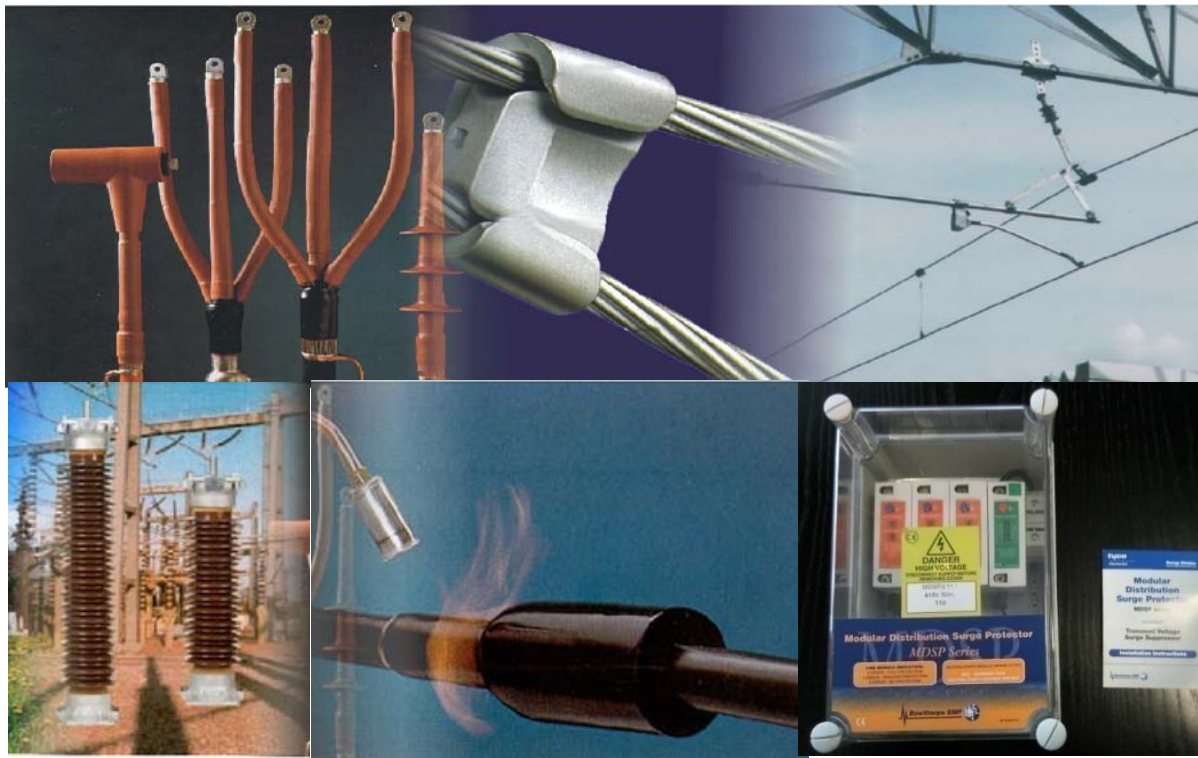


COMPANY PRESENTATION



- ENIA S.A is a Greek company, established in 2004 by engineers with a long experience and specialization in the fields of power networks.
- Common goal and ambition is the provision of tried, reliable and contemporary solutions in the fields of energy networks, as well as materials for the industrial sector like electrical measurement instruments, control and automation systems, heat tracers and leakage detection systems .
- The scientific staff of the company can study and propose the best solutions in the fields of:
 - Power transmission and distribution networks.
 - Measuring and NDT instruments.
 - Piping heat tracing.
 - Electrical surge protection.
 - General industrial issues.
- The deep knowledge of the market and the long established relations of trust and cooperation with our customers and suppliers is the best guarantee for success.



ENIA S.A. Strategic Alliances

enia



Cable connections & terminations, insulators, heat shrinkable tubes and sleeves.



Self regulating heating tapes & components for heating of pipes, tanks and floors, fluid leak detection



Any kind of cable connectors and terminations



Materials for transmission / distribution lines & substations



Electrical surge protection devices



Pin-strike fuses



Panel instruments



Panel materials



Cable connectors and terminations



Cable labeling



Tools for HV lines



Tools for electrical works



Tools for electrical works



Water repellent coatings for insulators. Insulation enhancements products.



High voltage testing and laboratory equipment



Non destructive testing instruments



Infrared cameras



Measuring & testing instruments, transducers, industrial automation



Electrical measurement and testing instruments



Photometers



Obstruction lighting



Electrical insulation and sealing materials

Certifications



CERTIFICATE

The certification Body
EQA HELLAS
certifies that

ENIA S.A.

6, PAGGAIU Str., GR 151 23 MAROUSI

has established and applies a Quality Management System which is in conformance with

ELOT EN ISO 9001:2008
(Quality Management System)

TRADING, KITTING, INSTALLATION & TECHNICAL SUPPORT
OF ACCESSORIES FOR: CABLES, ENERGY
NETWORKS & SUBSTATIONS

FOR THE COMPANY
CHASALAMBOIS GAIATSANOS

This Certificate of Conformity Number **QMS 2816/12** first issued on the **10th January 2012** is valid until the **9th January 2015** and is subject to all applicable regulations within the accredited scope of EQA Hellas S.A. and under the condition of the issuing CB conducting required annual surveillance assessment visits.



EQA HELLAS S.A.
30 EKATAMPA Str., 15230 CHALANFISI, Tel: 210 6834012, Fax: 210 6897985
111, SOFIA Str., 413 36 LARISSA, Tel: 2410 267 777, Fax: 2410 320 141
UE: www.eqa.gr, email: eqa@eqa.gr, info@eqa.gr

www.eqa.gr
EQA is a member of the International Register of Certificated Bodies (IRCB)



ENIA S.A.

was assessed by ICAP and awarded with the
ICAP Strongest Companies in Greece Certificate 2011

Certificate Number: I9994023821101

The community of "Strongest Companies" includes enterprises that have reached a high ICAP Rating Score Classification, only achieved by one in ten companies in Greece.

Chief Executive Officer:

Place and Date:

Nikkas Konstantellos

Athens 9/2/2011

Compliance to the standards in respect to the indicated scope is verified by ICAP Group S.A., the only Greek company recognized by the European Central Bank as an Accredited Rating Tool Issuer and by the Bank of Greece as an External Credit Assessment Institution (ECAI). The present is based on ICAP business information production process and the available commercial and financial information as contained in the ICAP Database. The Certificate is valid for twelve months from the issue date on condition the high ICAP Rating Score of the company is maintained at all times. Any change in the company rating score might result in the invalidity of the certificate and, if so, the company is obliged to cease all communication of this ICAP Certificate.

ISO 9001/2008
Quality Management System

ICAP Strongest Companies in Greece 2011

Heat Shrinkable Components

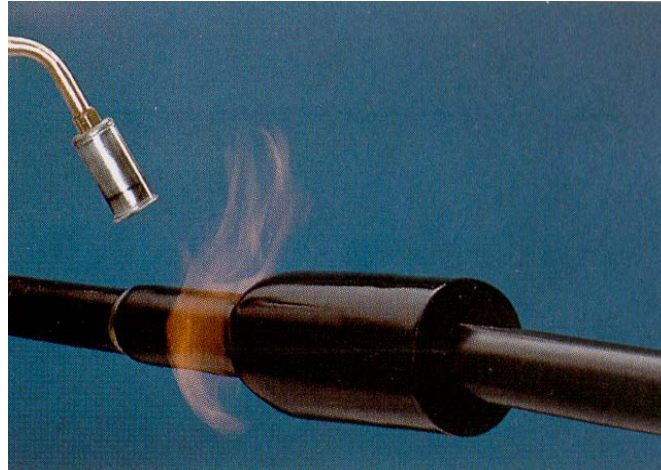
- The heat shrinkable materials technology covers a wide range of applications from simple cable joint sealing to the most sophisticated high voltage joints and terminations.
- The unique characteristics of heat shrinkable technology can be applied for any type of cables (PVC, EPDM, XLPE, paper insulated or super flexible).



Heat shrinkable cable end caps



Medium thickness heat shrinkable tubes



Thick walled heat shrinkable tubes



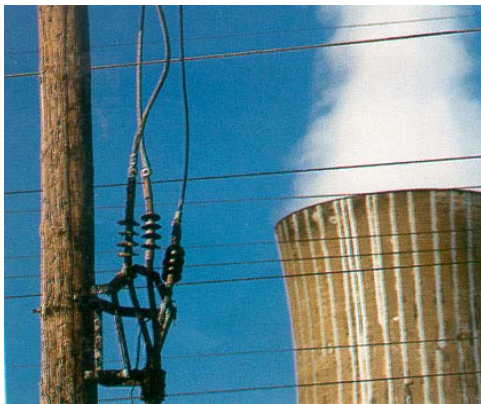
Heat shrinkable cable jacket

Heat shrinkable connections & terminations

enia



Medium voltage terminations



Enhanced insulation terminations
(for power stations & mines)



Armoured low voltage cable
connection



Underground medium voltage
connection

Connectors and Lugs

Cable connectors and lugs, made of aluminium, copper, galvanized copper and bimetallic, mechanical with torque limiting bolts or for hexagonal or deep crimpage for any size of conductors.



GEL filled L/V Power Cable Closures

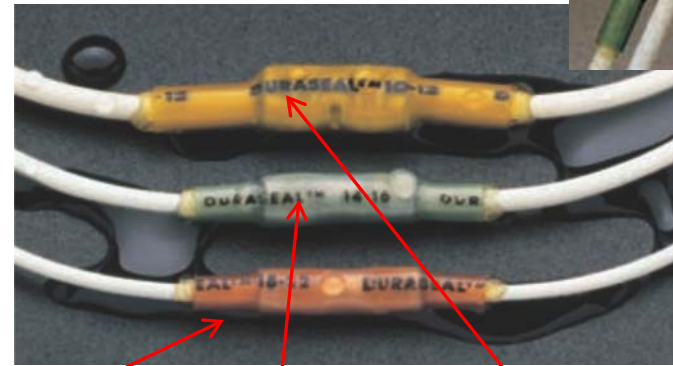


Pre-insulated crimped connectors and terminals

The connector consists of a crimp barrel and a pre-installed adhesive coated heat shrinkable tubing.



Connect the cables, insert in the gel filled closure and close. The closure is re-entrable and reusable.



0.5 – 1 mm² 1.5 – 2.5 mm² 4 – 6 mm²

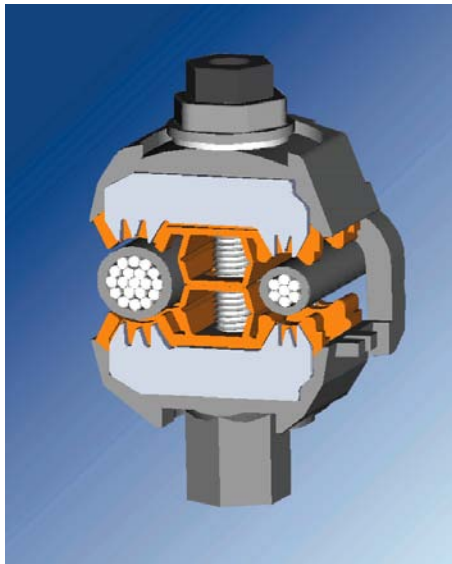
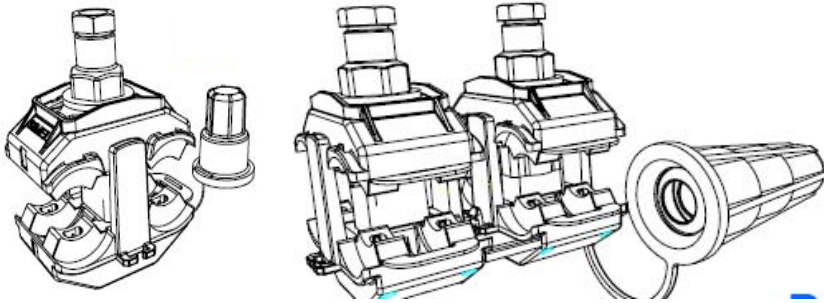


The special gel wraps around the connection and repels the water and the moisture

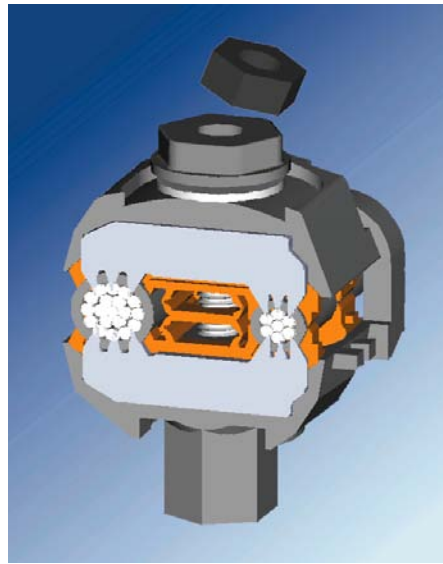
Product Size	Application Range Main Cable		Branch Cable (if applicable)		Notes	Closure Dimensions LxWxH max/mm
	min/mm ²	max/mm ²	min/mm ²	max/mm ²		
RayGel-12	1 x 10	1 x 50	1 x 16	1 x 16		86x46x28
RayGel-23	4 x 1.5	4 x 6	4 x 1.5	4 x 1.5		145x51x30
RayGel-24	4 x 6	4 x 16	4 x 2.5	4 x 2.5		178x70x41

IPC (Insulation Piercing Connectors) for Overhead Insulated Power Cables

enia



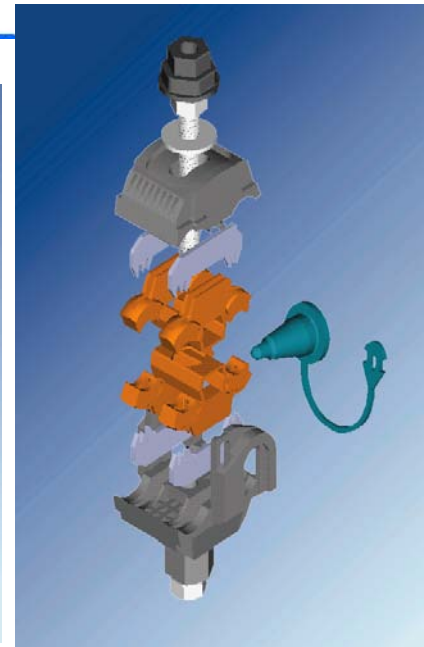
Before installation



After installation.

The insulation piercing “teeth” establish a low resistance connection.

The torque limiting nut cuts-off at the required torque



Internal structure of the IPC connector



Tension hanger. The conical device tightens and supports the neutral cable



Suspension hanger

Connection System for Overhead Conductors

“AMPACT™”

enia

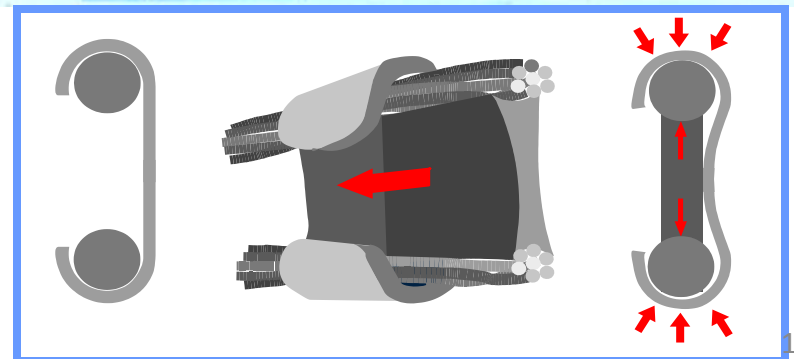
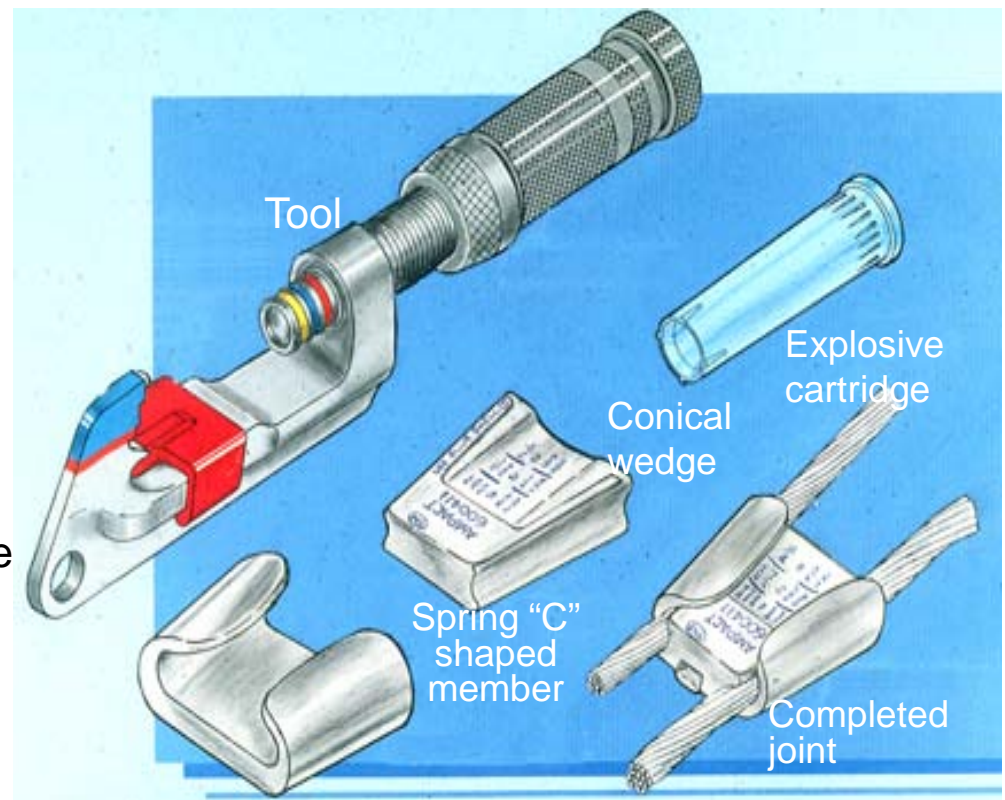
This is an innovative connection system for aluminium or copper conductors.

Suitable for bimetallic (Al-Cu) joints.

The conductors are tightened between the conical wedge and the “C” shaped member, using a special tool and an explosive cartridge.

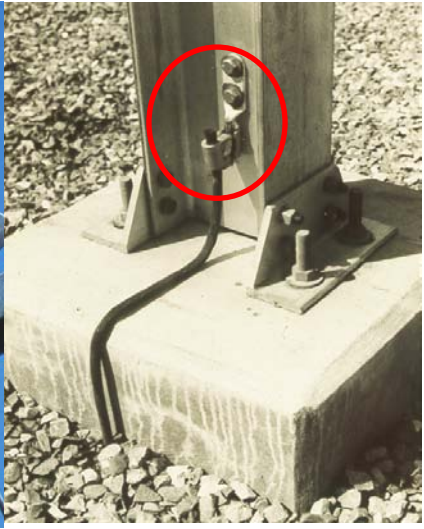
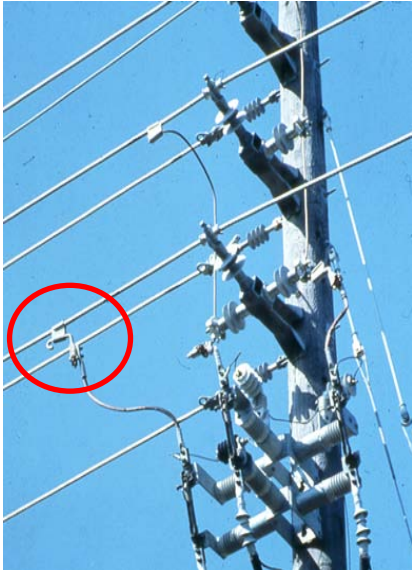
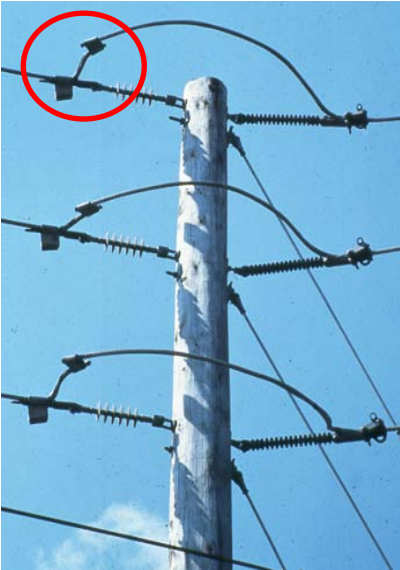
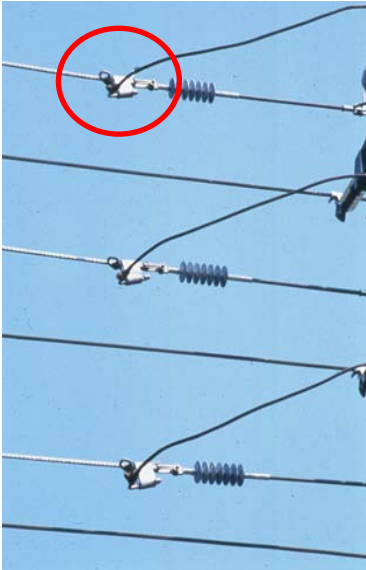
The force of the expanding gases push the wedge and clears the surface aluminium oxides. The pre-installed Al powder paste acts as abrasive and as humidity sealant.

The “C” shaped member has a spring action and maintains constant tightening forces, irrespective of temperature variations.



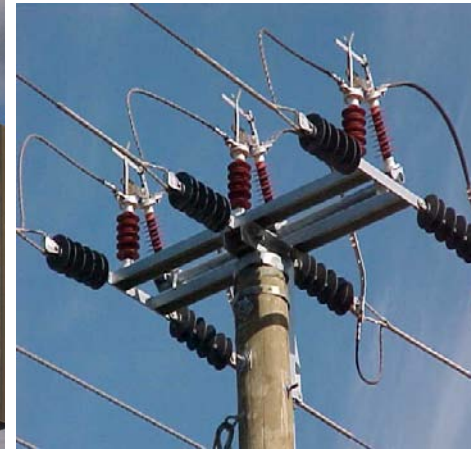
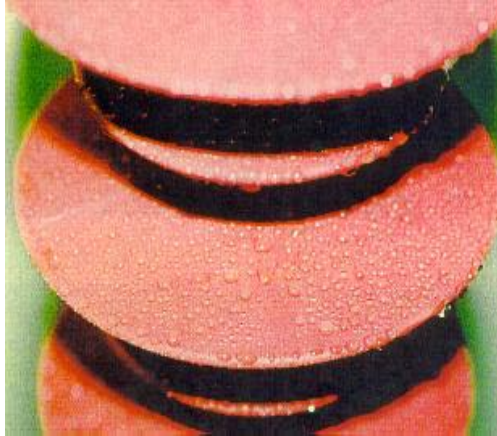
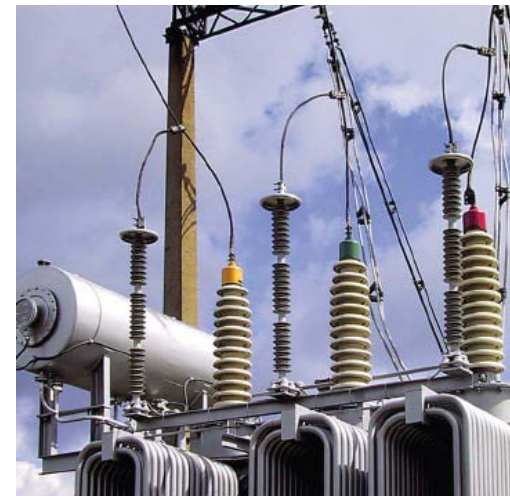
- LOW CONNECTION RESISTANCE. The semiconductive Al oxide layer is broken when the wedge is inserted with explosive force through the “C” member.
- CONTACT RESISTANCE IS MAINTAINED LOW THROUGH TIME. The spring effect of the “C” element maintains contact forces irrespective of temperature changes – retightening is not required.
- SUITABLE FOR BIMETALLIC CONNECTIONS , ***Al-Al, Al-Cu, Cu-Cu***, without galvanic corrosion issues.
- EASY & QUICK INSTALLATION.
- REPEATABLE CONNECTION QUALITY IRRESPECTIVE OF TECHNICIAN’S SKILLS.
- CAN BE EASILY REMOVED / REUSED without destroying the conductor.
- EACH SIZE SUITABLE FOR VARIOUS CONDUCTOR COMBINATIONS (consult ENIA for suitable sizes)
- SUITABLE FOR STRAIGHT – BRANCH – BRIDGE – TERMINAL – EARTHING CONNECTIONS.

AMPACT Applications



Insulators HV, MV, LV, Polymeric – Water Repellent

enia



**Post type or tension type
Self cleaning polymeric casing**

Insulation Enhancement Products

enia

Can cover bare overhead conductors and prevent contact with tree branches (risk of fire), birds or other animals. Special barriers to prevent climbing of animals over the lines (prevention of shot circuits, protection of wildlife)

- Prevent electrical short circuits and power outages
- Prevent wood fires.
- Preserve wildlife.



Inflatable Duct Sealing Systems

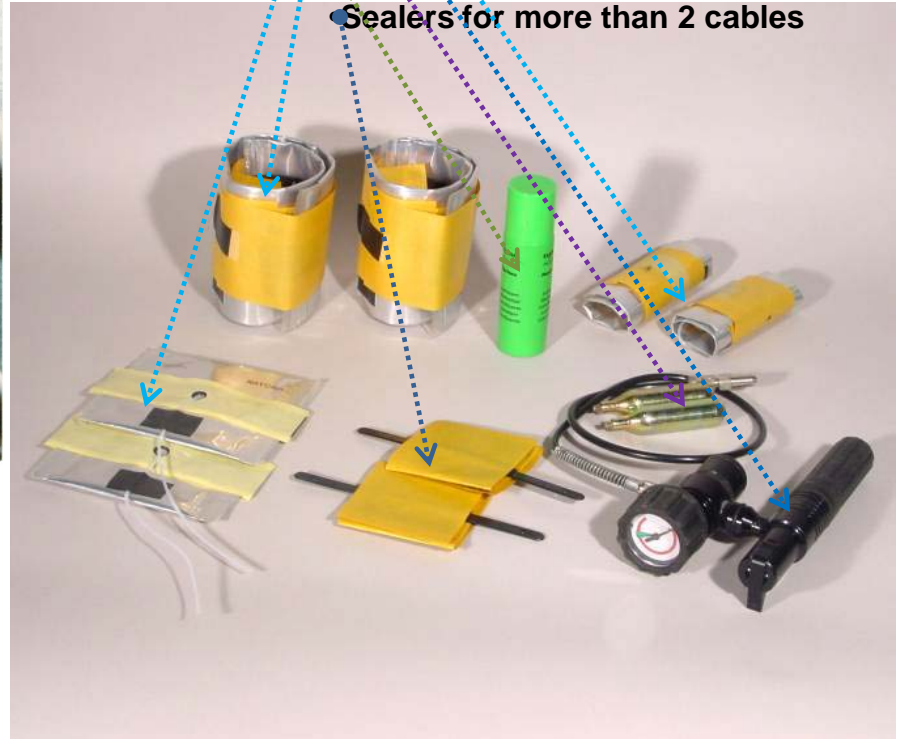
enia



Examples of duct sealing

System Components

- Duct sealers, various sizes
- Tool, inflates the sealers with CO2
- CO2 spare cartridges
- Lubricant for easy installation & removal
- Sealers for more than 2 cables



Inflatable Duct Sealing Systems - advantages

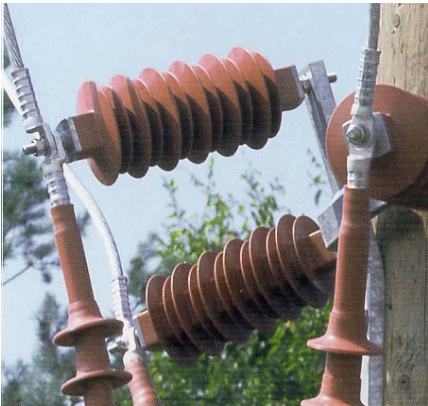
- ✓ Easy and quick installation (3-5min)
- ✓ Can be applied to not absolutely circular ducts (a prerequisite for mechanical seals), of any material, plastic, concrete etc.
- ✓ Can seal empty pipes, pipes with one cable and pipes with multiple cables.
- ✓ Can be successfully installed even under water flowing through the pipe.
- ✓ Resistant to chemicals, corrosion and fungi.
- ✓ Non toxic materials, environmentally friendly.
- ✓ Can be easily removed in case of cable replacement or addition of more cables through the same duct and resealed.

Inflation Tool

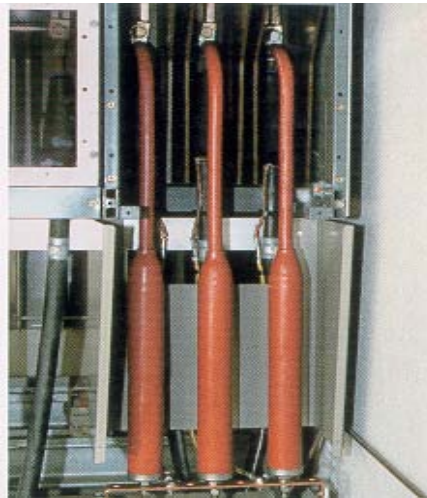


Surge Suppressors

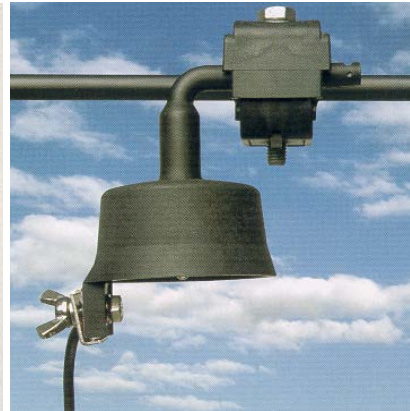
- Protection against lighting or line surges
- High current capacity (10kA).
- High energy handling capability.
- Special surge suppressors for indoor application and SF₆ systems.



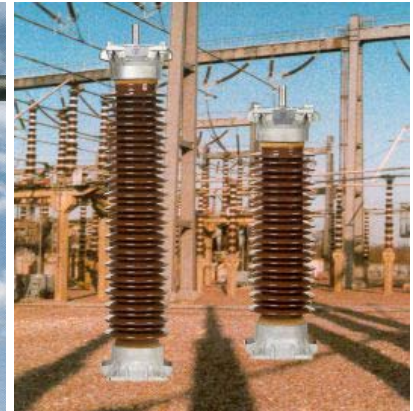
Metal oxide,
outdoors surge
suppressor with
plastic casing



Indoors metal oxide surge
suppressor with plastic
casing



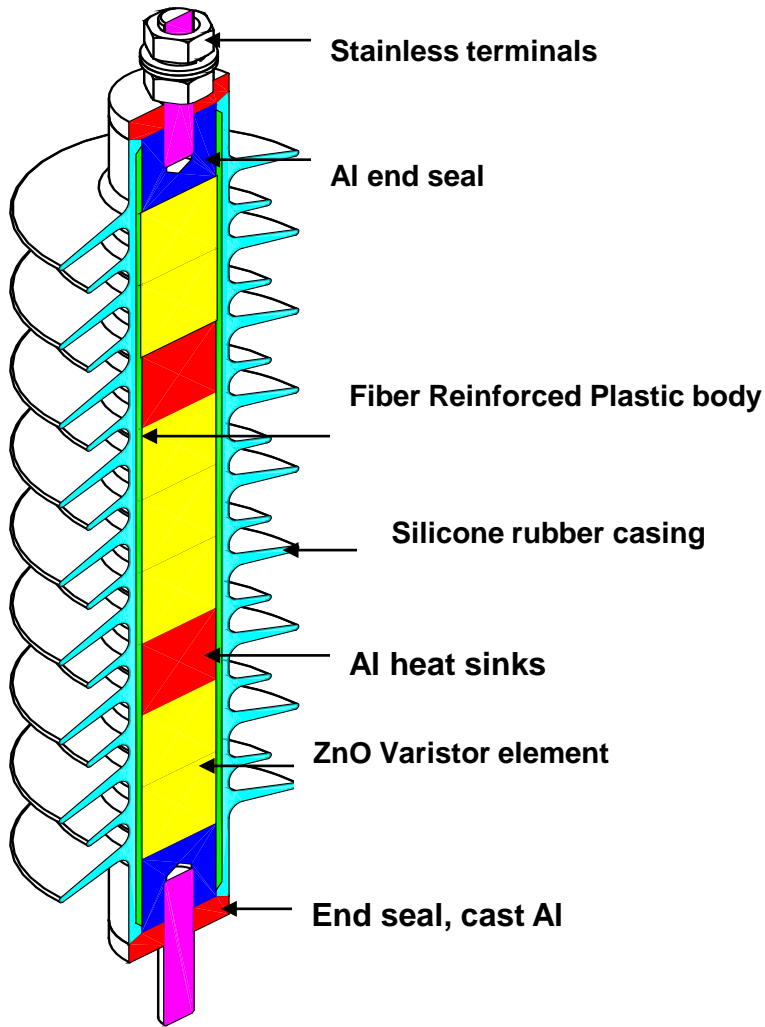
Low voltage
distribution
surge
suppressor



400kV
substation surge
suppressor

Medium Voltage Surge Suppressors - Design

enia



Self cleaning, hydrophobic surface. Inhibits the accumulation of conductive dirt causing current creepage and damage of insulation

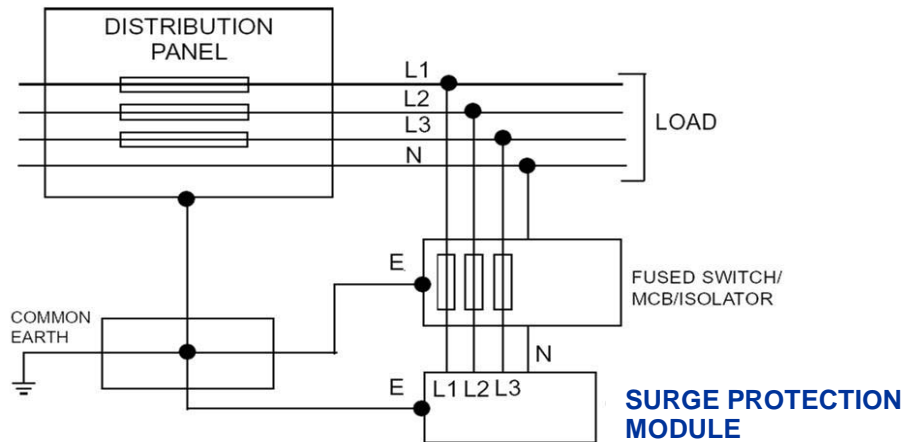
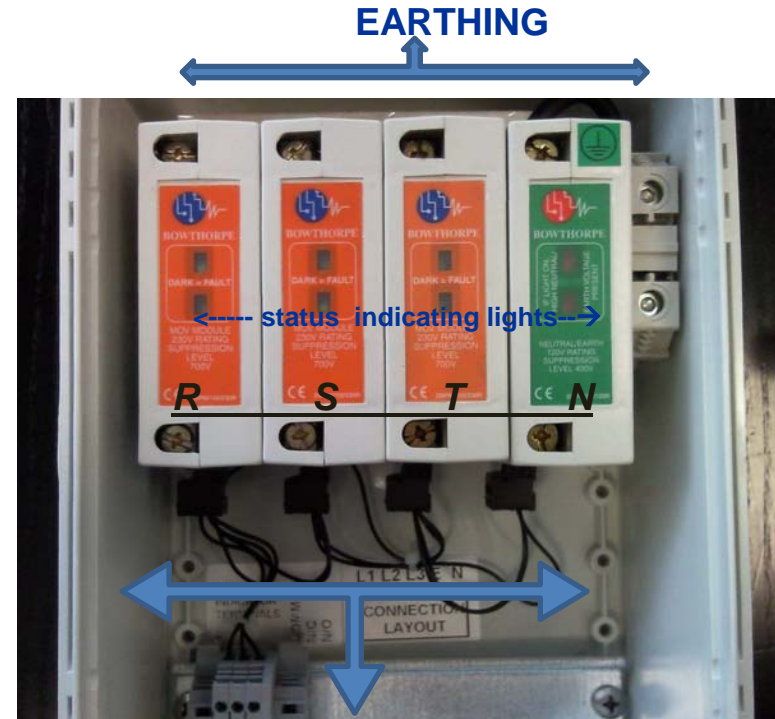
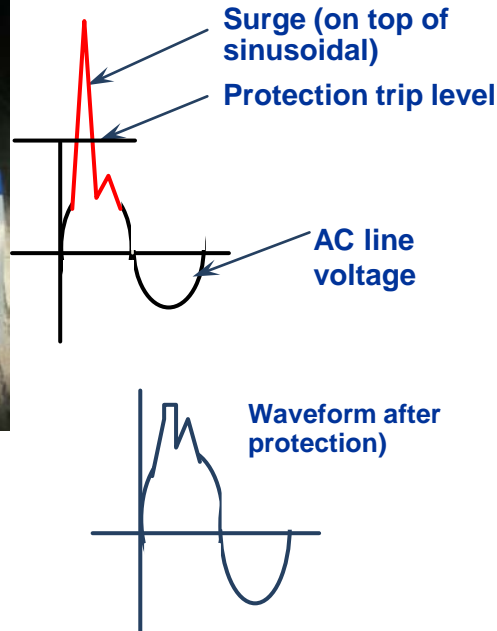


Safe fail mode. The plastic casing is split, no dangerous splinters are emitted (as is the case of porcelain insulations).

Low Voltage Surge Protection Modules (150kA)



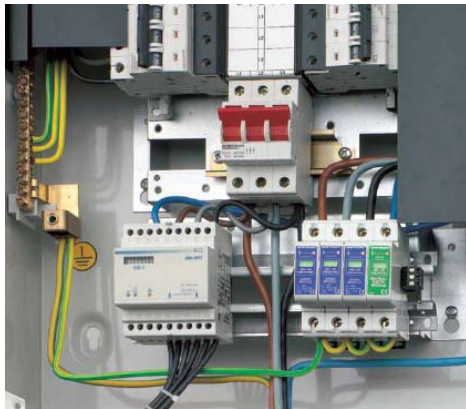
DIN rail mounted modules inside an environmentally sealed box 190X290mm



STATUS SIGNALING

Rail Mounted Protections (40 kA)

Telecom – Signal Protection Modules



Can be installed in secondary distribution panels or at low risk small panels.



Single pair telecom RJ11

Single pair telecom pre-cabled

Two pairs rail mounted

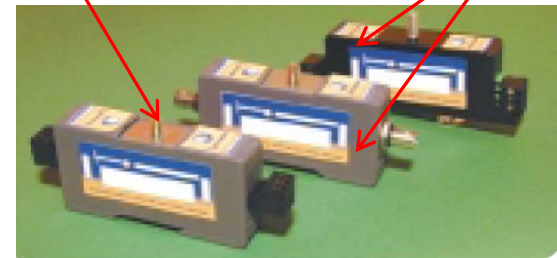
Ten pairs for LSA+ modules

Single pair plug-in



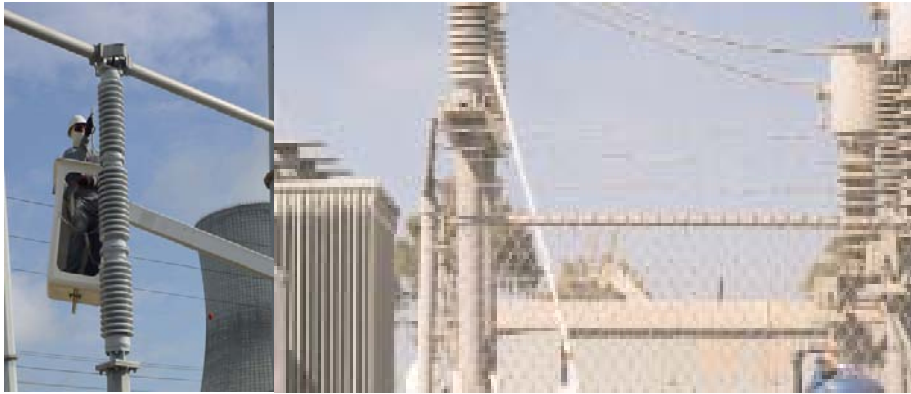
CCTV & Video

RS422



Water Repellant Coating for High Voltage

**Create a water repellant surface on the insulators.
Prevent dirt accumulation and current leakages**



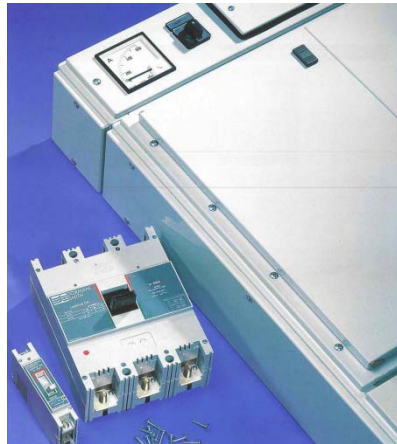
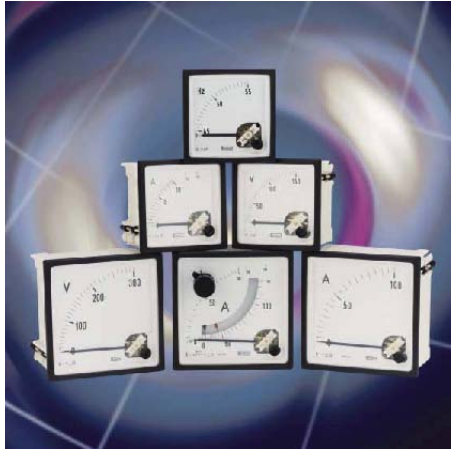
- Salt deposits (marine environment).
- Flying ash.
- Industrial pollution.
- Birds droppings.
-

In general depositions on insulators surface combined with atmospheric humidity may create conductive paths.

The result is leakage currents (creepage) that apart from energy losses lead to damage to the insulators and high leakage currents to the earth.

Panel Instruments, Electrical Panels

enia



Tyco Electronics



Tools for Electrical Works

Electrical Safety Equipment

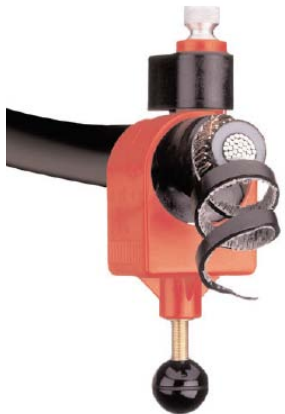
enia



intercable

SIGAME Group

ALROC



"Alustar" 1



Measuring & non Destructive Testing Instruments

enia



Distributor Awards 2005

Best

NEW DISTRIBUTOR

GOLD

Awarded to

ENIA SA

OF

GREECE

Signed on behalf of the Sonatest Group

Mr W. Woodhead

Ms C. Stevenson



Infra Red (IR) Cameras :

- Temperature measurement
- Inspection for loose contact
- Process control
- Security cameras



Ultrasound measurement instruments:

- Thickness of paint or lining
- Plate thickness
- Degree of corrosion
- Welding inspection
- Inspection of faults inside materials

Guide[®] Wuhan Guide Infrared Technology Co., Ltd.



Photometers:

- Lighting measurements for buildings and industrial facilities.
- Photography.



GOSSEN



Measuring & Testing Instruments - Automation



GOSSEN METRAWATT

CAMILLE BAUER



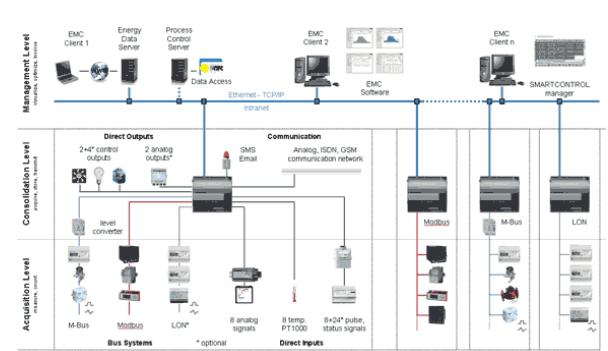
Recorders & Data Loggers



Programmable Multi-Transducers



Power Meters
Multifunction Programmable Power Monitors



Integrated Energy Management Systems



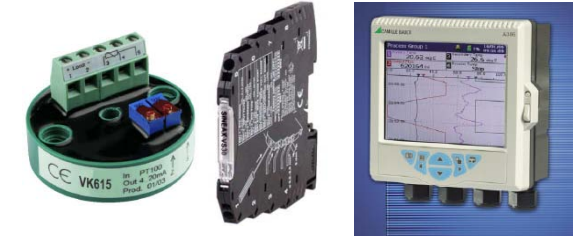
Power Analyzers



Portable Instruments



Transducers & Controllers



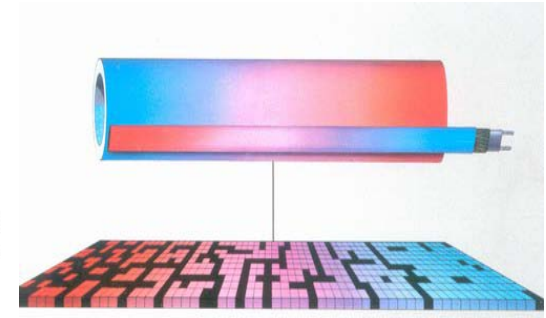
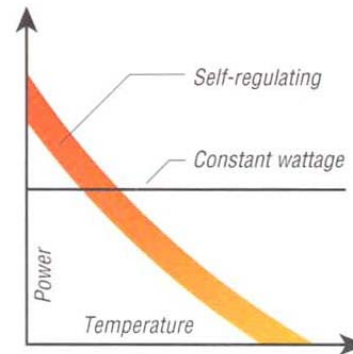
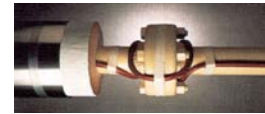
High Voltage Testing Equipment

enia

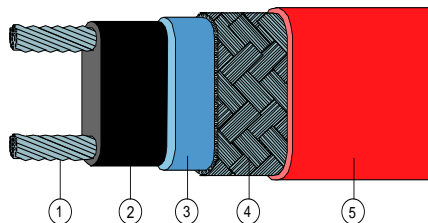
**HIGH
VOLT**



Self Regulating Heating Cables

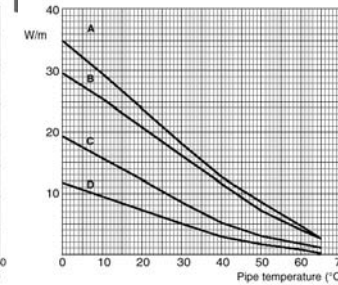
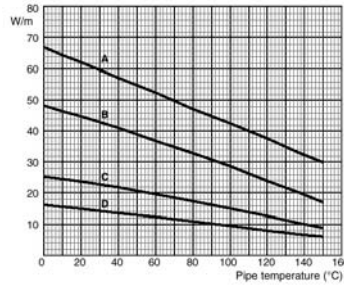
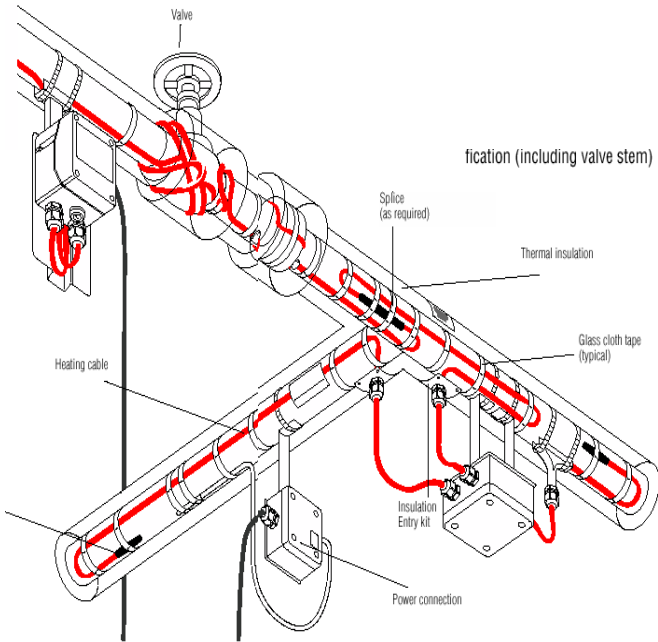


- The heating element is made of semiconductive polymeric materials. They will maintain the temperature on the pipe or tank surface, irrespective of the changes in ambient temperature
- Will offer protection against freezing / solidification of the material inside the pipe.
- Can maintain temperatures up to 240°C.
- They offer energy saving
- They are highly resistant to environmental corroding and polluting agents.
- Explosion Proof (Ex) certified heaters and connection / termination components.



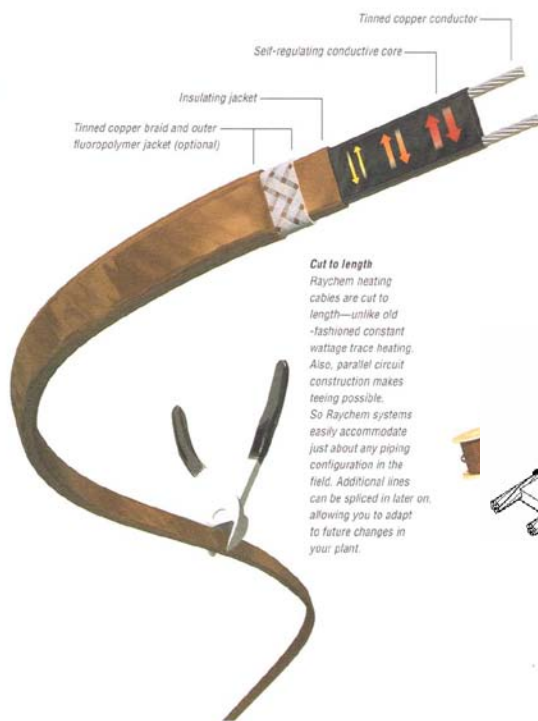
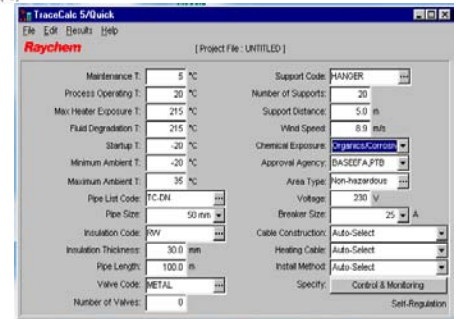
1. Power supply conductors
2. Heating element (semiconductive polymer)
3. Inner fluoropolymer insulating jacket
4. Grounding braid
5. Outer fluoropolymer insulating jacket

Self Regulating Heating Cables

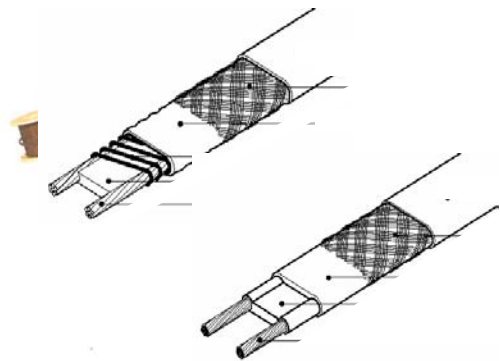


Great variety for any application

Thermal design and support by ENIA

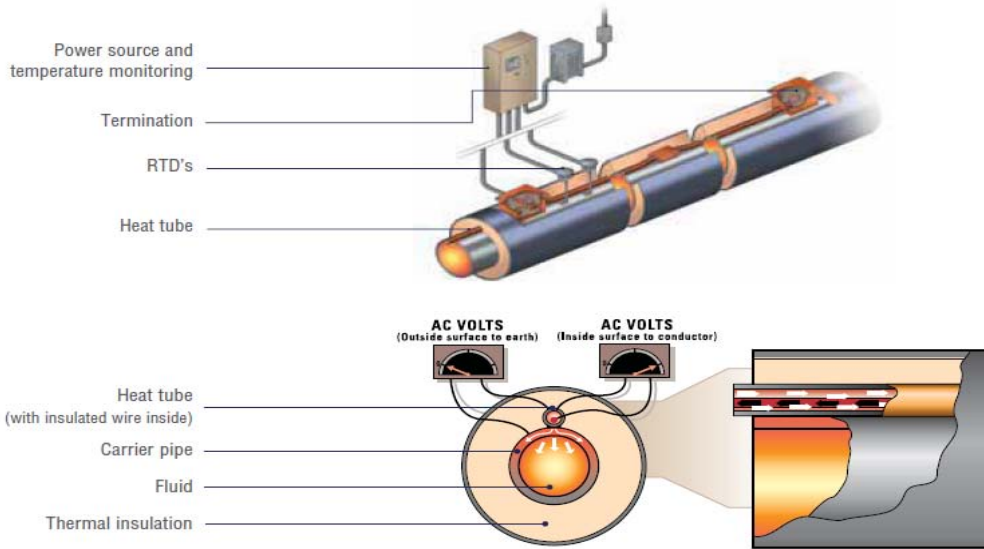


Cut to length
 Raychem heating cables are cut to length—unlike old-fashioned constant wattage trace heating. Also, parallel circuit construction makes teeing possible. So Raychem systems easily accommodate just about any piping configuration in the field. Additional lines can be spliced in later on, allowing you to adapt to future changes in your plant.

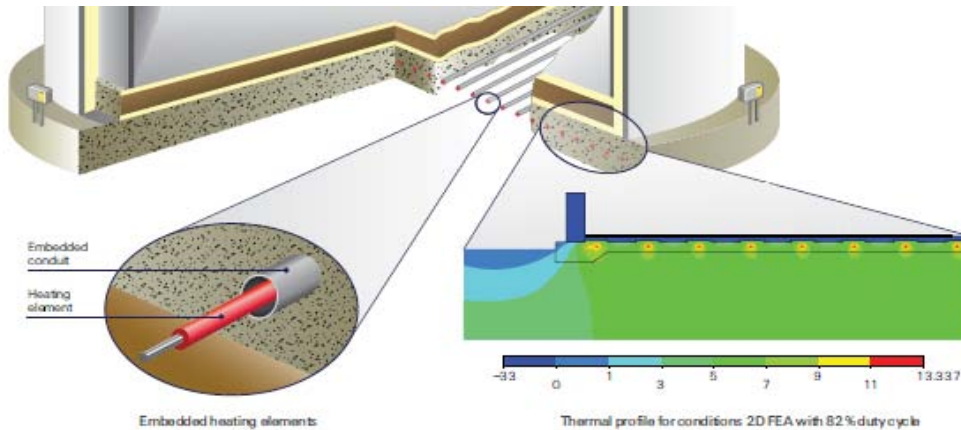
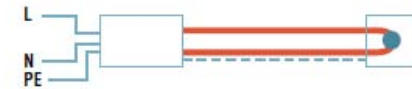
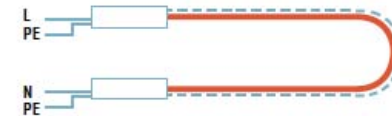


- Easy installation
- Can be cut to length at the field
- Complete line of connections and terminations
- Ex rated (APEX)
- Can be removed and reused
- More than 25 years lifespan

Freeze Protection – Special Applications



STS – Skin Effect Tracing Systems – for long pipelines

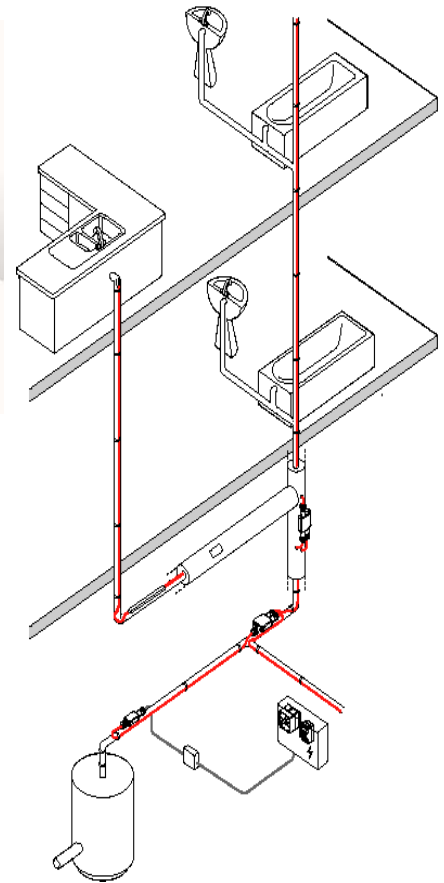
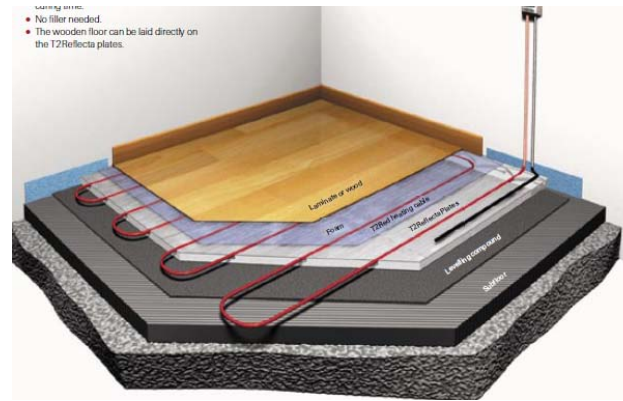


Frost heave protection for oil storage tanks

Mineral insulated constant wattage heaters

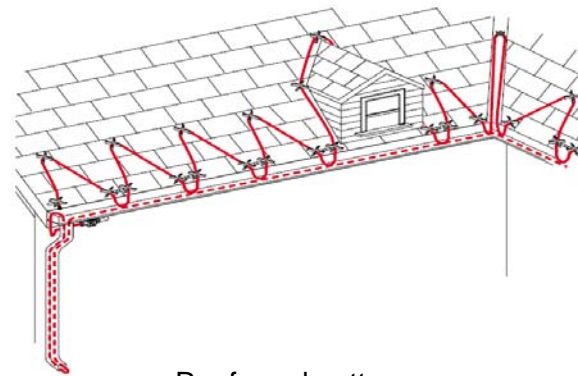
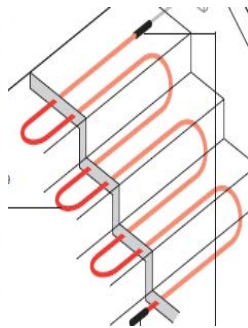
- Maintenance temperature up to 600°C
- Exposure up to 1000°C
- Operating to voltages up to 600V

Freeze Protection – Special Applications



- Rail changeover systems

- Underfloor heating



- Hot water networks

- Ramps, stairs and roads

- Roofs and gutters

Liquid Leak Detection and Location Systems

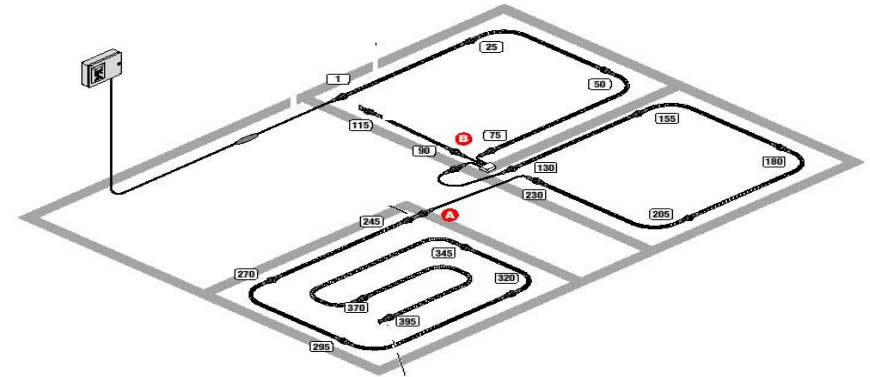


THE PROBLEM

- Even a minor WATER leakage can cause major problems if not sensed and located in time.
- An undetected FUEL leakage can easily lead to environmental problems or fire hazard.
- INDUSTRIAL CHEMICALS leaks pause a major environmental and personnel hazard.
- Conventional leak detection systems are POINT DETECTION systems and will give an alarm if the liquid reaches a particular small area of the sensor.

THE SOLUTION

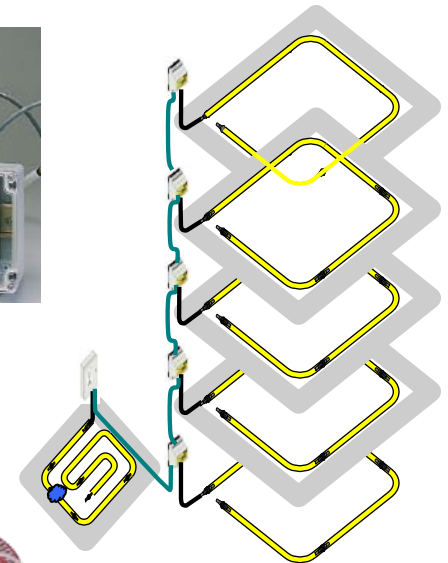
- **TraceTek**
- **Leak Detection & Positioning System.**
 - Consists of a thin plastic “cable” that can sense any drop of water or other chemicals – depending on type - along any point of its length.
- TraceTek can detect
 - Water
 - Fuels
 - Industrial solvents
 - Acids – bases



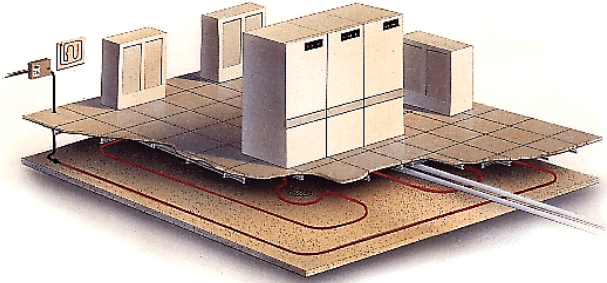
Pre-terminated components. Easy to install



Controllers and transmitters with networking capabilities. Interface to a BMS



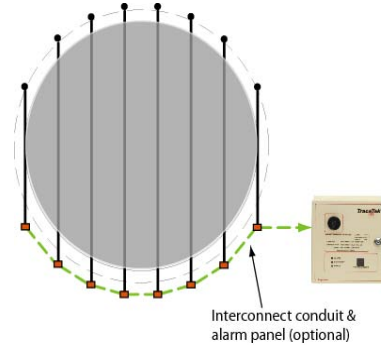
Applications - TraceTek



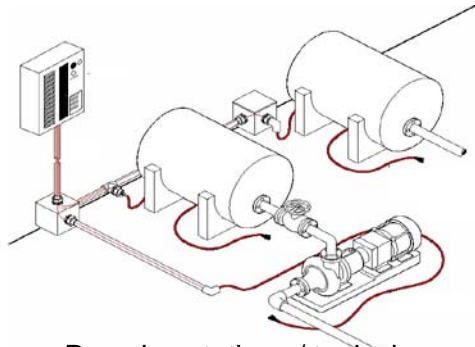
Under false floors or ceilings in:
Telecom centers
Computer rooms & Control centers



Airfield fuel distribution systems

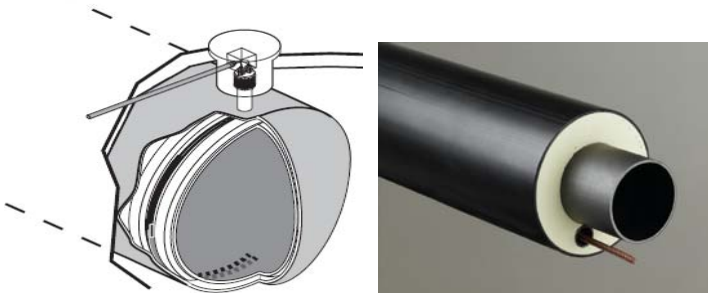


Interconnect conduit & alarm panel (optional)



Pumping stations / tanks in
unsupervised areas

Refinery pipelines, fuel storage tanks & dikes



Double wall tanks or pipes



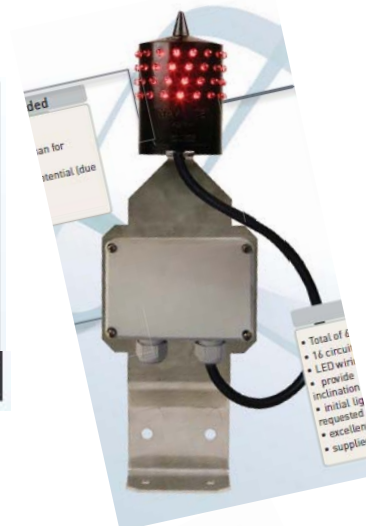
Buried or overhead pipes

Obstruction Lighting

enia

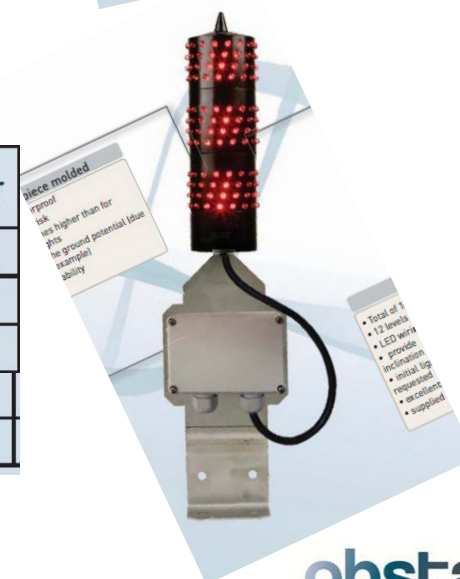
Low intensity (ICAO ANNEX 14 Type "A", >10 Cd) - LED

OBSTA part number	Power supply	Luminous intensity	Electrical current	Nominal power	Theoretical lifetime*
NAVILITE 13900	48 VDC	> 10 Cd	125 mA	< 6 W	100 000 h.
NAVILITE 13901	24 VDC	> 10 Cd	250 mA	< 6 W	100 000 h.
NAVILITE 13902	12 VDC	> 10 Cd	500 mA	< 6 W	100 000 h.
NAVILITE 13903 (model used with solar system)	12 VDC	> 10 Cd	370 mA	< 4,4 W	100 000 h.
NAVILITE 13909	230 VAC	> 10 Cd	70 mA	< 6 W	100 000 h.



Low intensity (ICAO ANNEX 14 Type "B", >32 Cd) - LED

OBSTA part number	Power supply	Luminous intensity	Electrical current	Nominal power
NAVILITE B 13930	48 VDC	> 32.5 Cd	375 mA	< 18 W
NAVILITE B 13931	24 VDC	> 32.5 Cd	750 mA	< 18 W
NAVILITE B 13932	12 VDC	> 32.5 Cd	1500 mA	< 18 W
NAVILITE B 13933	120 VAC	> 32.5 Cd	190 mA	< 18 W
NAVILITE B 13939	230 VAC	> 32.5 Cd	200 mA	< 18 W



obsta
opaps

Obstruction Lighting

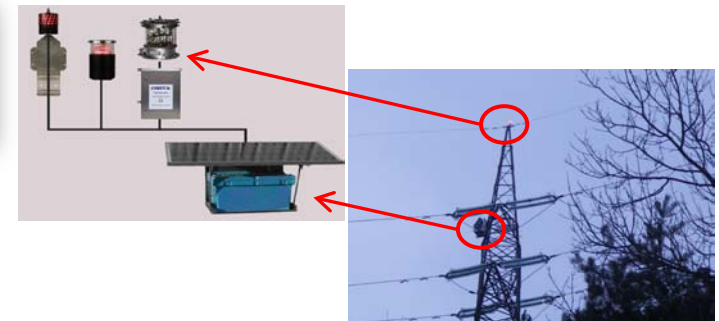
Medium intensity (ICAO ANNEX 14 Type "A" & Type "B") - LED



Main characteristics	Luminous output		Color		Beam Spread		Flashes per minute
	Day	Night	Day	Night	Vertical	Horizontal	
Red only		2000 Cd		Red	3°	360°	40
White only	20 000 Cd	2000 Cd	White	White			
Dual color	20 000 Cd	2000 Cd	White	Red			



Obstruction lights & spheres for HV aerial lines. PV systems for HV poles





ENIA is the official distributor of RAYTECH Italy products, the world's leader company in the field of electrical insulation and sealing compounds.



Two components gel with unique sealing, electrical insulation and temperature withstand properties

RE-ENTERABLE and REUSABLE



Two components synthetic rubber, with high dielectric strength, flame retardant and self extinguishing.



Kit for the assembly of elastic washers, gaskets and any rubber profile. UV and high temperature resistant



Two components synthetic rubber for the protection of printed circuit boards.
RE-ENETRABLE

Also a great variety of products and compounds that offer easy and clever solutions for electrical, hydraulic and technical applications, for the electrical and electronics industry, construction, transports, or hobby



ENIA S.A. 59B Apostolopoulou Str.
GR-15231 Halandri
Athens, Greece
Tel: +30 210 6754801
Fax:+30 210 6754804
info@enia.gr
www.enia.gr