TRANSNET HV JUICE

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TransNet Your Partners in Power

August | September 2014

RAYCHEM SCREENED ELBOWS

630A, 12/24kV Connection System

NZ Herald Feature –

A Bottle's Tale, The Cable Cover Link

A Bottle's Tale & The Link With Astron Cable Cover

TransNet Cable Cover (made by Astron Plastics) has an important part to play in recycling.

Our Cable Cover is manufactured in New Zealand from locally sourced used plastic waste. Astron Plastics collects post production and post consumer plastic waste with high levels of HDPE plastics in them to recycle and manufacture in many, many new products. One of those products is cable cover for TransNet, Astron have been producing high quality cable cover for us for over 10yrs now and only recently have these environmental good guys been recognised in the NZ Herald for what they do.

Scan QR Code for NZ Herald Feature

TransNet Cable Cover, manufactured by Astron Plastics is:

- Made in NZ from recycled plastic with a high HDPE content
- No residues or contaminants are present in finished product
- The scrap plastic is collected from around the country and recycled at one of two Astron recycling warehouses, Auckland or Christchurch
- The high content of HDPE in our Cable Cover means it's consistently strong at a minimal thickness to conform to AS/NZ 4702 standard
- Being thinner also makes it lighter, reducing the chance of strain injuries and fatigue for workers
- The Astron factory is ISO 9001 accredited
- We have the ability to manufacture custom widths if required
- All batches are tested and test samples are stored inhouse
- As well as in-house testing, our cable cover is tested at an independent laboratory

Standard Sizes Available

100mm X 25m
150mm X 25m
170mm X 25m
200mm X 25m
300mm X 25m

*Some strip lengths of 1m or 2m are also available in pallet lots only

*Custom sizes also available

Ph 0800 442 182
+64 9 274 3340
sales@transnet.co.nz

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1250A Screened, Separable Connection System up to 36kV

The RSTI range of screened separable elbows from Raychem will accommodate cables up to 36kV from 25mm² – 800mm² which covers the majority of what's commonly used in New Zealand.

The insulation of the connector is made of a highly modified silicone rubber characterised by high tracking resistance, elongation at break and non-flammability. A thin-walled screen is permanently bonded onto the insulation and protects the connection system against unintentional contact. Oversheath testing can be done with the screened connector still in place and the termination can be made with either mechanical or DIN lugs.

With few accessories required for system test, double "T" and earth connection, an easily accessible rear plug with capacitive test point, the wide application range up to 800mm² and exceeding requirements of CENELEC (includes BS, VDE and other international specifications), this elbow range is second to none. Other sizes and voltages also available as well as surge arrestor elbows with direct or piggy back configurations.

1.Screened body
A thin-walled conductive outer screen is permanently bonded to the silicone rubber insulating material of the body.

2.Inner screen
A conductive inner layer, as a faraday cage around the compression or mechanical lug, prevents corona at rated voltage.

3.Mechanical lugs
Specially designed mechanical lugs with shear bolts for connecting either aluminium or copper conductor cables.

4.Stress cone adapter
Relieves electrical stress at the point where the cable screen is cut. The insulated section, extending beyond the wire shielding, provides a convenient point for oversheath testing.

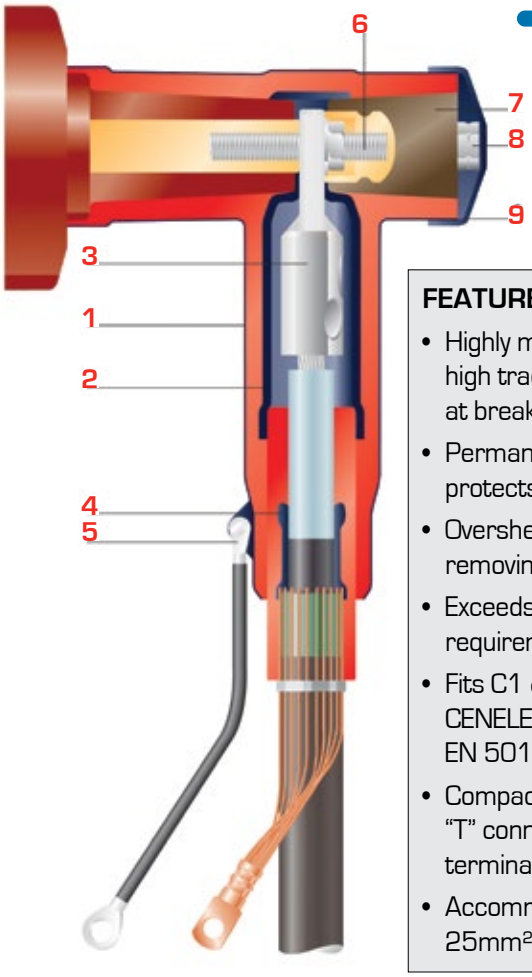
5.Earthing eye and ground lead
Provides a connection point for earthing the screen.

6.Threaded pin
A threaded pin together with a spring washer and hex nut ensure a high-performance electrical and mechanical contact with the bushing.

7.Rear plug with test point
Removable rear plug with capacitive test point.

8.Test point
The test point is used to determine whether the circuit is energised; alternatively it can be used for phasing.

9.Conductive endcap
Electrical screen and protection of the rear end of the separable connector



TE connectivity ENERGY

Raychem
from TE Connectivity

FEATURES

- Highly modified silicone rubber for high tracking resistance, elongation at break and non-flammability
- Permanently bonded screen protects from unintentional contact
- Oversheath testing without removing elbow
- Exceeds CENELEC HD 629.1 S1 requirements
- Fits C1 &C2 bushings as per CENELEC HD 506 S1, DIN 47636, EN 50180 & EN 50181
- Compact design allows for double "T" connections in standard terminal boxes
- Accommodates cable 25mm²–800mm²

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Temporary Earth Sets with Snap On Clamps – 2 Styles

Temporary earth sets with "snap on clamps" are available with a separate earth lead or with the earth looped into the set.

These spring loaded clamps make it extremely fast and easy to install the earths on overhead lines, the operator simply sets the preloaded jaw of each clamp and mounts them onto the application plate which is connected to a hotstick. Once the clamps are mounted to the application plate they are lifted above the conductor and pulled back down over it to snap into place.

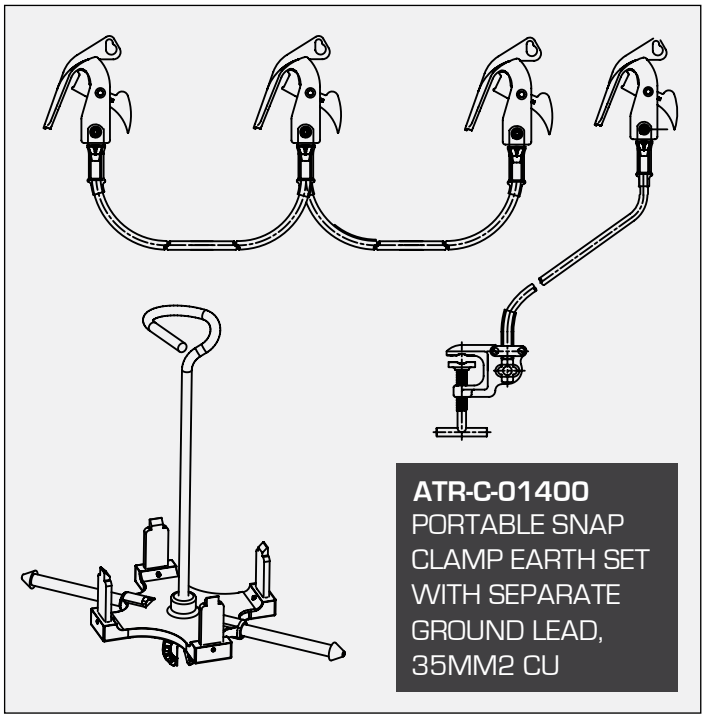
These clamps are equally easy to remove, simply pull each clamp from the conductor with the clamp removal tool specifically designed for use with these clamps.

A three phase set with separate earth lead helps to reduce the amount of weight being lifted into the air while the looped shorting and earth set offers the convenience of everything already being connected (this is ideal for urban applications).

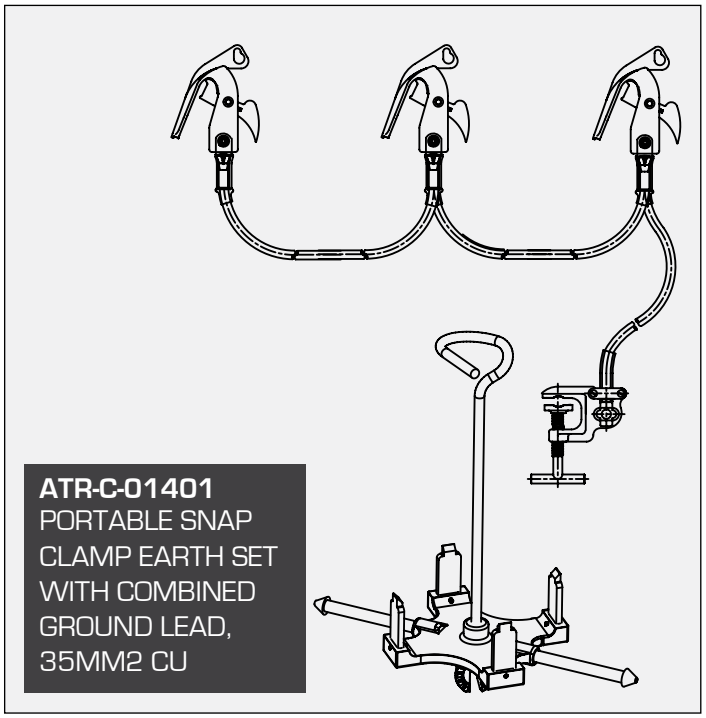
ACCESSORIES

- **Application platform** – used for attaching snap on clamps to overhead lines, comes with universal hotstick attachment
- **Clamp removal tool** – used for removing snap on clamps from overhead lines, comes with universal hotstick attachment

TEREX | RITZ



ATR-C-01400
PORTABLE SNAP CLAMP EARTH SET WITH SEPARATE GROUND LEAD, 35MM2 CU



ATR-C-01401
PORTABLE SNAP CLAMP EARTH SET WITH COMBINED GROUND LEAD, 35MM2 CU

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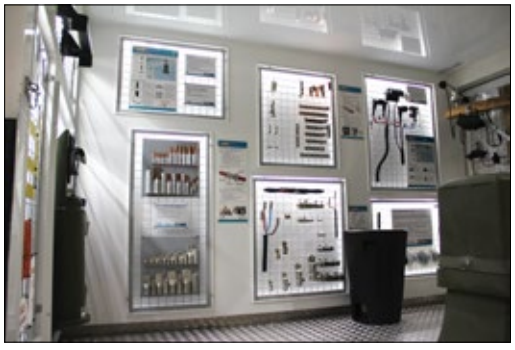
TransNet Product Road Show Update – New Vehicles Added

With the success of our previous product road shows in both the wholesale and utility industries, we have added two new vehicles to the line up. The latest is a small truck, completely kitted out with ECOPillars and the new TE Tappat Link products. These two ranges compliment each other very well. The truck has been touring the central part of the North Island visiting networks and contractors and will be reaching the rest of the country before the year is out.

The new Tappat Link pillars and Link box are taking the country by storm, the technology used is simple yet dynamic, strong, versatile and modular. These kits are affordably priced, safe for the worker and easy to install. The footprint is also small meaning they can be used is many more applications than their alternatives.

The Tappat Link Pillar components have been set up in ECOPillars as a complete solution, a solution that has no bare metal work accessible, increasing public and worker safety.

For more information on these products you can contact us, check out the QR code and, get a hands on demo when the truck visits your town.



TE connectivity ENERGY

Raychem from TE Connectivity

Scan QR Code for Tappat Link Box Datasheet

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OptaNODE™ Poly Phase DTM

THE PROBLEM we are solving is that the electric distribution grid does not have sufficient sensor technology combined with the proper analytics software to empower utility operators to directly reduce system losses and maximize efficiencies. We submit that there is a "Blind Spot" between the Substations (SCADA) and the endpoint meters (AMI/other). We provide 20/20 vision into this critical area.

THE OptaNODE™

- Installs on Pad mount transformers 3–5 minutes
- Installs on Pole mount Transformers in 7–9 minutes
- The OptaNODE™ is a very accurate Watt-hour meter (ANSI .5% Class)
- Capable of over-the-air (OTA) Firmware Upgrades for future Bi-Direction Energy measurement for renewable energy, a Future-proofed 15+ year asset
- High-accuracy patented sensors and smart analytics software
- Proven worldwide deployments. Extremely Durable (UV, Temperature, Humidity)

Interfaces with SCADA, AMI Collection Engines, MDM

GSM Cellular

OptaNODE™ HESS Software

- The OptaNODE™ by GRID20/20 retrofits, in minutes, directly onto existing utility critical assets.
- Every modern grid will leverage the power of the Distribution Transformer Monitor to defend utility revenues from increasingly sophisticated thieves who steal the resource with illegal grid connections that create hazardous conditions for utility crews and paying customers.
- The OptaNODE™ Solution is available with the most appropriate communication options to address the modern grid space including Landis+Gyr RF-Mesh as well as GSM Cellular Communications.
- Our ability to create a stand-alone DTM network using the Landis+Gyr Gridstream RF-Mesh Communications will allow utilities to increase electric grid reliability & efficiency worldwide, regardless of their advanced metering status.

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TE Assist With Tekapo Upgrade

Owned and operated by Genesis Energy since 1 June 2011, the Tekapo Power Scheme is located at the head of the Waitaki Valley in the Mackenzie District and uses water from Lake Tekapo to generate electricity through two power stations – Tekapo A and Tekapo B. The scheme is situated close to Aoraki Mt Cook and near the township of Lake Tekapo.

Tekapo A was commissioned in 1951. The Tekapo A hydro generator G1, comprising single vertical shaft turbine directly coupled to a vertical synchronous alternator, has been refurbished and upgraded, in turn increasing the ultimate generating capacity from 28MVA to 35MVA continuous duty (generation at 11kV, 3 phase, 50Hz). This upgrade work was carried out during the planned station outage between January and July 2014.

The original 11kV single core copper PILC cables (2 per phase) that connect G1 to the indoor 11kV switchboard (incomer CB38) were replaced as part of the generator upgrade exercise. The original generator cables were run in two trefoil circuits between the G1 stator compartment and the 11kV switchboard, along a basement cable gallery. The new cables installed along the same route are 11kV, single core 630mm2 copper XLPE (3 cables per phase installed in a trefoil configuration).

There were two additional 11kV cable circuits that T-off from the generator output phase terminals inside the G1 termination compartment to the excitation transformer and metering / protection voltage transformer (VT) panel and both were replaced. The new excitation transformer and VT cables are 11kV, single core 185mm2 copper XLPE (1cable per phase installed in a trefoil configuration).

The 11kV cable replacement scope included the supply and installation of new cable supports, cable clamps, Raychem heat shrinkable terminations and earthing. The cable replacement work was undertaken by Transfield Services Ltd. The generator upgrade work was undertaken by others (GE Energy Services) under a separate contract.

TE was asked to assist with the installation of the new Raychem terminations as well as finding a solution to insulate all bare contact areas for protection from rodents. The Raychem range offers numerous solutions for this problem, the majority able to be installed without any disassembly. Raychem BCIS – a thick crosslinked insulation sheeting that is not expanded (like heatshrink is) meaning it won't shrink when it's heated, was the product selected. Originally designed for vacuum forming molded parts, this material can be folded over the component to be protected, clipped in place and heated into a custom made, close fitting, durable cover making it the perfect choice for this application. This material is highly track resistant and fits well with the other Raychem products used on this project.

TE's Paul Godfrey worked closely with the Transfield Services field staff and the Genesis Energy project Engineers to ensure this project was completed within time, budget and expectation. The product was supplied by TransNet – the NZ distribution channel for TE Energy products such as Raychem.

The Raychem range is diverse and encompasses all technologies available to the market, it's a range that has been used in New Zealand for over 30yrs and is proven to stand up to the harsh environments.

Contact the energy team on 09 634 4580.

Ph 0800 442 182
+64 9 274 3340
sales@transnet.co.nz

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NEW – TE Technical Support Person In The South Island

We would like to introduce you to Mark Thompson! Mark is TE's newly appointed Technical Sales Engineer based out of the TE office in Mary Muller Drive, Christchurch.

If you were at the recent EEA annual conference and trade exhibition held at Sky City Auckland, you may have met Mark there. If not there is no doubt he'll be in your area soon.

Mark, originally from the South Island has recently returned home from Australia with his young family. After spending 14 years in Sydney working in a number of roles within the electrical industry it was time for a change – a move back to New Zealand!

Mark had originally launched his sales career with Alstom Industrial Products (Now IPD) and in 2008 he moved on from there to join ABB where he worked as a Solutions Manager.

Mark has brought with him, skills from a wide range of market segments including mining, manufacturing, utilities and automation, all of which will help him in his new role. Mark also has experience as a HV electrical fitter in the South Island and a deep seated passion for rugby and league.

When not at a game or out fishing you can contact him on 027 521 3087 or mark.thompson@te.com

TE connectivity ENERGY

EEA Annual Conference & Trade Exhibition

JUNE 18-20th, SKYCITY CONVENTION CENTRE

Once again this was an excellent opportunity for us to connect with our customers outside the office. With our newly released Link pillar and underground Link pit range we certainly had something interesting to discuss. The theme of the conference fitted well with these products, they are the perfect solution for future planning and future proofing networks around demand growth and load management.

The technical team were kept busy talking to customers about potential applications and already some of those projects are underway.

We look forward to seeing you all in Wellington for next years event.

TransNet New Zealand Ltd
Auckland

20 Neilpark Drive
East Tamaki
Auckland
NEW ZEALAND
Ph 0800 442 182
Fax 0800 442 183
PO Box 39 383
Howick, Auckland

Wellington

18 Sydney Street
Petone
Wellington
NEW ZEALAND
Ph 04 576 2530
Fax 04 576 0040
PO Box 39 383
Howick, Auckland

sales@transnet.co.nz

NEW ZEALAND

TransNet Equipment Pty Ltd
Perth

Unit 20, 8 Hurley Street
Canning Vale WA 6155
Perth
AUSTRALIA
Ph +61 8 9256 3417
Fax +61 8 9256 3917
PO Box 1439
Canning Vale DC WA 6970

sales@transnetequipment.com

AUSTRALIA

TransNet Tonga
Tonga

Small Industries
Ma'ufanga
Tonga
Ph +67 627 939
Fax +67 627 976

PO Box 2932
Nukualofa

transnet@kalianet.to

TONGA

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