

## Passionate About Power

### We can help

- **Power Station Maintenance**
- **Substation Maintenance**
- **Gas Turbine busduct linkages**
- **Alternative power source HV handling**

Whatever your requirement - be it the capabilities for new builds or maintenance projects requiring reverse engineering we have the experience and expertise to help.

As an ISO9001:2008 accredited design and manufacturing company with a reputation for customer service, quality and price. Our highly qualified engineers have many years of experience in the design of electrical equipment and are able to provide technical advice and assistance for your application including temperature rise calculations, voltage drop and vibration withstand.

Our background in the railway industry means that we have many years of experience supplying safety critical products for arduous applications and we are approved to Railway Group Standard GM RT 2450 for the supply of Safety Critical products to Bombardier Transportation.

### Our Commitment

- **A rapid response to enquiries**
- **Provision of technical advice and assistance**
- **Supply of samples when necessary**
- **Minimum lead times, supply from stock (where possible)**
- **Competitive pricing**
- **Ongoing support**

We develop long term partnerships with our customers and invest in our facilities and staff to maintain continuous improvements to our business so that we can provide you with better and better service from one off proto types to RFQ programme orders we can accommodate your requirements.



**Email: [sales@tranect.co.uk](mailto:sales@tranect.co.uk)**

**Tel: 0151 548 7040 Web: [www.tranect.co.uk](http://www.tranect.co.uk)**

**VAT No: 768195383 Company No: 04142556**



## Transforming Power

Energy is becoming an increasingly important topic in modern society. Tranect Ltd appreciates the requirements of the providers and maintenance engineers responsible for keeping the world switched on. Refurbishments and overhauls don't always come with complete sets of drawings, marrying new equipment to old installations isn't always a straight forward process and when building new systems confidence in delivery is crucial. These are our focus points and this is where you can now find our products:

### Power Generator Sets

- **3 Phase and Neutral alternator to switchgear connections - Specialist solutions for Vibration Environments.**



### UPS Generator Systems

- **3 Phase and Neutral connections - Specialist solutions for Safety Critical applications.**



### Grid Power Stations

- Flexible HV Busbar links
- Customer specific flex links - designed around heat rise calculations



### Grid Sub-Stations

- Flexible HV Busbar links
- Customer specific flexible connections - designed around your site requirements
- Transformer / bus duct / switchgear flexible connections



## Tranect Laminate-Flexi Range

Copper laminate components offer fantastic versatility both in electrical scope and directional flexibility. Visit [www.tranect.co.uk](http://www.tranect.co.uk) for further details or call 0151 548 7044 to discuss your requirements.

### Wound Laminate Solutions (HV)

For HV environments wound copper laminate connectors can be very effective where directional movement is combined with the need for power channelling - see our You Tube video of the laminate opposite in action. The advantage of a wound laminate is that it is produced from one continual length of material which is then consolidated at the contact points and fitted with a contact plate if required - this create a high integrity and robust connection suitable for critical applications.



Visit our website [www.tranect.co.uk](http://www.tranect.co.uk) to watch this component in action.

### Press welded shunts (MV+LV)

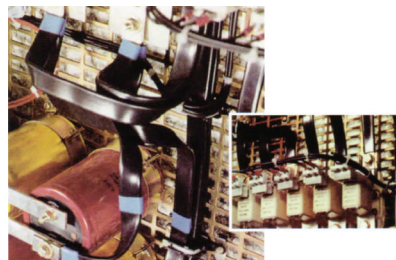
Constructed from an assembly of strips which are press welded together a wide range of forms. Contact plates can be added to meet your design requirements. From next generation Automotive to Automation, Transit and Grid applications Press Welded Shunts offer a viable alternative where a standard bus link or busbar won't do.



We also supply these for switchgear applications, HV, MV and LV.

### Flexible Busbars (LV – Cabinets)

Constructed from an assembly of copper strips (Cu ETP), protected by a PVC extrusion which provides electrical insulation as well as flexibility so that these busbars can be twisted and shaped to suit your application and can be used in hostile environments (high humidity, high temperature or aggressive ambience).



**Tinned Copper or Aluminium**

**Zero Halogen**

**High temperature insulation -1250C**

Although we endeavour to standardise materials to ensure the most cost effective solutions we have a huge range available and we don't stipulate standard designs - our goal is to meet your requirement

## Tranect Braid-Flexi Range

Vibration, movement, offsets between new and old fittings, all make maintaining stable power connections that little bit trickier - Tranect Ltd is proud to partner blue chip firms on both a domestic and international scale with projects ranging from spares and replacement parts through re-engineering and technical assistance to first stage product development from global role outs. If you design, install or maintain electrical power systems we are the organisation to deal with.

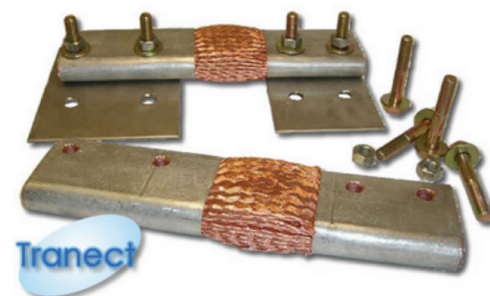
### Flexible Braid busbars

This section of our product brochure is dedicated to helping product users better understand the versatility of copper braid solutions and how they can be employed to best advantage. This page focuses on components that link between the transformer and busbars and switchgear.

The images to the right show how braid can be used to manage a 3 axis adjustment in contact surfaces with relative ease, the flexibility of the braid ensuring that it will be possible to line up the contact surfaces. Notable from all of the pictures on this page is that they have been built to suit their required function. From Grid Substations to Wind Farms, Gen sets and many other applications Tranect Ltd's team have built up a great experience and have the production capabilities to quickly react to your needs.



Visit our website [www.copperbraid.co.uk](http://www.copperbraid.co.uk) to watch a video of one of our engineers explaining how these products can be adapted to your needs.



### Dedicated to service

From initial point of contact our team is geared toward finding you the best possible solution and keeping you up to date with the progress of your project, even if you are not quite sure yourself.

Visit [www.tranect.co.uk](http://www.tranect.co.uk) for further details or call on 0151 548 7040.

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Proudly British...

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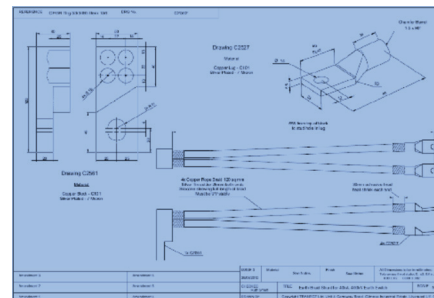




# Tranect HV Braid-Flexi Range Continued

## A true range of Experience

Tranect Ltd's involvement in re-engineering products for safety critical environments comes from its roots in the rail industry and we are proud to have helped identify some of the worst looking samples that have ever come through our door. Having fine-tuned this skill set we have extended our reach to those equally frustrated by worn or burnt out component in the energy sector. With technical capabilities in copper braid switchgear components. We appreciate these components were built to last and our redesigns if required are produced to the same exacting standards. To the right is an example of a truly composite piece of switch gear combining a silver plated soldered copper block connecting 4 strands of rope braid which then connect to 4 silver plated corner designed crimp terminals. For more examples visit [www.tranect.co.uk](http://www.tranect.co.uk)



Visit our website [www.copperbraid.co.uk](http://www.copperbraid.co.uk) to watch a video of one of our engineers explaining how this product came back to life.



## Set to run

No Job too big, No job too small. The Tranect factory based in Liverpool UK has a dedicated production line equipped to cater for call off and schedule ordering of copper braid assemblies. Coupled with our in house tooling design and build gives us a leading advantage in meeting all requirements and has allowed us to create quick change tooling to allow for fast change overs in production runs. Situated close to one of the world's busiest ports we are proud to boast a 50% export mix in this field and work with global blue chip companies to ensure on-time managed deliveries, with a 100% performance track record.

Technical advice  
and product  
development service

Parts Form Stock and  
Dedicated Supply  
Chain Management

Dedicated Production  
Unit with customised  
tooling facility

Customer orientated  
packaging for  
delivery to site in line  
with lean principles



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## Tranect Cable Assembly Range

Born from our long standing relationship with the rail industry Tranect Ltd can offer the very best in the market when it comes to cable assemblies and terminations suitable for high vibration environments.

## Cable Assembly Packages

Built for safety critical environments we can supply cable assemblies and kits drawing from a comprehensive range of the markets leading termination products for vibration environments.

## Fit It & Go & Keep on going....

From our experience dealing with industry leading producers of railway rolling stock and power generators we have developed the ability to adapt to our customers ever changing needs – such as 'lean production modelling' so kits are provided with all components ready to go out of the box for easy installation. Below is an example of just how seriously we take your products performance.

In August 2009, TRANECT's Ultra-High Vibration terminals were submitted for tensile testing by Westmoreland Mechanical Testing and Research laboratories in Banbury, Oxon. The purpose of the test was to measure the tensile strength of our crimp against that of our competitors, a major European manufacturer, under identical conditions.

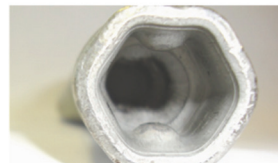
A fundamental difference between Tranect's Ultra-High Vibration terminals and those of similar designs is our unique internal ferrule, which grips the cable strands much more tightly than the more common integrated design both terminals were crimped initially with tooling recommended by each manufacturer. The tests were then repeated with the Tranect terminals crimped using non-Tranect tooling, and in both cases the results were conclusive. Tranect products out perform the competition.



Top: 95mm² cable with TRANECT terminals at both ends.  
Bottom: 95mm² cable with rival and TRANECT terminals fitted.



The TRANECT crimp has remained intact, while the rival crimp has failed at 10kN.

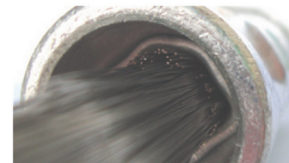


Rival terminal after failure of the tensile test. The integral ferrule can clearly be seen.

The rival crimps failed at a maximum loading of just 10kN, while the Tranect terminals did not fail at all; however, the cable itself failed at a load of 18kN, leaving the crimp connection intact.



TRANECT terminals fitted at both ends. Both crimps survived, but the 95mm² cable failed at 18 kN.



TRANECT terminal after cable failure. The internal ferrule can clearly be seen still gripping the broken cable strands.

## Tranect Copper Busbars

To complement our comprehensive range of flexible solutions we also manufacture Copper links and busbars to suit a variety of applications in the electrical engineering industry.

All copper busbar products are fabricated from high grade BS EN 13600 CW004A copper (Cu-ETP - C101)

We manufacture to your own specifications, either from your drawing, or we have the capability to design from scratch. Typical finishing would be electro-tin plate, 5 microns thick, either bright or dull, depending upon your requirement. Bright Nickel plate is also available.

Specialist application busbars are also available, fabricated to any shape or size.

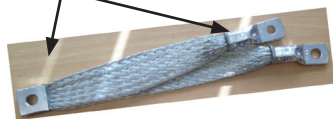
## The Finishing Touches

As the rest of this section has prompted these items are built to order and as such should be finished to order – below is a pictorial guide to the range of finishing we currently offer, if you can't see what you need here then just ask and through our extended supply chain we will do our very best to find the solution for you. Please send your enquiries to

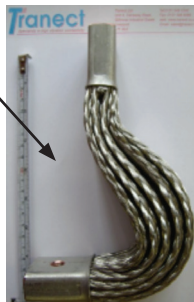
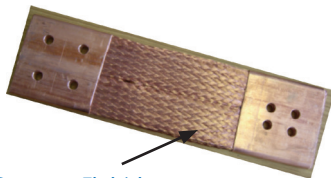
**sales@tranect.co.uk** or call our team on 0151 548 7040

Hot tin dipped  
(consolidation)

Electro tin plated for  
additional protection



Plain Copper Finishing

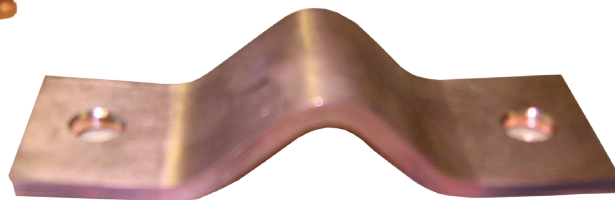
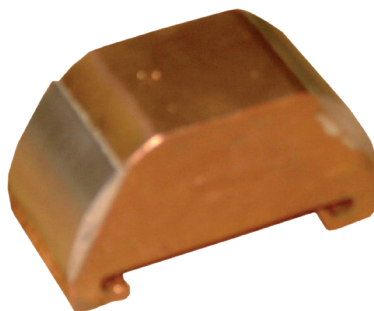
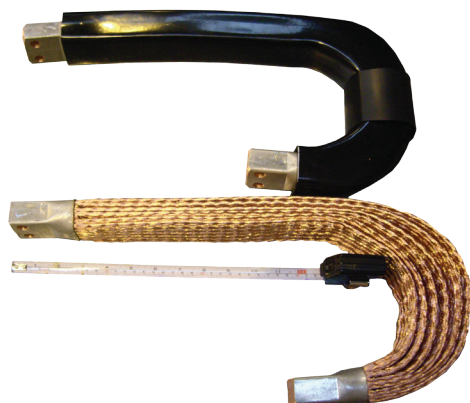


Extensive heat  
shrink range and  
product  
identification  
markers.



Composite finishing - Plain braid  
with silver plated connectors





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