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SOLAR . SERVICE . SUPPORT .

RALOS.shoe

# Maintenance is wise and necessary!



In order to ensure the performance guaranteed by the module manufacturer, regular maintenance and care of the photovoltaic system is specifically prescribed.

Optimally maintained systems also avoid a loss of resources and ensure the desired maximum effectiveness.

Consequently, maintenance and cleaning work is indispensable, useful and necessary. Solar modules may, however, according to the manufacturer not be punctually loaded.

Entering the modules, often encountered by fitters and installers during roof work, causes inevitable damage and forfeits any warranty claims!

Therefore, cell cracks (microcracks) for example in the wafer favor the emergence of hotspots and destroyed glass surfaces insulation errors (Riso).

The **RALOS.shoe** enables safe, accident-free and non-destructive working on photovoltaic modules!

## Fast and effective to your destination... !

### **RALOS.shoe!**

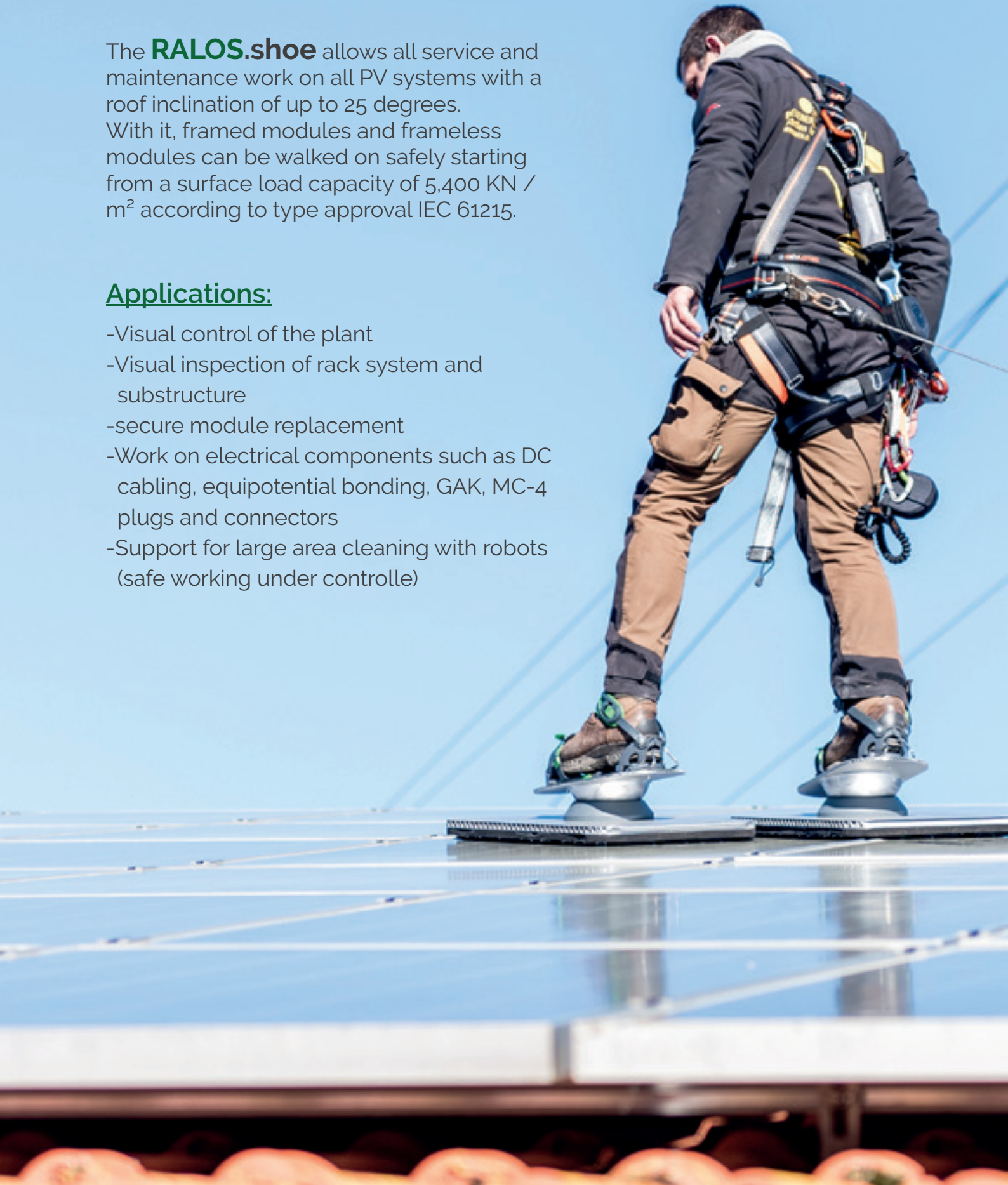
*We are breaking new ground!*



The **RALOS.shoe** allows all service and maintenance work on all PV systems with a roof inclination of up to 25 degrees. With it, framed modules and frameless modules can be walked on safely starting from a surface load capacity of 5,400 KN / m<sup>2</sup> according to type approval IEC 61215.

### Applications:

- Visual control of the plant
- Visual inspection of rack system and substructure
- secure module replacement
- Work on electrical components such as DC cabling, equipotential bonding, GAK, MC-4 plugs and connectors
- Support for large area cleaning with robots (safe working under controlle)





# Comparison module exchange:

## Conventional:

Risky, time-consuming and cost-intensive work due to required dismantling of the adjacent modules. This results in an additional source of danger for humans and material. Short to long-term impairments on the replaced modules are to be expected. Damage due to mechanical stress and movement of the modules, such as micro-cracks and contact faults on DC-side connectors are unavoidable.

## RALOS.shoe:

Walking on the modules allows you to work efficiently, safely and thus means considerable saving of time and costs. The exceptional flexibility of **RALOS.shoe** allows you to reach almost any point in the system within a very short time.

Personnel and material are optimally protected. Photovoltaic modules are not damaged, since the extremely rigid shoe avoids any risk of punctual overload. The highly deficient implementation of a riser or scaffold is no longer necessary when working with the Ralos.shoe. Transport and temporary storage of the removed modules is a thing of the past.

Very short amortization period of only **2-4 jobs!**



Small space requirement, low weight, easy transport, easy handling



Patented, slip-resistant suction elements through their arrangement take up transversal forces in all directions. Adapt to unevenness, e.g. Module frames, up to approx. 4 mm



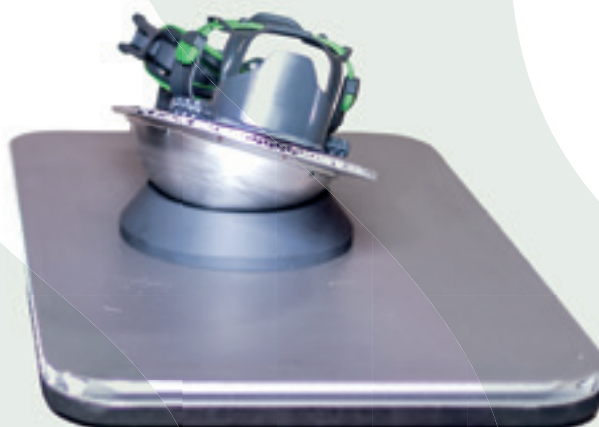
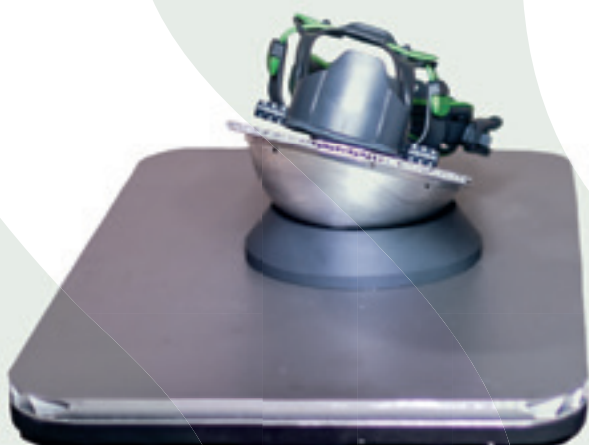


Compensation of  
inclination up  
to 25 degrees  
possible

Protection of the foot joints  
and ligaments



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Constructive new development from our own house  
Automatic stepless adjustment of the inclination angle



- Safety universal shoe binding with quick-tension and quick-release mechanism
- Infinitely adjustable from shoe size 37 -50
- no special shoes necessary, use of your own safety shoes possible







## Certified tools for certified users

Der The **RALOS.shoe** may only be used with Personal Protective Equipment (PPE) in accordance with the relevant safety and accident prevention regulations.

## Technical data:

**Dimension:** 63 cm x 38 cm x 18 cm (LxBxH)

**Weight:** approx 3,9 kg

**Pressure load per shoe at 100 kg:** 418 KN/m<sup>2</sup>

**Tilt range:** up to 21 degrees

**Show size EU:** 37 - 50

Tested at a roof pitch of up to 28 degrees.



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