

# PEG® PV Substructure

A unique simplified high-density ground mount solution

JURCHEN  
TECHNOLOGY



Solar racking system conforms to UL Std. 2703

## Ground Anchor Solution



Ground anchors used @ Project FlevoNice/Biddinghuizen (NED)

The PEG®'s **simple, high-density, and lightweight design**, streamlines the whole project's installation process leading to drastically reduced construction effort, materials, logistics, and labor sourcing.

The racking is low to the ground, about waist height, providing an aerodynamic design **suited for extreme wind hurricanes**. This Datasheet provides information on the use of PEG EW anchor rod on sandy, soft or marshy soils.

Our PEG® racking **decreases material and installation costs** while providing a robust ground-mount solar solution that brings energy resiliency to the Caribbean region even during category 5 wind hurricanes.



Learn more about, why PEG is the best ground mount solution:  
<https://www.jurchen-technology.com/products/solar-mounting/peg/peg-design/>

**-78% less steel**

**430 working hours\***  
per MWp  
(2.25 kWp\* per working hour)

**Low visual impact**  
average: only 3.3 ft (1 m) high

**852 kWp\***  
per acre  
(2.1 MWp per hectare)

### Key data

#### Design

- Extremely light substructure, 78% less steel vs. conventional system
- Maximum MWh/acre land usage
- Patented, innovative, minimalist, simple design
- No DC trenching
- No concrete foundations
- Robust & certified for tropical weather, high winds (185+ mph, 298+ kmh) and high snow loads (50+ psf)
- Low visual impact, typically up to 3.3 ft (1 m) high

#### Procurement

- Significant CAPEX reduction of both supply and delivery
- 2.2 MW of substructure per 40 ft container

#### Installation

- Safe installation, working height 3.3 ft (1 m)
- No heavy machines, rods install with a hammer drill

- No DC cable trenching
- No concrete foundations
- Simpler H&S procedures
- Low-skilled labor
- 430 working hours\* per MWp with 580 watt modules - applies to PEG EW standard

#### Operation

- Optimized energy generation, higher during the morning and afternoon
- Low ecological footprint – Carbon footprint is 72 % (61 tons CO2/MWp) less versus a conventional fixed-tilt system.
- Proven design with over 500+ MWp in operation in all continents
- 811 kWp DC per acre (2.0 MWp\* DC per hectare)
- Produces ~225% more yield per Hectare (or acre) versus trackers and fixed tilt systems

PEG EW - at non-cohesive soil (e.g. sand or sand-cobbles)

use Ground Anchor

Technical data	
<b>Orientation PV array</b>	Patented 8° East-West, fixed-tilt, aerodynamic
<b>BOM (Bill of material)</b>	~1.1 rods and ~2.2 clips per module
<b>Large volume scalability</b>	From 10s kWp to GW+ scale
<b>Durability</b>	Hot dip galvanized steel rods and plates
<b>Wind loads</b>	Designed for 298+ kmh (185+ mph) per ASCE Structural Code; compliance by local engineering. Values may vary depending on local structural code.
<b>Seismic loads</b>	Flexible design allows high tolerances for seismic activity
<b>Certifications</b>	<ul style="list-style-type: none"> <li>- PEG specific clamping approval from module manufacturers</li> <li>- Wind load certificate by German IFI Institute with local wind codes (ASCE).</li> </ul> <p>The PEG® substructure is UL 2703 certified.</p> <ul style="list-style-type: none"> <li>- PE Stamped Drawings - Design loads according to local building codes: ASCE 7, NBC, Eurocode, AS1170, IS875, and SANS10160</li> </ul> <p>Values may vary depending on the structural code.</p>



Anchor drilling for a PEG® EW PV system



Detailed image of the PEG® ground anchor

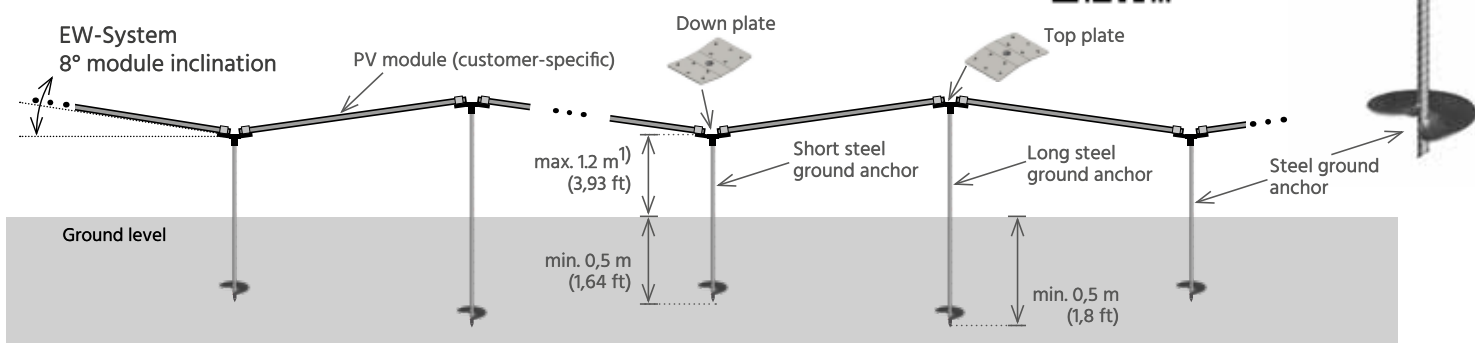
Ground anchors best suited for softer, sandy, or muddy soils where traditional rebar foundations are not suitable. They are even used in such areas (soils where there is a mixture of cobbles, sand) when conventional PEG rods, may have difficulty providing a secure hold with grouting. They are augured into the ground and provide robust anchoring for the solar installations.

Helical screws can be installed as shallow as 0.5 meters making it ideal for certain projects where shallow foundations are advantages i.e. landfills allowing some penetration, minimizing subsurface risk.

Requirements	
<b>Land soil condition</b>	For non-cohesive soil (e.g. sand or sand-gravel).
<b>Upper soil layer</b>	Combination of predrilled grouted rebar rods and helical screws is possible; Fully ballasted and partially ballasted solutions are available.
<b>Site slopes</b>	Up to 20° (~36%) subject to site conditions and PEG system design



Scan QR-code for video about the PEG®-anchor rods:



1) subject to the site conditions and system design

**\* Explanation of key figures on page 1:**

- MWp/ha:** Referring to the complete DC area, including the gaps between the DC blocks/tables
- kWp/working hour:** Time for complete DC installations including inverter stations
- MWp/container:** Only the substructure
- Machine costs:** All machines required for the DC installation
- Labor costs:** Labor for complete DC installations including inverter stations
- Logistic costs:** Including machinery and labor, to the site and onsite

All figures assume suitable ground conditions, a min. 5MWp PEG® system with 550W modules and may differ regionally.



Jurchen Technology US Corporation  
 Menlo Park, CA 94025  
 USA

Phone: +1 209 2475658  
 E-Mail: matthew.lusk@jurchen-technology.com  
 www.jurchen-technology.com