



# Game Changing Solutions for Solar Racking OEM's





## Product Led, People Powered

Established in 1989, we are the original innovators and manufacturers of wire joining and tensioning devices, as well as anchoring, bracing and suspension systems that have changed the game for many industries.

With our innovative, engineered solutions, we're helping customers in industries including solar, civil, utilities, and construction to overcome their toughest daily challenges, achieving their goals faster and easier.

We are no ordinary business. We do almost everything differently.

100% owned by our employees, we're also committed to changing the game by making a positive impact in our communities around the world. We're a force for good, as certified by B Corp.

## Change the Game

### 1 - 100% employee owned

Our empowering employee ownership model means everyone has skin in the game. Success for our global customers means success for us. We are all shareholders, inspired to design, manufacture, and deliver better solutions.

### 2 - Game changing innovators

Our vision is to engineer game changing products and systems that make a difference for more global customers. To keep us on track, we hold ourselves accountable to deliver a fifth of all sales from new innovations.

### 3 - Helping customers do more with less

We solve customers' real-world problems with simplified engineered solutions. Whatever the application, our innovations deliver efficient, sustainable solutions that have a positive impact on global customers' routine tasks.

### 4 - Vertically integrated

As an award-winning global manufacturer, we create finished Gripple solutions from components we produce in-house, on machinery we design and build ourselves. We're a trusted partner for our customers, able to deliver quality, reliability, and value.

### 5 - A force for good

It's the Gripple way to do business differently. Not just to deliver profit, but to share the benefits of global sustainable growth with our customers, communities, and employee-owners. As a certified B Corp, we meet the highest standards of social and environmental performance.

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## Vertically Integrated Manufacturing

An award-winning manufacturer, we create finished Gripple solutions from components we also produce in-house. Our vertically integrated operations produce our own die castings, injection moulded components, steel pressings and wire accessories. We even design and build our own automated manufacturing machinery!

Through ways of working including lean manufacturing and just-in-time inventory management we ensure streamlined processes and maximum value delivery. Our employee-owners are empowered to identify opportunities for continuous improvement, which result in greater efficiencies, better quality and improved customer satisfaction.

Continual investment in our manufacturing and supply chain means we're a trusted partner for our customers, able to consistently deliver quality, reliability, and value.



## Changing the Game in 85 Countries Worldwide

Our global manufacturing and distribution footprint has been designed to deliver our innovative Gripple solutions, on-time, to over **8,000 customers**, at more than **16,000 drop points** in **85 countries** worldwide. Over **900 employee-owners** around the globe, in every one of our sites is united by this commitment to our customers. Some of our original customers have become partners in Europe, Asia, and Oceania, to strengthen our global supply chain and deliver value for our customers.

- Gripple United Kingdom**  
1 Global Head Office – Sheffield, UK
- Gripple Europe:**  
2 Gripple Europe Head Office – Obernai, France  
3 Paris, France  
4 Aßlar, Germany  
5 Warszawa, Poland
- Europe Partners:**  
6 Gripple, Portugal  
7 Gripple, Spain  
8 Gripple, Italia
- Gripple INC:**  
9 Gripple INC Head Office – Aurora, Illinois  
10 Los Angeles, California
- Gripple Rest of the World:**  
11 Toronto, Canada  
12 New Delhi, India  
13 Kobe, Japan
- Rest of the World Partners:**  
14 Gripple Australia – Victoria  
15 Gripple Australia – Newcastle  
16 Gripple South Africa  
17 Gripple Brazil, Hartbau



## Game Changing Solutions for Solar Ground Mount Manufacturers

Reduce your PV frame costs, materials, CO<sub>2</sub> emissions, and install time, all with no compromise on performance, using our lightweight Solar Bracing Kits.

By replacing heavy steel cross sections with strong but lightweight wire rope bracing, you can significantly reduce material, transport and logistics costs, as well as embodied CO<sub>2</sub>.

At Gripple, our engineers have developed a lightweight and fast to install solar frame bracing kit which provides comparable structural performance to heavy traditional steel bracing, using a fraction of the materials.

PV frame OEM's around the world have already found they can differentiate their offering, and remain even more competitive by using these lightweight bracing kits over heavy and expensive steel bracing.

What's more, our kits are fast and simple to install using just hand tools thanks to our Dynamic tensioner. They are delivered in easy to carry boxes making on-site materials handling simple, compared with lengths of steel, that require heavy machinery to move.



### High Performance

Comparable real world bracing performance to heavy steel box section, strut or angle iron, with a max load of 17.2 kn.



### Significant Steel Savings

Wire rope bracing kits remove up to 94% of the steel used, compared to heavy steel cross braces.



### Reduced Embodied CO<sub>2</sub>

Our lightweight wire rope bracing kits contain as little as 14% of the embodied carbon, compared with some heavy steel bracing.



### Dependable Global Supply

Our kits are manufactured in-house in the UK and USA and supplied globally via our 17 worldwide locations.



### Flexible on Site

Don't let on site issues impact your install. Our wire rope kits allow you the flexibility to install, even if posts are misaligned.



### Fast to Install

Contractors can easily install our kits in minutes, on-site, using just hand tools and with minimal training.

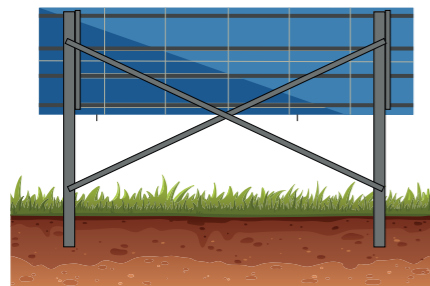




## Common Bracing Installations

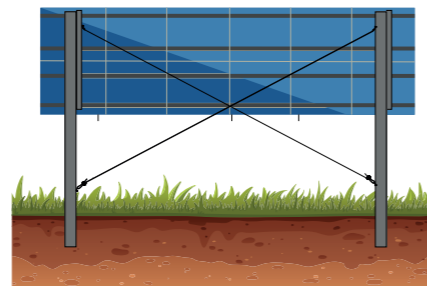
### Fixed Tilt East / West Bracing

Our lightweight wire rope bracing kits provide protection against active forces such as strong winds, seismic activity, temperature expansion / contraction or compression issues.



#### Frame with traditional Steel Bracing

- + Bracing Type: 6 m angle iron (25 mm x 25 mm)
- + Weight Per Brace: 13.32 kg
- + Total Bracing Weight (typical 50MW site): 49,136 kg



#### Frame with Gripple Solar Bracing Kits

- + Bracing Type: 3 mm wire rope bracing kit
- + Weight Per Brace: 1.9 kg
- + Total Bracing Weight (typical 50MW site): 3,404 kg

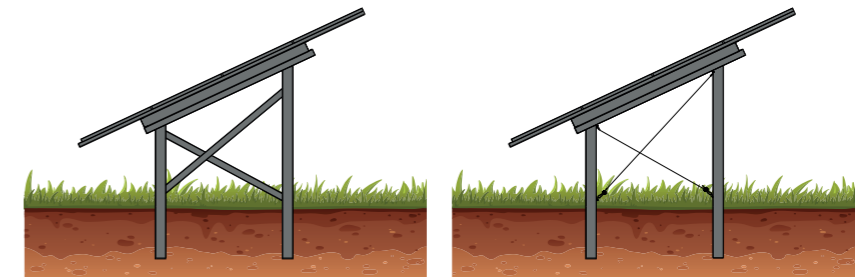
#### Savings over a 50MW Project

Estimated Steel Saving	Steel Saving	Embodied Carbon Saved
70%	45,732 kg	100,610 kg

Calculations based on real world example site, including 37 tables per MW with every other frame braced on site using 6m bracing.

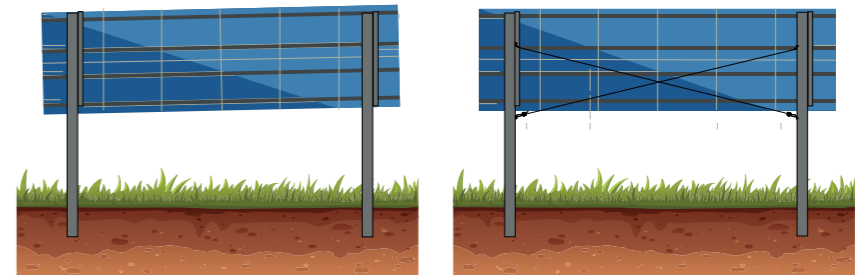
### Fixed Tilt North South Bracing

Our Solar Bracing Kits can also be used in North / South orientation where required, to provide protection against directional wind forces.



### Panel Bracing

Quickly install our lightweight Solar Bracing Kits to the reverse of panels to provide protection against twisting and misalignment.





## Case Study

### SolarPort Drives Efficiency with Innovative Gripple Bracing

#### Solarport Drives Efficiency with Innovative Gripple Bracing

Solarport, the UK's leading designer and manufacturer of large and utility-scale solar mounting structures, has selected Gripple's Solar Bracing as an integral part of its ground mount photovoltaic (PV) system.

Solarport decided to switch from heavy steel box sections after working with Gripple's technical team to explore a lighter bracing system for its ground mount frame. Following a series of trials, Solarport specified Gripple's 4 mm | 0.15 in wire system to offer the levels of bracing performance required.

Gripple's lightweight bracing kits deliver like-for-like performance for Solarport, whilst allowing them to reduce the total steel weight of their frame. This provides benefits including increased transport and logistics efficiencies, as well as significant reductions in embodied carbon.

Solarport's customers also benefit from rapid installation, which can result in major time and cost savings on a project. As the system is lightweight, it can be easily installed by one person, whereas traditional steel section bracing methods are more labour intensive.

"The Gripple Solar Bracing Kits are lightweight, flexible and simple to install with almost no training. They are easy for our customers to handle on-site, and they deliver embodied carbon savings for contractors and the project as a whole."

**Christy Tattershall,**  
Business Development Director, Solarport



#### Project Example - Yelvertoft Solar Farm, Northampton, UK

At Gripple we supplied our Solar Bracing Kits in six metre lengths to the frame manufacturer Solarport, which were supplied as a complete system for this large project to be installed by the EPC Bouygues Energies & Services.

A total of 2,200 Gripple Bracing Kits were installed across site at regular intervals with 4 out of 6 frames in each table featuring bracing.

#### Project Summary

Main Contractor / EPC	Project Size	Total Braces Installed	Racking System
Bouygues Energies & Services	49.9 MW	2,200	Solarport

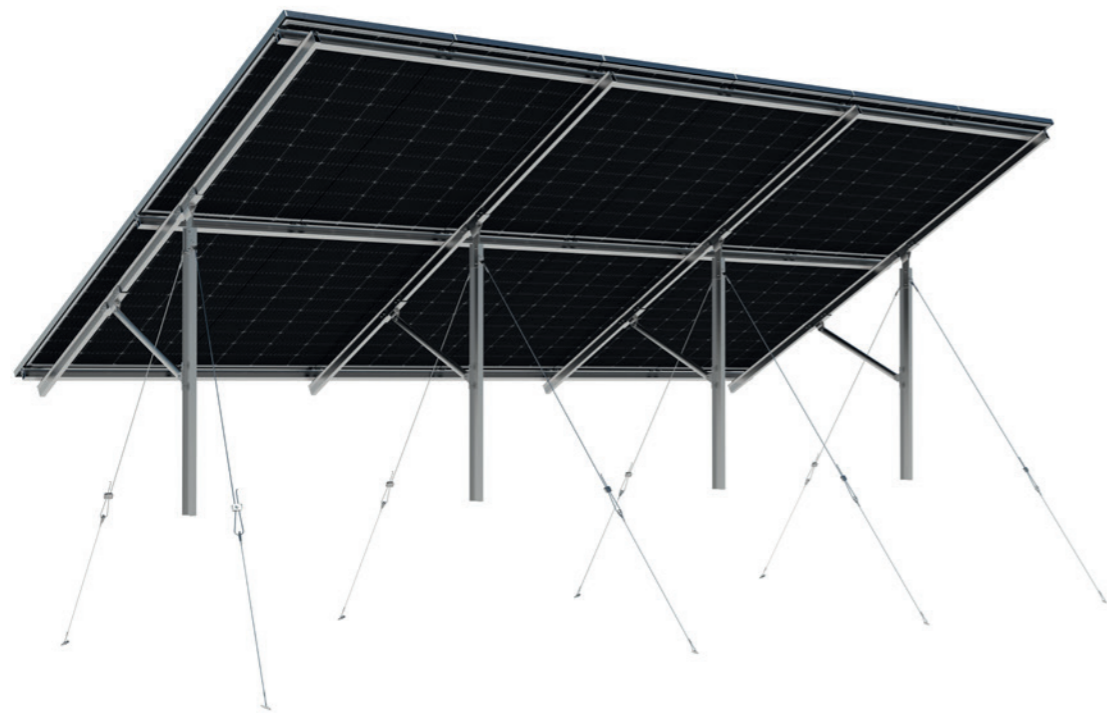
#### Savings Breakdown

Steel Saving	Total Weight Saved	Embodied Carbon Saved
Up to 94% <i>Depending on traditional material</i>	Over 12,000 kg	27,215 kg

#### Featured Products

Gripple Solar Bracing Kit  
4 mm wire (6 m length)  
45° eyelet fixing





## Changing the Game In PV Foundations

Overcome pile refusals, support existing foundations, and correct misalignment using our fast to install, lightweight and high-performance solar ground anchors.

Our Solar Anchoring Kits provide up to 2,750 kg | 6,060 lbs pull out performance by locking into the soil. They have been developed based on our tried and tested technology used in demanding slope stabilisation, civil and seismic applications around the world.

Our Solar Anchoring Kits are lightweight and compact making them easy to handle on site, and can be installed in just minutes using only hand tools. They are an ideal contingency for contractors where foundation issues arise and can even open up previously unusable land like brown field or landfill to solar development. Their low profile ensures minimal disturbance to the ground around the structure.

What's more, using our lightweight ground anchors can help minimise your project emissions, thanks to significant embodied CO<sub>2</sub> reductions.



### High Performance

Up to 2,750 kg | 6,060 lbs depending on soil type



### Fast to Install

Install in minutes using just hand tools and with minimal training



### Easy to Handle

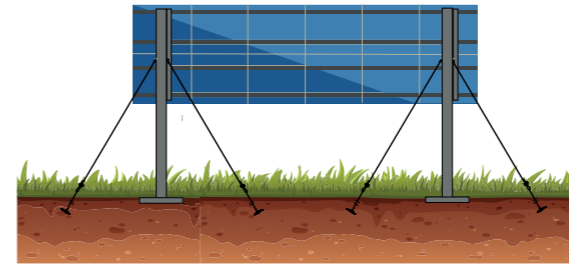
Lightweight kits are easy to stock and transport, and can be carried by hand on site



### Undisruptive

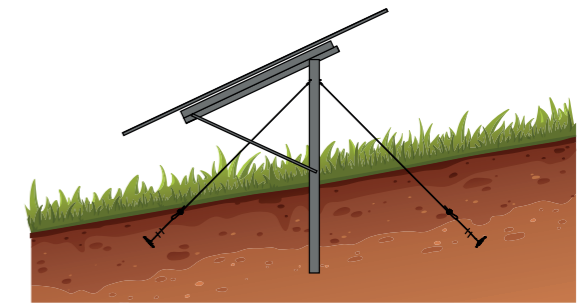
Install with minimal soil disturbance allowing landfill or brownfield to be developed

## Foundation Examples



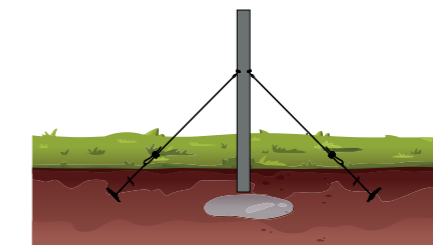
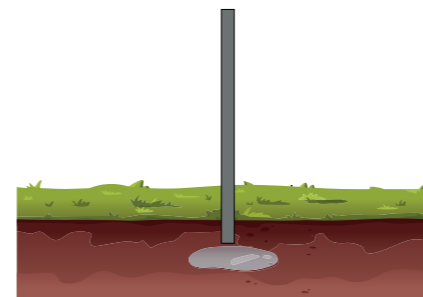
### Primary Foundations

Where required, our lightweight yet incredibly strong Solar Anchoring Kits can act as the primary foundations for solar ground mount frames.



### Challenging Terrain

With no need for heavy equipment and machinery to install, our lightweight Solar Anchoring Kits are ideal foundations for ground mount frames on challenging, or difficult to access sites.



### Pile Refusals

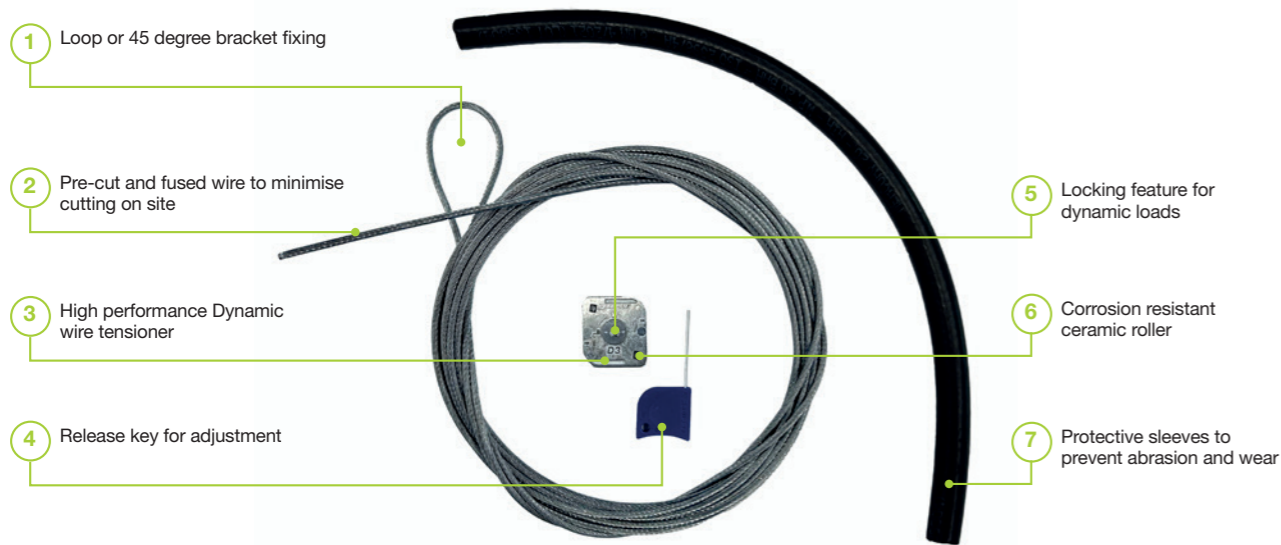
Where pile refusals occur due to rocky or hard ground our Solar Anchoring Kits can be quickly installed to act as a secondary foundation, helping achieve the desired performance with a shorter pile depth.

## Our Products **Solar Bracing and Anchoring Kits**

### Solar Bracing Kits

Our lightweight and fast to install Solar Frame Bracing Kits provide comparable structural performance to steel bracing. Wire rope based kits are flexible to install in multiple scenarios on multiple frame sizes making them ideal for remedial works.

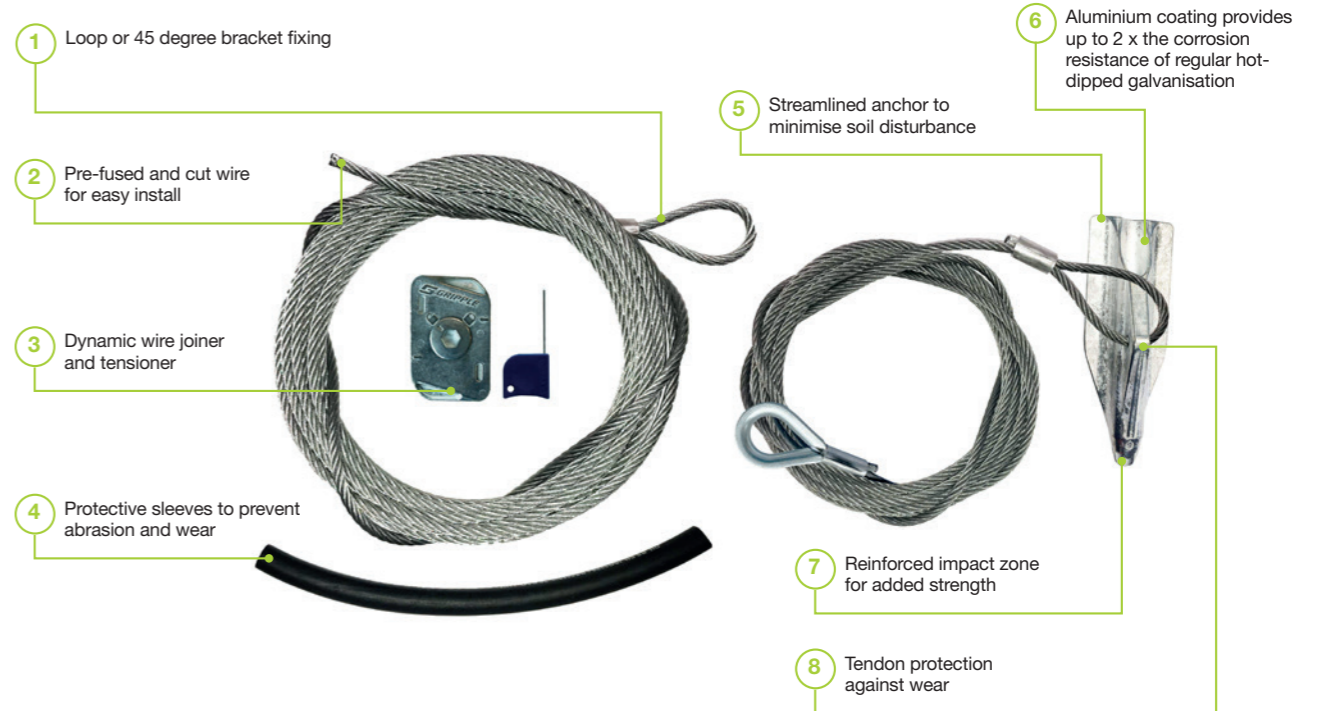
- + **Max Working Load: 1,750 kg | 3,860 lbs**
- + **Design Life: 30 Years +**
- + **Wire Range: 3 mm to 6 mm | 1/8 in to 1/4 in**
- + **Working Temperature: 20 °C to +70 °C | -4 °F to +158 °F**



### Solar Anchoring Kits

Our Solar Anchoring Kits provide up to 2,750 kg | 6,060 lbs pull out performance by locking into the soil. They have been developed based on our tried and tested technology use in demanding slope stabilisation, civil and seismic applications around the world.

- + **Max Anchor Performance (Very Dense Soil): 2,750 kg | 6,060 lbs**
- + **Max Anchor Surface Area: 191.3 cm<sup>2</sup> | 29.6 in<sup>2</sup>**
- + **Wire Tensile Strength: 1,770 N/mm<sup>2</sup> | 1305 lb-ft<sup>2</sup>**







## Technical Support

### Project Installation & Design Support

Here at Gripple, we pride ourselves on more than just game changing products; our dedicated team of solar experts are on hand to deliver highly customised technical support from initial concept to final delivery.

We can provide comprehensive services including project design drawings, engineering calculations, and product modeling to help you achieve optimal results.

To maximise project efficiencies, involve our team as early as possible. During the proposal phase, we can provide multiple options for consideration, enabling you to maximize savings on both labour and materials by selecting the most efficient solution.

#### Engineering Calculations

Comprehensive structural and capacity calculations to support project requirements and product integration, including, catenary design load and sag analysis, foundation calculations, structural modeling analysis and geomembrane securement analysis.

#### Design Drawings

Developing detailed structural and site design drawings to support your specific project requirements, ensuring procurement efficiencies, best practice design layout and installation arrangements.

#### 3D Library

We can provide a comprehensive library of 2D and 3D product CAD resources.

#### 1-1 Project Engineering Support

Our Gripple technical team will be on hand at every stage of your project to provide one on one engineering support and advice.

### On-Site Support

Our dedicated solar technical team are on hand to provide personalised on-site support from inception to completion of your project.

We can provide a range of on-site support services including installation training, product performance tests, and thorough site condition inspections, ensuring optimal performance and efficiency for your solar projects.

#### Site Product Tests

Where our product performance can differ based on the soil properties of your site, our engineering team are available to provide on-site real-world testing to validate performance for your specific project.

#### Installation Training & Support

Are you or your team new to our systems? The good news is they are designed for safe, simple and easy installation. However, if you still need support, our dedicated solar technical team are available to provide on-site training and best practice guidance as and when needed.

#### Site Inspection and Planning

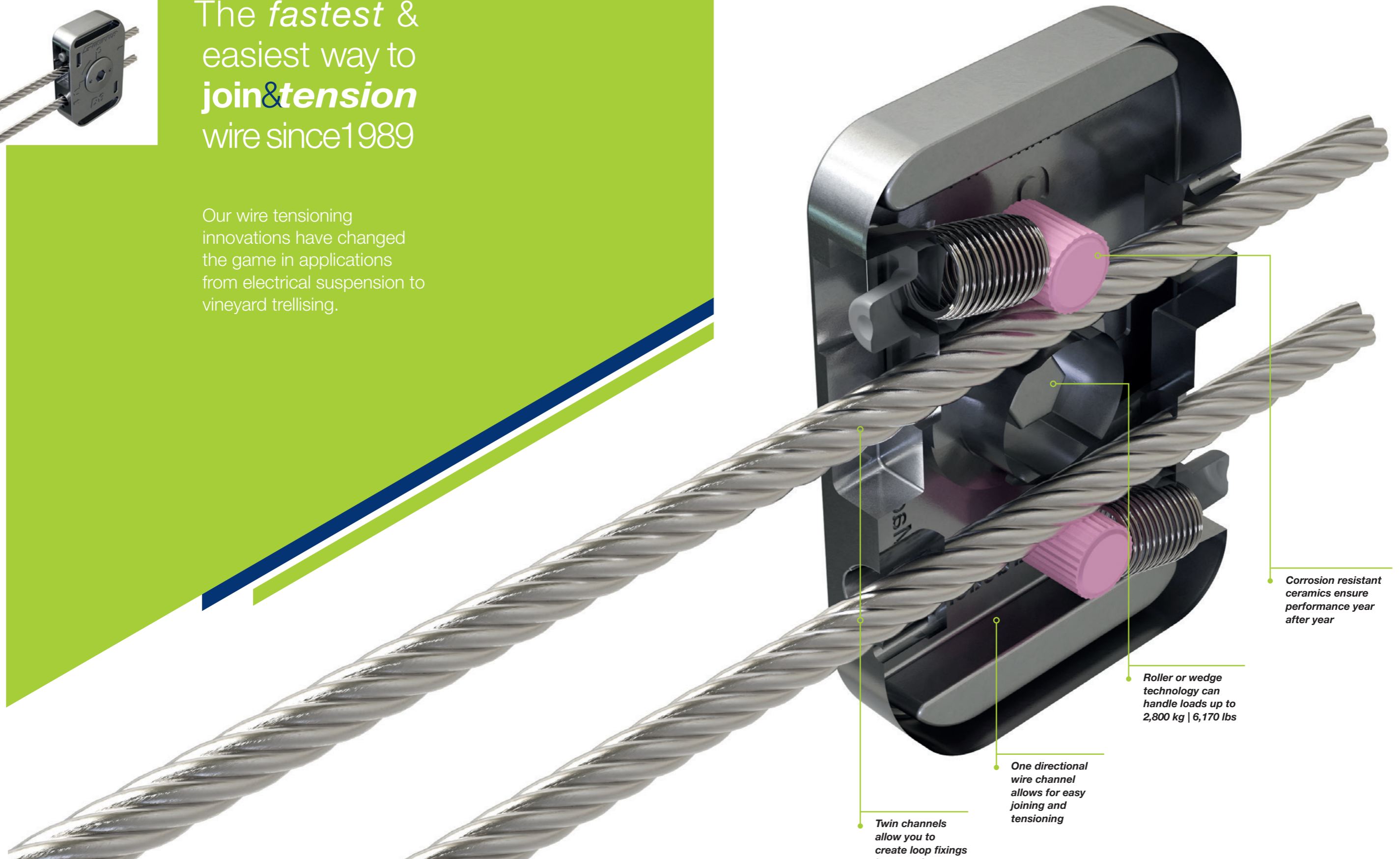
There is sometimes no alternative to actually being on site. Our solar technical team are available to attend site at every stage of your project if needed, helping to aid product selection and provide best practice, guidance, and support.



The *fastest* & easiest way to **join&tension** wire since 1989

Our wire tensioning innovations have changed the game in applications from electrical suspension to vineyard trellising.

## GRIPPLE TECHNOLOGY



Twin channels allow you to create loop fixings in seconds

One directional wire channel allows for easy joining and tensioning

Roller or wedge technology can handle loads up to 2,800 kg | 6,170 lbs

Corrosion resistant ceramics ensure performance year after year



**Grippple Ltd (Headquarters)**

The Old West Gun Works  
Saville Street East  
Sheffield S4 7UQ  
UK

**T** +44 (0) 800 018 4265  
**E** info@grippple.com

**Grippple Europe SARL**

1 Rue de Commerce  
BP 37  
67211 Obernai Cedex  
France

**T** +33 (0)3 88 95 44 95  
**E** frinfo@grippple.com

**Grippple Inc**

1611 Emily Lane  
Aurora  
IL 60502  
USA

**T** +1 866 474 7753  
**E** usinfo@grippple.com

**Grippple India**

C-115 Industrial Area  
Phase 1, Naraina  
New Delhi - 110028  
India

**T** +91 11-40582703  
**E** ininfo@grippple.com

**Grippple Canada Inc**

6665 Tomken Road  
Units 9 -10  
Mississauga  
ON L5T 2C4

**T** +1 905 458 8700  
**E** cainfo@grippple.com

**Grippple Japan K.K**

2-57 Tsukizi-cho  
Hyogo-ku, Kobe-shi  
Hyogo, 652-0845  
Japan

**T** +44 (0) 800 018 4265  
**E** info@grippple.com

[grippple.com](http://grippple.com)

