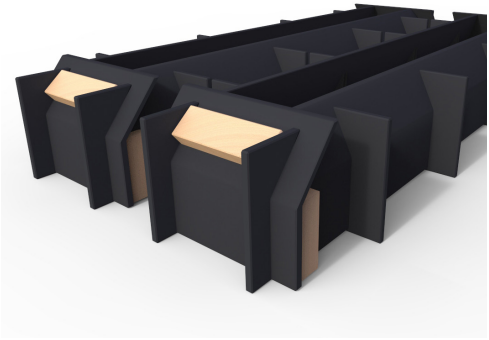
PARKASOL INSTALLATION

PARKASOL WOOD PARTLIST

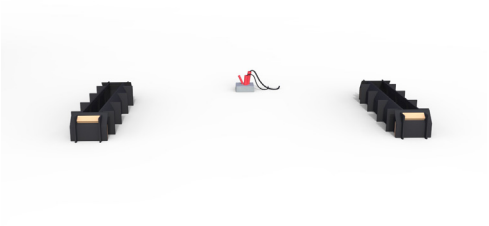
PART №	QUANTITY	NAME	DESCRIPTION EU	DESCRIPTION US
1	2,00	Concrete Legs	Leg construction of wood	Leg construction of wood
2	2,00	Concrete Legs	Leg concrete	Leg concrete
3	6,00	Concrete Legs	Metal side support	Metal side support
4	10,00	Side constructior	Douglas wood 2.30 mtr 5x15 cm	Douglas wood 7.5 feet
5	8,00	Side constructior	Douglas wood 3.50 mtr 5x15 cm	Douglas wood 11.5 feet
6	5,00	Side constructior	Douglas wood 5.50 mtr 5x15 cm	Douglas wood 18 feet
7	9,00	Roof beam	Douglas wood 7.50 mtr 5x20 cm	Douglas wood 24.6 feet
8	20,00	Roof platetes	Underlayment wooden plates 180x120x244 cm	Underlayment wooden plates 5.9x3.9x8 feet
9	24,00	Roof	Metal roof support	Metal roof support
10	35,00	Roof	EPDM rubber m2	EPDM rubber m2
11	7,00	Roof sides	Douglas wood 7.50 mtr 2,5x15 cm	Douglas wood 24.6 feet
12	7,00	Roof sides	Douglas wood 5.50 mtr 2,5x15 cm	Douglas wood 18 feet
13	2,00	Construction	Steel cable 3 mtr	Steel cable 10 feet
14	20,00	Solar	Solar Panels + mounting rails	Solar Panels + mounting rails
15	1,00	Solar	Solar Station	Solar Station

DIMENSIONS & MOUNTING POSITIONS

Measure the ground. To accommodate two average sized cars, measure a rectangle at 17 feet (5.2 m) long and 23 feet (7.0 m) wide. Plot this rectangle on the ground.

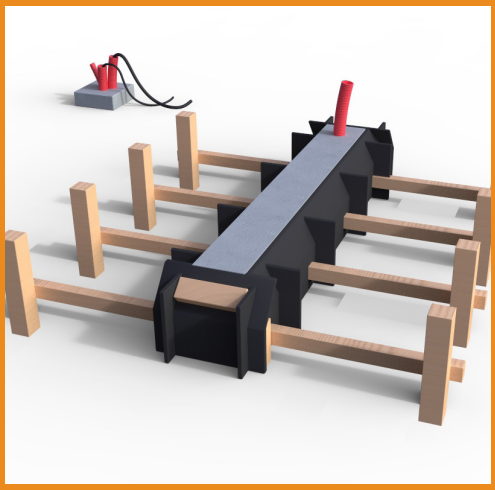


Dig two holes to place the leg constructions. Align the two legs horizontally and vertically. Attention: The top of the stone pavement must be positioned under the top of the concrete leg construction.



PARTS LIST 1

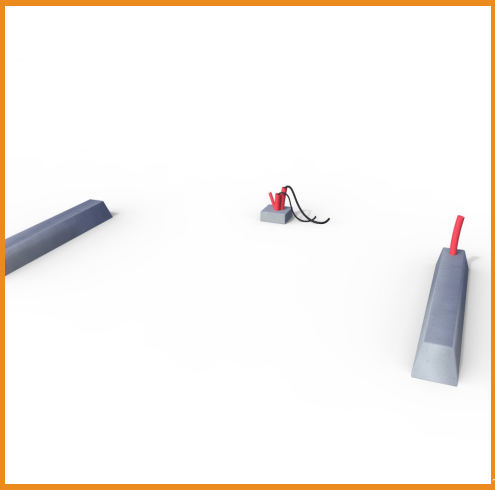
600 CENTIMETRE OR 236 INCHES



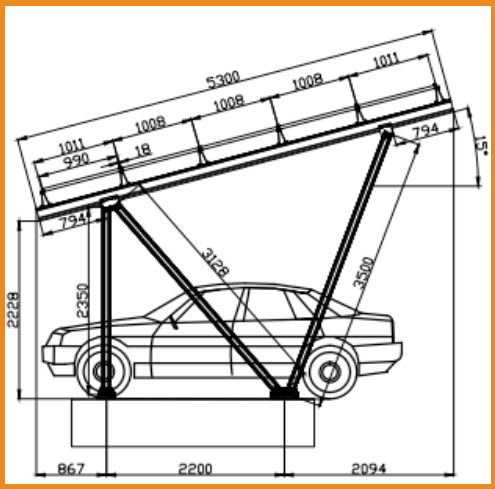
Places tubes in the ground for the power cables

Before the concrete truck comes in, make sure the construction is heavy/solid enough to avoid breaking due to concrete expansion. Don't expose the concrete to the sun.

After 14 days the leg construction can be removed

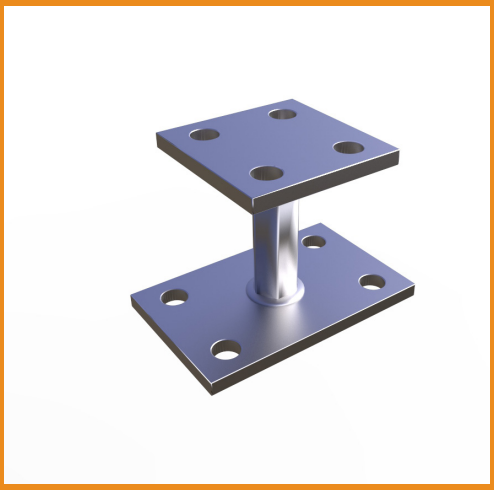


SIDE CONSTRUCTION



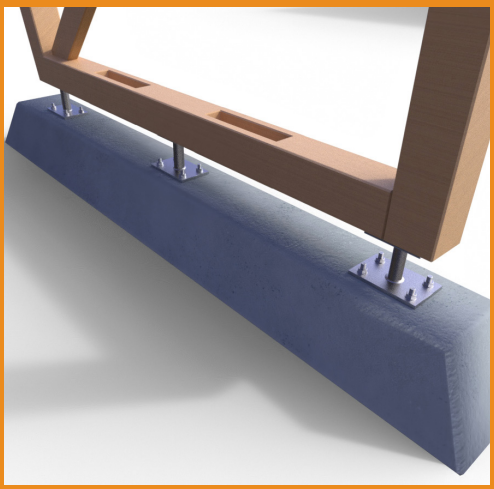
Make two equal side constructions based on the drawing.

PARTS LIST 4,5 AND 6

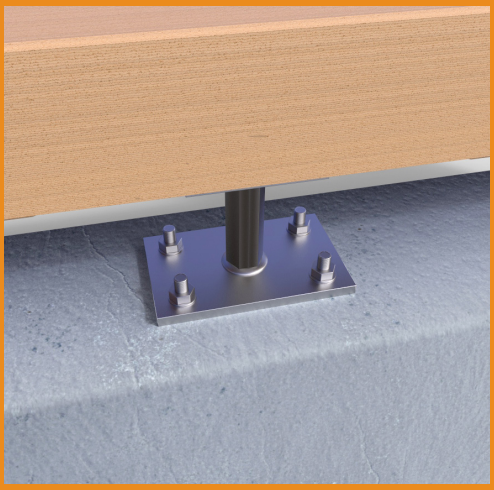


When the side construction is placed on the support, make sure they are aligned properly.

Mount the 6 metal support construction to the concrete. There are two metal support models. The left model has better “looks” but the right model is easier to mount:



Align the side construction vertically
PARTS LIST:3



SIDE CONSTRUCTION

PARTS LIST: 7

PARTS LIST: 9

First place the 9 vertical roof beams. Align the beams before you mount them to the metal support.

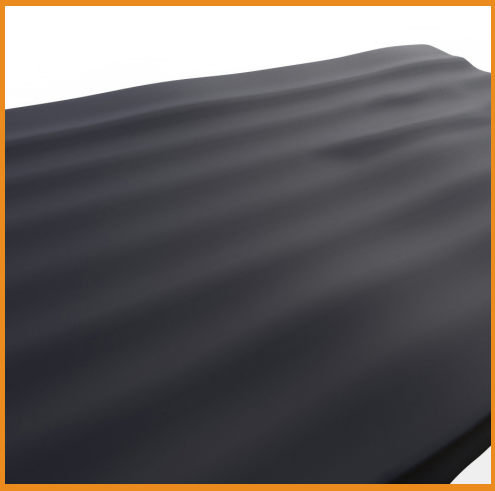
Mount the roof plates on top of the beams

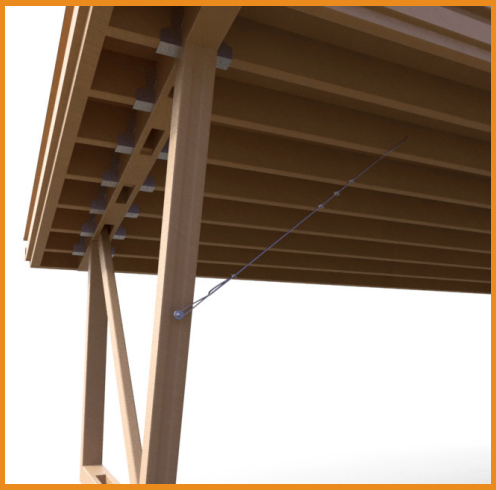
PARTS LIST: 8

Keep the roof dry before you glue the EPDM rubber on top!

Glue the EPDM rubber on the roof top and create/cut a hole for the rainwater on the downside left and right corner.

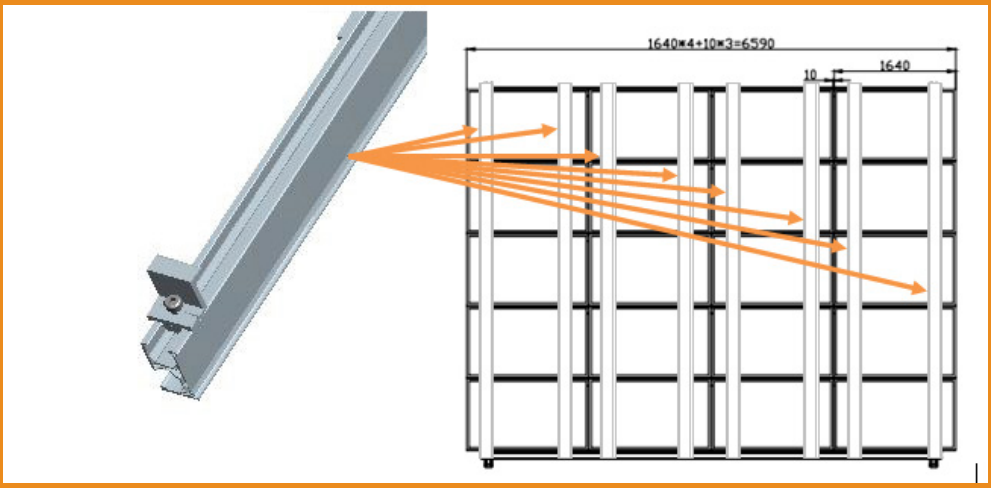
Cut off the EPDM rubber (parts list 10) on de sides and the wooden plates over it. Make sure the wooden plates are mounted significantly higher than the solar panels with rail. It should look like the panels are “embedded in the roof. See below pictures. Left one without, right one with panels (parts list 11 and 12).





Mount a steel cable both on left and right side (parts list 13) to make the construction storm resistant.

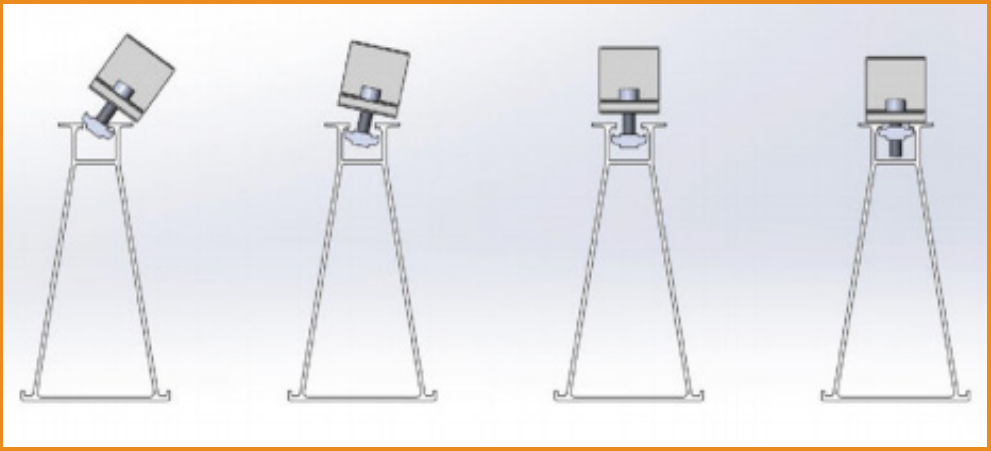
Place two wheel bumps in the stone pavement to avoid damage to the charging- and solar station.



PARTS LIST 14

Mount the 8x solar rails vertically. You can screw the rail straight to de EPDM by means of the wooden screws.

Connect the cables on the solar station according to the instructions in the manual of the manufacturer.



There you are! Congratulations! Your own PARKASOL!

In the next e-book we will demonstrate how to build your own EV charger and integrate it with an outdoor display :)