

HV JUICE

HOW DO YOU INTEGRATE
AN EV NETWORK?



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PORCELAIN



TE's comprehensive range of Porcelain insulators has been selected based on features best suited to NZ environmental conditions, providing a cost effective solution for the majority of distribution line, busbar and apparatus insulation.

Built using some of the most advanced technologies in the field of ceramic insulator production, these insulators reflect 90 years of design and manufacturing experience. A commitment to quality is evidenced by independent certification of quality systems complying with international standards. This is further reinforced by our accredited testing laboratories which are capable of conducting a wide range of design and development tests along with type, sample and routine

testing to recognized international and national standards.

FEATURES

- High quality non porous electrical porcelain and galvanized ferrous (or non-ferrous) end fittings
- Long life
- Reliable performance over a wide range of environmental conditions
- Constructed to international standards including ANSI, IEC, BS, AS and GB
- Tie top & clamp top options
- Lightweight range taking aluminium clamp
- Radio silent glaze
- Minimum 10kN cantilever rating
- M20 pin

POLYMER



Raychem RLP polymeric line post insulators combine mechanical strength with excellent pollution performance. They consist of protruded fibreglass rods and non-tracking polymer housing directly bonded to metal end fittings. Corrosion resistant end fittings are crimped to the pultruded fibreglass core to allow the transition of mechanical loading to the line and mounting structure.

A patented crimp control technology monitors for damage to the fibreglass rod while achieving maximum mechanical strength. The direct bonding of the polymer housing to the metal end fitting results in an ideal moisture barrier in the sensitive interface area.

FEATURES

- Composite design
- Lightweight – easy installation
- Vandal and break resistant
- Impact resistant
- High tracking and erosion resistance
- Excellent performance under polluted conditions
- Reduced maintenance costs
- Direct bonding to end fitting offers moisture barrier on fibreglass rod
- Tie top & clamp top options
- Lightweight range taking aluminium clamp
- M20 pin



TE Connectivity offer a 25 year manufacturing warranty on all TE branded Porcelain Insulators up to 66kV. In the event a TE insulator from this range is found to demonstrate manufacturing defects, TE will supply a replacement product free of charge. Terms and conditions do apply, to learn more about this offer please contact TransNet (0800 442 182, 09 274 3340) or TE Connectivity (09 634 4580) directly.



PLATING PROCESS = LONGER LIFE



WHAT'S THE POINT?

A grounding system's performance is dependent upon the effective operation of several components. Failure of any one of these renders the entire system ineffective. Electrical elements buried underground are subject to much harsher conditions than their counterparts above ground. **The ability of an electrical grounding component to resist corrosion determines its service life.**

Grounding systems:

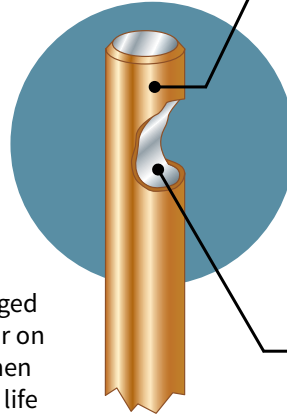
- Protect people
- Provide a signal reference for low voltage digital signals for electronic equipment
- Prevent the flashover of insulators on transmission lines
- Protect expensive equipment, e.g. transformers, capacitors, reclosers, and lightning arrestors

WHY BONDED COPPER?

A National Association of Corrosion (USA) study concluded that galvanized rods would lose their coating in 15 years, leaving only the steel, while the National Bureau of Standards (USA) determined that 0.18mm of copper plating would result in a ground rod with a nominal life of 30 years. Since the majority of electrical installations have a life of at least 30 years, copper plated ground rods with a coating of 0.25mm should be used for them.

By plating the rod with copper, a molecular bond is formed with

the steel core. Ground rods manufactured without this have no molecular bond between the copper and steel, and can easily be damaged during transit or on installation. When this occurs, the life of the ground rod is compromised.



ERICO COPPER-BONDED COATING:

- Permanent molecular bond
- Low resistance performance
- High fault current capacity (IEEE® Std 80)
- Will not slip or tear when driven
- Will not crack if rod is bent
- Copper coating may vary to meet required standards
- 10 mil (254 micron) minimum coating on rods listed to UL® 467

CARBON STEEL CORE AND TIP*:

- Greater Tensile Strength
- Deep driving capability

*ERICO copper-bonded rods

ERICO's unique manufacturing process includes drawing the steel rod to size before the copper bonding process begins, resulting in a straighter, harder steel core. We use a continuous electro-plating process over the steel core resulting in a permanent molecular bond which will not slip or tear when drive, nor crack when bent, that provides decades of reliable performance.

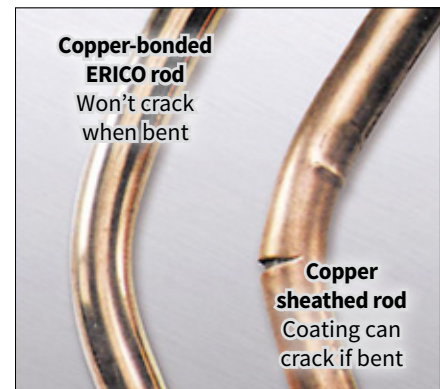
ERICO Earth Rods have all the benefits of a copper-bonded coating, plus:

- 99.9% pure electrolytic copper coating

WHY ERICO?

- Nickel-sealed high strength steel core
- ERICO® name, length, diameter and part number is roll-stamped within 12" (304,8 mm) of chamfered end
- UL logo and control number where applicable stamped on each rod for easy inspection after installation

All ERICO® rods are made to meticulous standards and exceed the requirements outlined in AS/NZS 3000:2007 for minimum surface treatment thickness.



ERITECH Earth Rod Testing & Compliance	Australia AS:3000	Britain BS:5514	USA UL467	Europe EN 50164-2
DIMENSIONS	COMPLY	COMPLY	COMPLY	COMPLY
COPPER THICKNESS	COMPLY	COMPLY	COMPLY	COMPLY
STRENGTH TEST	N/A	N/A	COMPLY	COMPLY
COPPER ADHESION TEST	N/A	N/A	COMPLY	COMPLY
BEND TEST	N/A	N/A	COMPLY	COMPLY

The copper adhesion tests confirm the design feature that prevents the ingress of moisture and subsequently the integrity of the earth rod. ERICO use Carbon steel, grade 1018 which has a much higher tensile strength than the 250 / 350 grade mild steel typical of the core in a tubular copper sheathed earth rod.





TRANSNET TOOL POUCHES & TOOL APRONS

TOOL POUCHES

- Designed in New Zealand for electricians and line mechanics
- Space for all the essential tools you need with you
- Strong leather construction
- Strengthened seams for long life
- Nylon belt with plastic buckle (leather belt available on request at additional cost)



TOOLBELTSPARKY



TOOLBELTLINEY



TOOLBELT(ONLY)



TOOLAPRON

TOOL APRON

Designed to hang in the bucket and hold a full compliment of tools, with individual gusseted pockets for a wide range of shapes. Simple to install, it stays snug against the side of the bucket. Works just like a tool roll – when finished simply unattach it and

roll it up, no need to remove the tools.

- Made from 720 gram PVC
- Edges covered in binding
- SP3 eyelets for drainage & air circulation at the base of pockets
- Pockets accommodate a range of different tools

Cat No.	Description
TOOLBELTSPARKY	TOOL POUCH FOR GENERAL ELECTRICIAN, LARGE POCKETS, NYLON BELT & CLIP
TOOLBELTLINEY	LINEMAN TOOL POUCH WITH DEEP POCKETS FOR LARGER TOOKS, NYLON BELT & CLIP
TOOLBELT(ONLY)	LEATHER BELT ONLY
TOOLAPRON	TOOL APRON FOR USE IN BUCKET

BIRD-B-GONE ASSET PROTECTION

Bird-B-Gone Bird Spikes are used to prevent large birds from landing on flat or curved surfaces.



Birds can't land on the uneven surface created by the spikes and will move on to a better spot. They are an effective, humane solution for deterring birds from unwanted areas.

Bird-B-Gone Spikes come in two foot sections and are made from U.V. protected polycarbonate plastic. The base of the spike strip can be glued, screwed, or tied down to most surfaces.

FEATURES

- Low cost
- Will not harm birds
- Virtually Invisible
- GSA Approved
- Longest Guarantee - 5 Years
- Patented US 7596910
- Manufactured in USA
- Non-conductive
- Glue trough on base of spike allows for fast and easy application
- Will not cut or injure installer
- U.V. Protected / Sun & Weather Proof – unaffected by extreme temperatures (+310°F to -200°F)

Cat No.	Colour	Size
BBG2000-5GRY	GREY	2' LONG x 5" WIDE



The best way to integrate EV networks into our existing infrastructure is to make them work for us rather than the other way around. At TransNet we've got a few tricks to help smooth the transition.



Termination Pits

EVC-PIT6-KIT

The EVC-PIT6-KIT is designed to be a complete solution to break-out from larger capacity supply cables to feed EV chargers with the current capacity required while ensuring electrical standards are met. It can supply up to 6 chargers at full capacity from a single 3-phase supply.

FEATURES

- Able to loop a large supply cable (up to 120mm²) to feed multiple EVC-PIT6-KITs
- Up to 6 chargers per pit
- Maximum of 3 pits (max 15 chargers) from a 160A three-phase feeder, or more chargers with load sharing
- Designed for permanent underground termination on walkways, driveways or carparks
- Clean and tidy architectural installation

EVC-TERMINATION-PIT

Essential for future proofing, EVC-TERMINATION-PITs make an easy connection point to daisy chain the supply to multiple EV pedestals. Used in conjunction with conduit and either a draw wire or full pre wire, this is the most cost effective way to ensure you are prepared for when more EV charging stations are required.

By planning ahead it's possible to limit the impact of increased EV use in New Zealand. Create an EV network that's only as big as you need it to be, expandable when you need it to be, and uses energy at the times you want it to.

Come see us at EVworld South!
Read more on page 8



wallbox
plug & drive

150 amps gives a minimum of 6 amps to 75 cars plugged in at once

Load Sharing

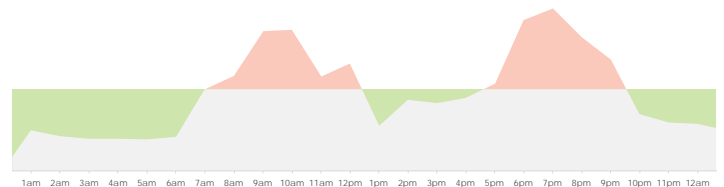
It can be easy to overestimate the amount of power needed for an installation. 150 amps gives a minimum of 6 amps to 75 cars in an installation if they were all plugged in to charge. With load sharing (built into every Wallbox charger), as every EV finishes charging, more current is allocated to the rest of the EV still charging, so there is a cascading effect until all of the cars have finished charging.

150 amps is the sweet spot, but the Wallbox system can be easily set to work within the supply available, up to 240 amps per phase.



Charging Habits

In order to ease the burden on the electricity network we need to make it easy for EV users to charge during off-peak times, and tools like the myWallbox app are essential. Individual users have full access to their allocated charging stations and can manage their charging conveniently. The simpler it is to charge overnight, the more likely new EV users will pick up the habit.



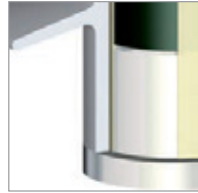
TE OCP2 & DAH SURGE ARRESTORS



TE's Bowthorpe EMP silicone surge arrestors have been designed and tested to meet customers' demand for reliability and improved operational performance.

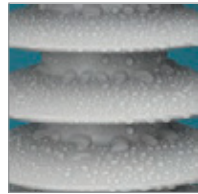
BENEFITS

- Direct molded housing to prevent moisture ingress
- Safe non-shattering short circuit behavior to higher current levels
- Maintenance free
- Low residual voltages
- High-energy handling
- Hydrophobic silicone housing: (Tracking and erosion resistant)
- Excellent cantilever and tensile performance
- Meets or exceeds all relevant international standards



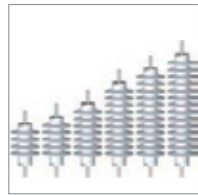
SEALING

All arrestor cores are encapsulated in silicone insulating housing. A permanent chemical bond connects the arrestor core and the non-tracking silicone housing. This invisible interface prevents moisture from entering during severe thermal fluctuations due to normal climatic and energy absorption events.



POLYMER HOUSING

Non-tracking and hydrophobic silicone insulating material is used for DA arrestor housings. The DA series is available with standard or extra leakage distance. The housing material has proven performance in long term TERT and UV aging tests and proven resistance to flammability.



INTEGRATED DESIGN

Manufacturing integrates all components in a single piece. There are no glued interfaces. The design is void and gap free ensuring peak performance under the harshest conditions.



RELIABLE AND CONSISTENT GLD

The robust ground lead disconnect (GLD) offers operational reliability and

consistency. It was designed to operate in event of arrestor failure, removing ground connection and fault from line. It can be shipped and stored restriction free.



SAFE MODE OF FAILURE

Our high energy arrestors are tested in accordance with the short circuit mode of failure test in IEEE C62.11, (2005). This testing has proven the DAH's safe and predictable failure characteristics.

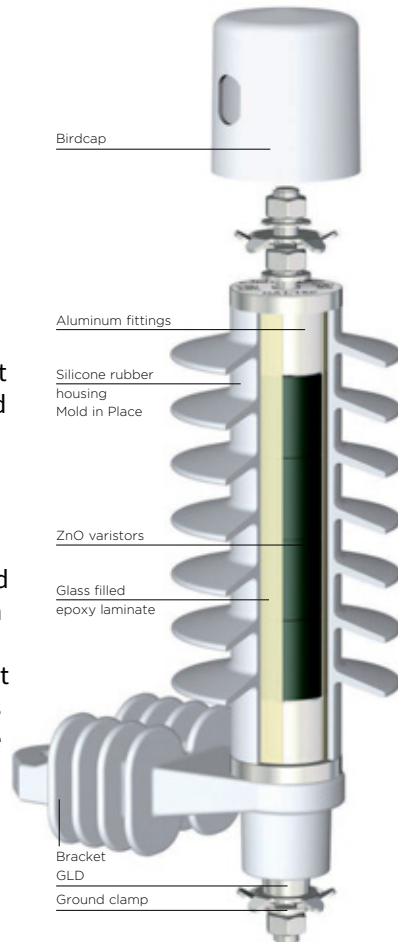


CLASS 1 - DISTRIBUTION CLASS, DAH SERIES

Generic Technical Data	Value
DAH SERIES	UP TO 36KV
RATED DISCHARGE CURRENT (8/20μs)	10KA
HEAVY DUTY ARRESTOR	IEEE C62.11, (2005)
OPERATING DUTY IMPULSE WITHSTAND CURRENT (4/10μs)	100KA
LONG DURATION CURRENT IMPULSE (2000μs)	250A
10 SECOND TOV, (KV)	1.4 * MCOV
Mechanical Strength	
CANTILEVER	258 FT.-LBS
TENSILE	450 LBF
TORQUE	36.9 FT.-LBS

CLASS 2 - STATION CLASS, OCP2 SERIES

Generic Technical Data	Value
OCP2 SERIES	3-41KV UC
RATED DISCHARGE CURRENT (8/20μs)	10KA
LINE DISCHARGE CLASS ACCORDING TO IEC 60099-4	CLASS 2
OPERATING DUTY IMPULSE WITHSTAND CURRENT (4/10μs)	100KA
10 SECOND TEMPORARY OVERVOLTAGE, (UTOV/UC)	1.35
LONG DURATION CURRENT IMPULSE (2000μs)	530A
HIGH CURRENT SHORT CIRCUIT: (PRE-FAILING METHOD) (SAFE NON-SHATTERING FAILURE MODE)	40KA
ENERGY - 2 LONG DURATION IMPULSES	6.0KJ/KV UC
SERVICE CONDITIONS - AMBIENT TEMPERATURE:	-60°C TO + 60°C
Mechanical Strength	
CANTILEVER	250NM
TENSILE	2000NM
TORQUE	50NM





Aluma-Form, Inc. specialises in innovative, custom-engineered overhead utility and communications solutions. They offer industry-leading fibreglass products for the electric utility and communications industries. Our customers recognise Aluma-Form products for their unique designs, high quality, fair prices, and the superior customer service that accompanies each one.



Why Use Fibreglass?

- **Strong**
 - Excellent mechanical strength
 - Up to 6 times stronger than timber
- **Lightweight**
- **Corrosion resistant**
- **Cost effective**
 - Gain system - no arm braces
 - Termination arms can be single arms
- Improved electrical properties
- Easy, quick, safe installation
- Helps prevent bird and foreign object faults
- Environmentally safe materials
- Free from splinters
- Impervious to insects, fungus, & rot
- Not susceptible to contamination and deterioration
- High levels of UV protection
- Free of natural variances that are present with timber
- Projected service life of more than 60 years



These filled fibreglass crossarms can be custom drilled on site if required – no need for inserts.

Fibreglass Crossarm Testing

- Balanced Vertical Load Testing
- Single Position Longitudinal Load Testing
- Single Position Transverse Load Testing
- Accelerated UV Exposure Testing – tested to ASTM G154 standard

Conductor Supports

Aluma-Form's high quality, high performance single and three-phase fibreglass equipment mounts are available with 0° & 15° mounts, and several different end fittings.

Aluma-Form fibreglass equipment mounts can be mounted to any pole – steel, concrete, wood, or fibreglass. Just use the Aluma-Form Bolt-A-Band banding system.

Five times smoother than the leading competitor, the Super-Smooth fibreglass rod provides superior strength and durability. Aluma-Form's proprietary veiled fibreglass design provides superior UV, tracking and abrasion resistance.

Crossarms

Fibreglass Dead-End Arms and Tangent Crossarms are now available with the quality and performance you expect from Aluma-Form. Our dead-end arms are available in a choice of pole gains (with and without guy attachments). Tangent arms are offered with our high-strength Aluminum Pole Gain.

ASK THE EXPERTS
WORLD LEADERS
IN THE SUPPLY OF
Composite Conductor Supports



TransNet is Heading South

Bringing e-Mobility to Christchurch



TransNet New Zealand Ltd

Auckland

78 Cryers Road
East Tamaki
Auckland
NEW ZEALAND
Ph 0800 442 182
Fax 0800 442 183
PO Box 39 383
Howick, Auckland

Wellington

10 Petone Ave
Petone
Wellington
NEW ZEALAND
Ph 04 576 2530
Fax 04 576 0040
PO Box 39 383
Howick, Auckland

NEW ZEALAND

sales@transnet.co.nz

TransNet Tonga

Ma'ufanga

Small Industries
Ma'ufanga
TONGA
Ph +67 627 939
Fax +67 627 976
PO Box 2932
Nuku'alofa

TONGA

transnet@kalianet.to



EVWORLD SOUTH 2018

23-24 NOVEMBER

Our stand at EVworld was such a success we're taking it to the South Island! Join us at EVworld South at the Airforce Museum in Christchurch to see our Wallbox electric vehicle charging stations, Ratio chargers, and TransNet termination pits first-hand. We have EV products to suit home users, commercial installations, apartment complexes, utility networks, and more.



wallbox
plug & drive

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