



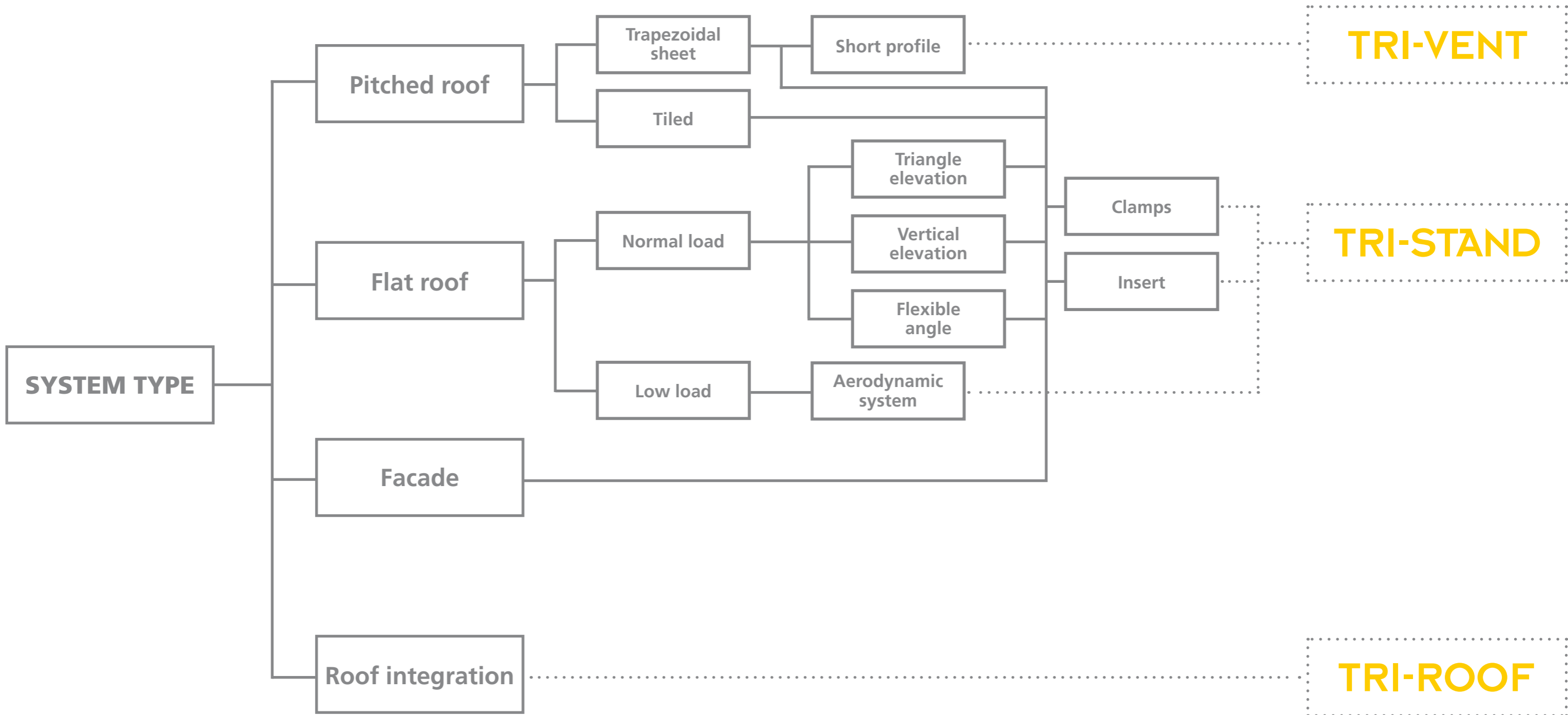
# TRITEC

energy for a better world

## TRITEC MOUNTING SYSTEMS

Clever Solutions for all system types

- Pitched roof
- Flat roof
- Roof integration
- Facade



# TRI-STAND

## Pitched Roof Insertion System



TRI-STAND TS insertion profile

- Quick and easy assembly with cross connection
- Fasten modules without screws
- Homogeneous surface for aesthetic systems
- TÜV Rheinland certified quality

### A Class of its own: TRI-STAND Insertion System

Established know-how and years of practical experience are the basis of the TRI-STAND insertion systems. The TS insertion profile is suitable for all conventional solar modules and makes installation easy, fast, and especially, effective. The modules are fastened and held securely tight in the system by means of their own weight and without screws. Optimal components of aluminium and stainless steel ensure a resistant system.

Insert module quickly and efficiently



## Clever TRITEC mounting systems for every system type



*Bernd Hertter, Product Manager  
Mounting Systems, TRITEC Products,  
TRITEC Logistics GmbH, Weissach*

TRITEC mounting systems combine almost 25 years of photovoltaic experience. The knowledge gained from the implementation of many solar systems leads to ingenious solutions, which are totally convincing. TRI-ROOF for roof-integrated PV systems, TRI-VENT for trapezoidal sheet and TRI-STAND for pitched and flat roof systems, as well as facades.

TRITEC guarantees highest quality and offers up to a 10 year product warranty for mounting systems and components. High quality aluminium and V2A stainless steel make TRITEC systems extremely durable and resistant. TRITEC mounting systems are TÜV certified: Mechanical load tests according to IEC 61215 have proven that the assembly system and modules withstand tensile loads of 2,400 Pa, and pressure loads of up to 5,400 Pa without harm.

TRITEC's dimensioning software TRI-DESIGN makes planning easy – from the smallest to the largest PV system. The standardised design guarantees maximum benefit and maximum stability.

You can find all the TRITEC mounting systems and their varied uses in this overview.

## Clamp System



New TRI-STAND roof hooks: 20% lighter

- Material-saving assembly system with optimised costs per Wp
- Compatible to all types of framed modules
- Components made from high quality aluminium and V2A stainless steel

### Economical: TRI-STAND Clamp System for optimal return

Not only are module and inverter manufacturers continually lowering prices – even the TRITEC Mounting System TRI-STAND is cost-effective. The module clamps, along with the newly developed, light universal profile UP-L, as well as the roof hooks, which are approx. 20% lighter ensure for lower system costs per Wp and therewith, attractive returns.

Cost-effective Mounting System for framed modules



## Insertion System for trapezoidal sheet roofs



SafeClick SC: A secure connection

- Cost-effective and efficient system
- Optimal dilation behaviour by means of expansion joints
- Simple installation, maximum impermeability
- TRITEC patented

### SafeClick: The heart of the TRI-STAND Insertion System

By simple click connects the SafeClick of the vertical universal profiles securely to the horizontal insertion profiles. Installation is even easier on trapezoidal sheet roofs. The SafeClicks SC are riveted directly to the high ribs. The insertion profiles are only snapped in, they are not rigidly connected to the roof. This is how thermal expansion is avoided and maximum sealing is guaranteed.

SafeClick with TS Profiles on a trapezoidal configured metal roof



## Flat Roof

### Optimised Aerodynamic



TS-F angle: 20° elevation for optimal aerodynamics

- Load and cost-optimised TRI-STAND development advancement
- Especially for large flat roofs with a small load capacity
- Designed for modules with 170 – 195 and 225 – 245 watts of power

### Less loads, lower costs

Thanks to the aerodynamic shape, TRI-STAND Aero offers significant load and cost advantages. This new mounting system burdens roofs significantly less than a conventional mounting system. Compared to a conventional flat roof mounting system, assembly of the TRI-STAND Aero requires at least 50% less ballast.

Optimised for large roofs with a small load capacity



### Triangle Installation



TRI-STAND end clamp for framed modules

- Cost-effective flat roof elevation
- New UP-TS profile allows for clamped elevation of modules
- Three standard angles for easy installation

### Cost-effective roof system for framed modules

The triangle installation is the most affordable and easy alternative for a PV system on a flat roof. Only three angles are needed for installation. The UP-TS profile makes it clamped elevation of all modules possible. Therewith, in comparison to an insertion system, all types of modules can be mounted vertically and the return on investment can be increased.

New UP-TS profile for clamped triangular elevations



### Upright Installation



Upright installation with 90° standard angle

- Flexible and easy installation on flat roofs
- Minimal shading from green covering of the roof and snow for optimum yields
- Standardised design for maximum stability

### Simple installation of stable module elevations

The TRI-STAND upright installation for flat roofs allows for simple and flexible installation. Even unevenness can be compensated for easily by means of the angle slots. The modules are assembled with enough distance to the flat roof so that neither snow nor green covering of a roof diminish the yield of the PV system. The dimensioning software TRI-DESIGN allows the planning of the system to meet requirements, as well as allowing for maximum stability.

Vertical Elevation for stable roof installation



### Elevation with a flexible angle



TRI-STAND FlexFix for angles from 20–70°

- Maximum flexibility thanks to an adjustable angle
- Adaptation of the PV system to structural conditions
- Optimal alignment to the sun
- TRITEC patented

### From the spaetzle press to the the PV system

Depending on structural characteristics, modules can be elevated from 20–70° with the flexible FlexFix angle. "In designing the FlexFix, I was inspired by Grandma's spaetzle press." says TRITEC development engineer Bernd Hertter regarding how the flexible angle functions. The FlexFix consists of two parts that slide together easily and can be installed easily over the rigid 90° connection.

Triangle installation with flexible FlexFix angle



# TRI-VENT

## Facade

### Insertion or clamp



Black TRI-STAND insertion profile TS for aesthetic facade systems

- Stable construction directly on the facade
- Flexible tilt angle thanks to FlexFix
- Simple insertion of low-cost clamping

### The sun shines every day and everywhere – even on facades.

So that this energy is not wasted, TRITEC has built the TRI-STAND mounting system in such a manner so that it is suitable PV installations on facades. The core is the flexible FlexFix angle. By this means, 20–70° angles can be created. The black anodized TS insertion profiles and black framed modules create, for example, an aesthetic system in the form of an awning.

Use every surface: Facade system with TRI-STAND



## Pitched Roof

### Short profiles on trapezoidal sheet roof



TRI-VENT module anchor: installed floating modules

- Quick and easy installation
- Riveted, not glued
- Fasten without screws

### Efficient assembly on trapezoidal sheet roofs

TRI-VENT is tailored to the specific requirements of PV systems installed on trapezoidal sheet roofs. Short profiles ensure minimum weight and minimal thermal expansion. The surface of the roof is perfectly protected. The assembly of TRI-VENT is simple. With few tools and little material, the system can be installed in a short time and guarantees maximum return for the customer.

Cost-effective mounting system for optimal return



# TRI-ROOF

## Pitched Roof

### Roof integration



Universal profile UP-I for roof-integrated PV systems

- Compatible to all types of framed modules\*
- Special profiles for maximum impermeability
- Replace and maintain module easily

### Maximum flexibility thanks to off-the-shelf modules

TRI-ROOF offers unlimited freedom in the choice of modules: Compatible to all types of framed modules from all module manufacturers.\* The mounting system TRI-ROOF is supplied as a complete set. In addition to profiles and insert rails, which come with the set standard, the edge connectors for tiled roofs are also included. These can be adapted to the particular module size, providing maximum flexibility.

The solution for aesthetic PV systems



\*from the TRITEC range

### **Quality and safety**

We guarantee our clients that all profiles and accessories manufactured under the original labels TRI-STAND, TRI-VENT and TRI-ROOF, have a 5 year manufacturer's guarantee from the delivery date, regarding soundness and technical functional capability. TRITEC regularly organises customer trainings for guarantee extension up to 10 years.

The TRITEC mounting systems have successfully passed the TÜV Mechanical Load Tests. For the complete Guarantee Certificate, the Certificate of No Objection and the next training dates, visit our web site.

Using our software TRI-DESIGN, our mounting systems TRI-STAND, TRI-VENT and TRI-ROOF can be designed and dimensioned quickly and intuitively. This way, increasing efficiency is child's play – from the smallest to the largest solar system. For download and updates see [www.tritec-energy.com/en](http://www.tritec-energy.com/en).

