PEG® PV Substructure

A unique simplified high-density ground mount solution

JURCHEN TECHNOLOGY

PATENTED

DNV·GL
Bankability report available

IFI Institut für Industrieaerodynamik
Aerodynamically approved

Intertek
Solar racking system conforms to UL Std. 2703

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 suitable for extreme wind hurricanes.

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.

-78%
less steel

460 working hours*
per MWp
(2.2 kWp* per working hour)

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

1.85 MWp*
per hectare
(750 kWp per acre)

Key data

Design

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

Procurement

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

Installation

- Safe installation, working height 1 m (3.3 ft)
- No heavy machines, rods install with a hammer drill
- No DC cable trenching
- No concrete foundations
- Simpler H&S procedures
- Low-skilled labor
- 460 working hours* per MWp (2.2 kWp* per working hour)

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 400MWp in operation in all continents
- 1.85 MWp* DC per hectare (750 kWp DC per acre)
- Produces ~225% more yield per Hectare (or acre) versus trackers and fixed tilt systems

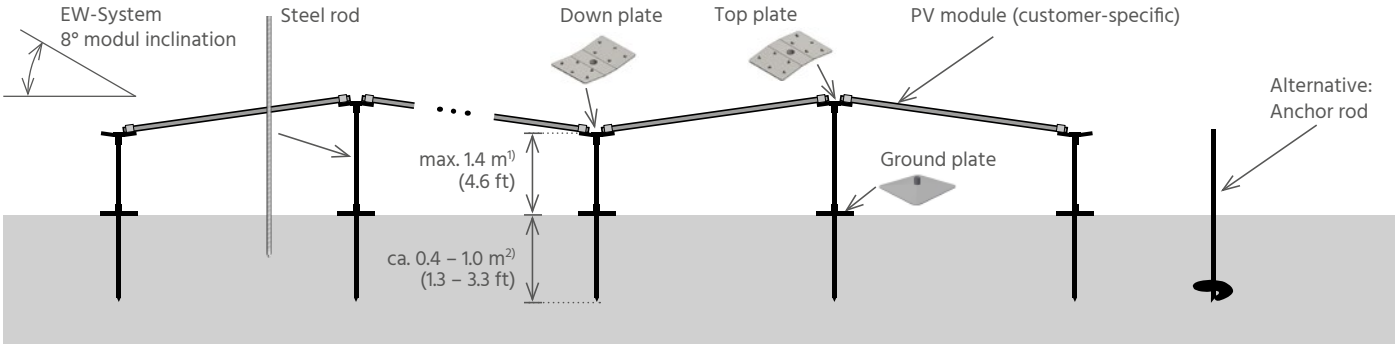
Technical data

Orientation PV array	Patented 8° East-West, fixed-tilt, aerodynamic
BOM (Bill of material)	~1.1 rods and ~2.2 clips per module
Large volume scalability	From 10s kWp to GW+ scale
Durability	Galvanized steel rods and plates
Wind loads	Designed for 298+ kmh (185+ mph) per ASCE 7-10 Structural Code; compliance TBD by local engineering. Values may vary depending on the country.
Snow loads	Designed for 50+ psf snow load
Seismic loads	Flexible design allows high tolerances for seismic activity
Certifications	Clamping approval from module manufacturers Wind load certificate by German IFI Institute with local wind codes (ASCE 7-10). The PEG® substructure is UL 2703 certified. Values may vary depending on the country.

PV substructure conforms to UL Std. 2703

Requirements

Land soil condition	Cohesive (e.g. sandy-clay, clayey silt) and non-cohesive soil (e.g. sand or sand-gravel).
Upper soil layer	No hard bedrock or underground infrastructure up to 0.6-1m (2.0 – 3.3 ft) below ground which is the typical foundation depth.
Site slopes	Up to 10° (17.6%) for sites without snow, subject to site conditions and system design.



1) subject to the site conditions and system design

2) For exceptional permafrost conditions, the ramming depth could be up to 2m, done by the use of two rods crimped together onsite through a sleeve, subject to project-specific approval.

✱ 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.

PEG® Datasheet IN 2023_0712
Pictures: Jurchen Technology GmbH, Meralli Projects PTY Ltd
All data may subject to alterations and errors.

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