

TRANSNET

HV JUICE



May/June 2011



TransNet & TE
Connectivity Energy
help Orion get the
Power On

Porcelain Insulators –
Pin vs. Post

Digging Deep for Christchurch

Orion Energy CEO Roger Sutton says it has been a long hard slog for the dozens of cable jointing crews and engineers working in difficult conditions around the city to restore network stability as quickly as possible. "It's been tough and at times overwhelming to look around and see the massive effort and support we've received from the power industry as a whole. We've had crews on the ground from as far afield as Top Energy in the far north to Electricity Invercargill in the deep south, and without that help we wouldn't be where we're at today."



TransNet managing director Spencer Winn says there was never any question that TransNet and TE Connectivity Energy would throw its full weight behind the recovery effort. "The question was how we could be most effective. TE Connectivity Energy manager Jason Woodcock and I have both climbed power poles for a living and our immediate reaction was to throw a tool belt on and get down there, but the situation called for cool heads. We sat down in the hours following the quake and put together a plan knowing Orion would need help. The challenge would be getting it to them. Our kitting room in Auckland had been open less than a year so it's been a real acid test but our staff haven't faltered. It's also reinforced the value we and TE place in carrying a large number of pre-assembled jointing kits and specialised network accessories in stock" says Winn.

"There's still a lot of work to be done in Christchurch and this work will be ongoing. TE and TransNet are fully committed to the rebuild and we'll continue to do everything in our power to help."

Spencer Winn - TransNet



Sutton says the value of effective and long-standing business relationships with major suppliers like TE Connectivity and TransNet can not be underestimated in a crisis. "This has been key. Having supply partners like TransNet prepared to put staff in



a car and drive through the night with a trailer full of the gear our contractors need says a lot about service commitment. And to follow this up with a containerised jointing workshop here on the ground in Christchurch shows real initiative and the outstanding level of support we've received from all over the country. It has made every difference during a difficult time and says a lot about what we are as an industry and a country".



PRODUCT SPECIALS – CANVAS GLOVE STORAGE BAGS

Something for everyone – from gloves only to gloves, sleeves and leather protectors, we've got them all. In order to extend the service life of your rubber protective gear it's important to store them flat in a protective case or bag. TransNet Glove Storage bags are available in three variants;

GLOVEBAG Single pocket suited to hold HV/LV gloves.

DUALBAG Two pocket suited to hold HV/LV gloves and Leather protectors.

COMBOBAG Three pockets, to hold HV/LV gloves, HV Sleeves and Leather protectors.

These specialty bags, designed and fit for purpose are made from the highest quality materials and double stitched for durability. The TransNet range of glove storage bags feature a clip and tapered gussets with wide opening tops for ease of use.



\$24.90
+gst
each

Product#DUALBAG



\$19.90
+gst
each

Product#GLOVEBAG



\$29.90
+gst
each

Product#COMBOBAG



TOOLBELTLINEY – DESIGNED FOR LINEY'S BY LINEY'S

Made from hard-wearing leather and a nylon belt the TOOLBELTLINEY is the epitome of toolbelts. With deep pockets designed especially to hold larger liney tools and a large pouch for the incidentals you need with you up the pole.

There is a clever little domed tab to keep the pocket out of the way when it's not required. The nylon belt has a quick release clip and is easily adjustable to fit comfortably.

TOOLBELTLINEY not a fancy man bag, it's a liney tailored tool belt!!



\$59.90
+gst
each



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PRODUCT SPECIALS – HIGH VOLTAGE PROXIMITY DETECTOR

With nine voltage detection settings from 240V AC to 275KV AC, this unit has been designed with New Zealand voltages in mind. It boasts an internal pickup sensor plate, a sensitivity selector, a visual and an audible annunciator. With the TN275NZHP, physical contact with electrical conductors is not necessary when testing for live lines. This tester works by proximity.

KEY FEATURES

- 9 voltage settings: 3.3kV, 6.6kV, 11kV, 22kV, 33kV, 66kV, 110kV & 220kV
- High bright LEDs visual indication
- Sound indication
- Self-test selection
- Universal hotstick fitting
- Light weight, high impact, robust & compact casing
- Detect low voltage on any system without contact
- Easy access to 3 x 1.5V "C" batteries

Product #TN275NZHP



TN275NZHP
\$199.00
+gst each



VTT-3 TELESCOPIC HOTSTICK

The VTT-3 triangular shape RITZGLAS® telescopic hot stick boasts a universal end fitting, able to accept a wide range of attachments so the stick can be used in a multitude of different applications. Able to extend from 1.49m to 3.8m, this hot stick is an extremely versatile tool. Assembled with epoxy-resin reinforced fibreglass poles, the VTT-3 complies with ASTM F-1826/99 and IEC 62193/03

FEATURES

- Fully insulated top section
- Triangular shape locks into place quickly
- Supplied with rubber ring and seal to secure in place during transportation
- Comes with M4455-9 attachment

VTT-3
\$249.00
+gst each



SLT-2/3 STORAGE BAG FOR VTT-3

Made from hard wearing canvas, this storage and carry bag is designed to fit the VTT-3 hot stick, it has a carry handle and a Velcro closure. Storing your hot stick in a protective bag will help extend its service life and reduce the risk of damage to the finish which could compromise its integrity.



SLT-2/3
\$34.90
+gst each



Porcelain Insulators – Pin vs. Post

Overhead line insulators are divided into two classes according to their construction;

1. SOLID POST (NON PUNCTURABLE)

An insulator or insulator unit, in which the length of the shortest puncture path through solid insulating material is **at least equal** to half the arcing distance.

2. MULTI PIECE PIN TYPE (PUNCTURABLE)

An insulator or insulator unit, in which the length of the shortest puncture path through solid insulating material is **less than half** the arcing distance.

POST INSULATOR	PIN TYPE INSULATOR
+ Low R.I.V.	+ Cheap initial price
+ Better reliability	+ Traditional
+ Higher strength	- R.I.V.
+ Non puncturable	- Puncturable
+ Good axial strength	- Poor reliability
+ CC & CCT compatible	- Limited loading
- Higher purchase price	- Higher labour cost
- Heavier weight	- Higher inventory cost

Note: - Red=Con + Black= Pro

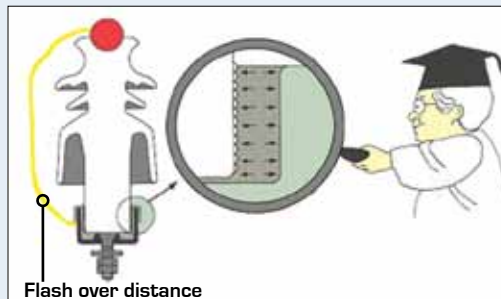


Solid Post Type Insulator – Absolutely puncture proof

ABSOLUTELY PUNCTURE-PROOF

Post insulators are a solid-core type and the puncture path through the porcelain body is almost equal to the dry arcing distance. So flashover if any, will always occur along the surface of the insulator.

SOLID POST INSULATOR



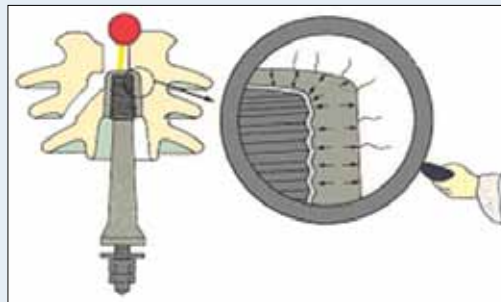
NO CEMENT GROWTH PROBLEMS

When the cement expands, its stress works as a compressive load on the porcelain body because the flanges are cemented to the body. No porcelain damage will occur since the compressive strength of porcelain is more than ten times its tensile strength it's pushing 'in' on sound porcelain!

PUNCTURABLE

The two electrodes of pin type insulators are isolated by a relatively thin insulator body. This means there is a possibility of insulator puncture by lightning.

MULTI PIECE PIN TYPE INSULATOR



PORCELAIN FAILURE

When the cement expands, its stress works to the inside of the porcelain body as a tensile load pushing it out which will cause the body to crack creating a path to earth. Multi part insulators tend to crack where they're joined.

* Contact your local rep or customer services for more information on the TE Connectivity Solid Post Insulator Range.



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Are your Connectors the Weakest Link?



In electricity networks, as in every single device that uses electricity, electrical connectors are ubiquitous. The failure of a single electrical connection can mean failure of the entire feeder. They are used to provide electrical continuity and tapped power flow. The service performance of connectors on Electricity networks must satisfy the dual requirements of long service life and high cost-effectiveness in the delivery of electrical energy. Because electrical connectors can fail they represent the weakest link in the power delivery chain.

Connections on Electricity networks are exposed to moisture, mechanical vibrations, pollutants and operational variables such as temperature excursions due to abrupt changes in operating load. If an improper or inferior connector is used or it's installed poorly these environmental and operational factors foster the breakup of contact spots and allow the ingress of electrically insulating contaminants into the electrical interfaces. This leads to corrosion, impeded current flow and increases in energy loss, this leads to increased connector temperatures ultimately leading to catastrophic failure.

There are basically 3 connector technologies used in the electricity industry.

- Bolted
- Compression
- Fired Wedge (AMPACT)

The proven AMPACT tap "C-spring" and wedge design provides a stored energy system that prevents connector degradation and achieves significantly lower resistance than any competitive product over the "in service" life of the connector. As thermal cycling causes the conductors to expand and contract, the AMPACT tap spring member flexes and maintains constant contact pressure.

BENEFITS OF THE AMPACT SYSTEM

- Non damaging to the conductors – the wedge connector can be removed without any degradation to the conductors.
- The Design maintains lower resistance throughout connector service life
- AMPACT tap spring member flexes with heat cycling reducing resistance
- Inhibitor with abrasive particles cleans contact surfaces to reduce corrosion and line loss
- Reduction in connector failures – leads major reductions in maintenance costs over time



AMPACT Connector unique spring ability, reduces resistance and remains cooler.

Connector Type#	Cost	Resistance to Heat Cycling	Ease of Installation	Removable
Bolted	Medium	Average	Easy	Yes
Compression	Low	Poor	Average	No
Fired Wedge (AMPACT)	Medium	Exceptional	Average	Yes



Wrap around Joints – perfect for confined spaces and sheath damage

Some situations call for a smarter solution – when it's not practical to apply a standard heatshrink sleeve what are you supposed to do?? TE Connectivity's Raychem brand have a number of options, two of the fastest and easiest to apply are the GelWrap and the CRSM wraparound systems. Both these systems give you the opportunity to repair LV sheath damage or insulate and seal a joint without having to "park" a heatshrink sleeve on the cable.

Raychem GelWrap sleeves quickly and conveniently insulate and seal buried connections up to 600V. The robust, yet compact design is engineered to handle the harsh environments of direct burial and manhole applications. GelWrap sleeves are equally well suited for insulation and jacket repair.

Simple to install – the PowerGel lined sleeve is simply wrapped around the connector or jacket damage and snapped into place. The gel in the sleeve seals on contact and installation is literally a snap. Cable ties are used as added security incase the GelWrap is snagged and pulled from the cable.



Raychem CRSM heatshrinkable halogen-free wraparound sleeves for plastic or metal sheathed cable repairs are available in a range of sizes to cover most applications. Excellent as insulation to a joint but also perfect for repairing any damage to cable sheaths. CRSM sleeves are also perfect for small joint pits or where space is restricted and there isn't room to park heatshrink sleeves while making off joints.

The CRSM sleeve is quickly fitted in place by means of it's rail and channel closure. A moisture-proof, insulating and tight-fitting repair is then obtained in one step by heating, which makes the sleeve diameter shrink and the sealant coating melt and flow into interstices. Due to the nature of heatshrink sleeves each CRSM sleeve will cover a broad range of different cable diameters. Abrasion and corrosion resistant CRSM sleeves offer mechanical resistance to the cable sheath.



Multipurpose Stainless Steel Boxes

These boxes are made out of 304 grade stainless steel 1.2mm thick, and come complete with an insulated gear plate. Other grades available on request. You will be impressed with the quality of these boxes for such a competitive price.

Features:

- Boxes have a stainless lock and key mechanism
- Hinged lid/ door has a rubber seal to limit water ingress
- Two sizes available (ex stock)
- IP65



CAT NO	DIMENSIONS	PRICE (EXCL GST)
SSBOX-303015	300mmH X 300mmW X 150mmD	\$125.00
SSBOX-403020	400mmH X 300mmW X 200mmD	\$150.00

Inky Wins Targa Bambina

Glenn Inkster has made the perfect start to his 2011 rally campaign, taking victory in the two-day Targa Bambina, held in the upper North Island in early March.

Inkster, along with co-driver Spencer Winn, were on the pace from the start, piloting the TransNet Evo 6.5 to a time only three seconds behind stage winner Neil Allport, despite a spin at a junction.



When Allport left the road in stage two, Inkster sat one second behind Tony Quinn after the pair set equal times on the second stage, then the Kiwi pulled a second back on Australian-based Scotsman Quinn to be dead even after three stages.

The intense battle continued all the way into Whitianga, with Inkster taking the lead after lunch, only to relinquish it again on the day's final stage, the margin a mere seven seconds.

Day two started with wet weather, conditions that favoured Inkster and his gravel rallying experience. Within one stage, the gap had been reduced to two seconds, but disaster struck on the

days second stage when the transfer case broke off the start line, costing Inkster and Winn 24 seconds.

The team TransNet Extreme crew worked their magic to replace the damaged component in a mere 10 minutes, restoring the Evo 6.5 to full health with no penalties accrued. Inkster immediately clawed back eight seconds, reducing the total to 18, however as the crews headed towards the lunch break, the advantage swung towards Inkster when Quinn retired with gearbox failure.

With a gap of over two minutes, Inkster immediately took a one minute penalty to take a sixth tyre with the drying conditions making tyre wear a problem. Some restrained driving across the afternoon gave Inkster his debut Targa victory to go with his second in last years week long event.

"It was such a cool weekend, these Targa events are really growing on me," said Inkster. "The crew did an awesome job to keep us going and it is such a shame Tony retired as

we were set for a ding-dong battle, but I am sure the battle will resume in Rotorua."

Press Release by BB Media



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