



# GREEN TECHNOLOGIES FOR INDUSTRIAL SAFETY AND COMFORTABLE LIVING

INNOVATION

QUALITY

RESPONSIBILITY





# ABOUT SST THERMAL SOLUTIONS

**SST Thermal Solutions, founded in 1991, is a global leader in providing industrial and commercial solutions for safety and comfort.**

For more than 30 years, we have refined our original technologies and complemented them with breakthrough inventions to foster security in companies' technological processes and bring comfort and safety to people's homes.

SST Thermal Solutions uses the latest advances in electrical engineering, composite materials and explosion-proof technologies to deliver cutting-edge solutions tailored to the specific needs of our clients.

At around 65 thousand square meters of production facilities, we are committed to the full range of your requirements. From heat tracing solutions and electric heating cable systems to water leakage prevention and perimeter security systems we provide a comprehensive range of high-end solutions for industry, commercial infrastructure and residential applications. Thanks to our innovative and integrated approach as well as project implementation control at all phases, our customers can always expect high quality and efficiency of the installed systems. Our experienced team of 1500 professionals located in the Middle East, India and Europe is committed to deliver best-in-class products and services to our customers around the Globe.



## TRUSTED PARTNER

SST Thermal Solutions is listed as a trusted supplier among the world's largest EPC-contractors

## QUALITY CONTROL

International certification, including ATEX, VDE, IECEx, CE

## GLOBAL REACH

Export to over 60 countries worldwide


## LOCAL TEAMS

Offices in UAE, India, Germany, Switzerland, China, Russia

# APPLICATIONS

SST Thermal Solutions provides safety & security solutions for various industries and applications ranging from oil & gas and other industrial sites to infrastructure facilities of any complexity.



-  Heat tracing solutions
-  Freezing protection of tanks
-  Electric heating of drainage systems
-  Heating of runways
-  De-icing systems for aircraft
-  Heating of ship equipment
-  Perimeter security system Triboniq
-  Roof de-icing systems
-  Removal of snow and ice in open areas, ramps, helipads
-  Heating of sports grounds
-  De-icing systems for helicopters
-  Ensuring uninterrupted operation of offshore ice-resistant platforms



# HEAT TRACING SOLUTIONS

Heat tracing systems are used to protect industrial pipes and vessels from freezing, as well as maintain process temperatures of substances that solidify at ambient temperatures. Electric trace heating cables are a leading-edge, more efficient alternative to traditional steam trace heating systems.

Every pipe or vessel is subject to heat loss when its temperature is greater than ambient temperature. Thermal insulation reduces the rate of heat loss but does not eliminate it. Heat tracing systems maintain the temperature above freezing or solidification point by balancing heat lost with heat supplied.

SST Thermal Solutions is globally recognized as a leading provider of electric heat tracing solutions. Having manufactured over 1,5 million kilometers of heating cables and carrying out more than a thousand heat tracing projects per year, we use advanced technologies and take an innovative approach to offer a full range of heat tracing systems for all industries and applications.

- Oil & Gas
- Chemical & Petrochemical
- Pharmaceutical
- Food & Beverage
- Other manufacturing



## RESEARCH AND DEVELOPMENT

Our R&D team carries out leading research, new product developments as well as application-specific tests. This enables us to make evolutionary and revolutionary changes in heat tracing systems and their components.

## MANUFACTURING

Extensive manufacturing experience, qualified staff and automated cutting-edge machinery ensure compliance with the demanding world standards and the highest quality levels. SST Thermal Solutions is one of the few global manufacturers of electrically conductive plastics and self-regulating heating cables.

## DESIGN ENGINEERING

We prepare comprehensive design and project documentation customized to your specific needs. We design heat tracing systems, thermal insulation and power supply systems for various applications, including explosion hazardous areas.

## UNIQUE SOLUTIONS

SST Thermal Solutions is the only company in the world that manufactures and provides a heat tracing solution for pipelines up to 150 km in length between power feeding points.

# ELECTRIC HEATING CABLE SYSTEMS FOR SAFETY & COMFORT

The intensive development of technology affects not only industries, but also the urban environment and housing. SST Thermal Solutions is at the forefront of these technological developments helping to create a safe and comfortable indoor and outdoor space, offering a wide range of electric heating cable systems for those who choose simple, efficient and high-quality solutions.



## UNDERFLOOR HEATING

Electric underfloor heating is an eco-friendly, clean and smart way to heat your home. Using radiant heat technology, underfloor heating systems gently warm the people and objects in the room from the ground up – facilitating a much more energy-efficient method. With over 2 million underfloor heating systems sold in 60 countries worldwide, SST Thermal Solutions offers an extensive range of electric underfloor systems compatible with all floor types, rooms and projects.

Extensive industry expertise in the development and production of electric underfloor heating systems allows SST Thermal Solutions to offer premium-quality state-of-the-art technology: a line of heating sections and heating mats, as well as highly reliable temperature controllers.

## SAFE URBAN AND COMMERCIAL INFRASTRUCTURE SYSTEMS

Our de-icing and snow-melting systems based on series-resistance and self-regulating heating cables protect buildings and outdoor areas from ice and snow buildup. SST Thermal Solutions infrastructure de-icing systems are an energy-efficient solution to create safe urban space, extend service life of roofs and gutters and reduce roof and outdoor areas maintenance costs.

Our electric heating systems for infrastructure de-icing include heating cables, control system, power distribution system, accessories and fasteners.



### UNIQUE TECHNOLOGICAL EXPERTISE

Vast experience in electric heating cable projects of any scope and complexity.

### DIGITALIZATION

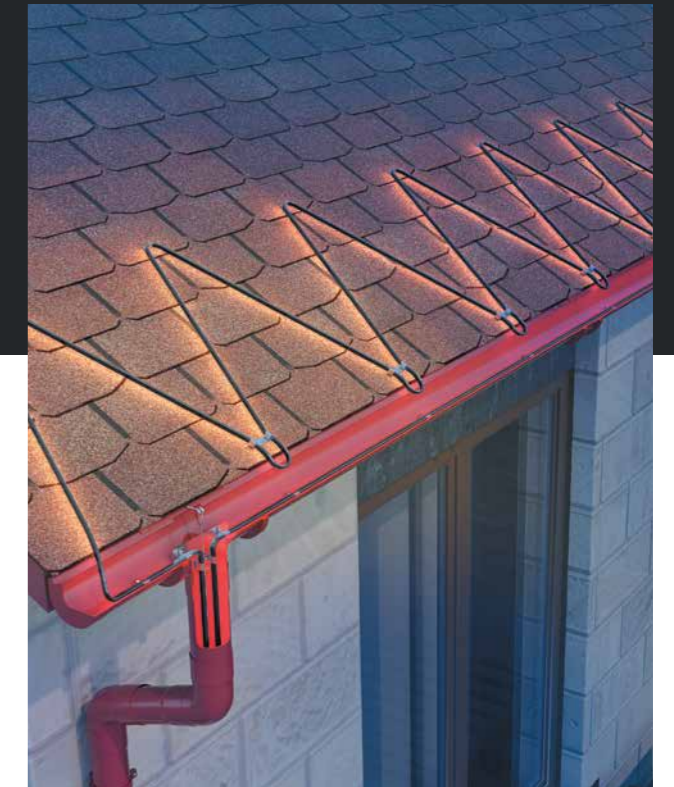
We incorporate digital technologies that speed up design engineering and project calculation.

### ENERGY EFFICIENCY

All our solutions are designed with a goal to minimize energy consumption.

### SMART CONCEPT

Our solutions are easily integrated in “smart home” and “smart building” systems.



- ELECTRIC UNDERFLOOR HEATING
- ROOF & GUTTER DE-ICING
- PIPE FREEZE PROTECTION
- FOOTBALL FIELDS AND PLAYGROUNDS

- PEDESTRIAN AREAS
- ENTRANCE GROUPS
- STAIRS AND RAMPS
- TECHNOLOGICAL SITES OF INDUSTRIAL ENTERPRISES

# PERIMETER SECURITY SYSTEMS

## TRIBONIQ – A NEW LEVEL OF INTELLIGENCE IN SECURITY

SST Thermal Solutions developed an innovative solution Triboniq – a smart perimeter security system to keep intruders out of any territory. Triboniq is an easy-to-deploy, holistic perimeter security system that utilizes cutting-edge physical and electronic components to prevent intrusion and theft in sites of any complexity ranging from schools and hospitals to airports and military bases.

The system is equipped with a triboelectric cable as a sensor line, which is installed along the perimeter of the security zone. Any mechanical impact on the cable is registered by the controller, the quality of signal processing of which determines the effectiveness of the entire security system. A unique adaptive threshold algorithm recognizes tens of thousands of different scenarios (rain, wind, snow, train, etc.) and automatically, without the help of personnel, adjusts the sensitivity, ensuring very low false alarm rate.



**FENCES**  
of any type, including welded mesh, chainwire mesh and barbed wire



**UNDERGROUND**  
triboelectric cable underground installation to prevent digging under



**ABOVE / UNDERWATER**  
protection of perimeters having a water boundary



**PIPELINES**  
ensuring safety of liquids and gases transportation

### TRIBONIQ ADVANTAGES:

- Very low false alarm rate
- No "dead" zones: precise following to the contours of the perimeter
- Early intrusion detection
- Possibility of concealed installation
- Easy integration with other security systems
- Low operational and maintenance costs

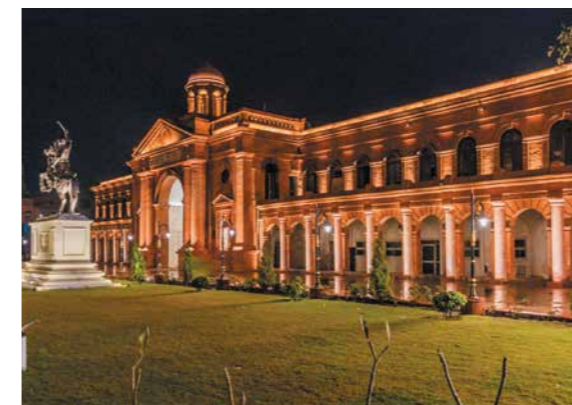
## CRITICAL INFRASTRUCTURE

Defense industry facilities, banks, prisons



## INFRASTRUCTURE FACILITIES

Office buildings, overnight facilities, health care facilities, museums



## SOLAR PANELS



## INDUSTRIAL SITES

Factories, refineries, warehouse complexes, test sites, quarries



## POWER STATIONS

Power transmission towers, electric power plants, transformer substations, utility poles



## OTHER APPLICATIONS

Cottages, residential complexes, holiday centers, hotels, agricultural complexes



# CORRUGATED STAINLESS STEEL TUBES AND SYSTEMS



For more than 15 years, SST Thermal Solutions has been manufacturing best-in-class corrugated stainless steel tubes and reliable quick-assembly fittings. We use premium-quality 304 and 316L stainless steel and the most up-to-date modern equipment in our manufacturing process.

In addition to supplying stainless steel tubes themselves, we offer different solutions on their basis for a wide range of applications.

- Premium-quality stainless steel
- Cutting-edge welding technology
- High heat transfer coefficient
- Bends easily
- 100% leak-proof performance

- Eco-friendly
- Extremely durable
- High mechanical strength
- Weld-free fast installation
- Lifetime warranty

## HEATING & WATER SUPPLY

Annealed corrugated tubes are ideally suited for laying of cold and hot water pipelines and boiler tubing. Our tubes are corrosion-resistant, hydraulic impact-proof and resistant to temperature changes – the most reliable solution for hydronic engineering systems.



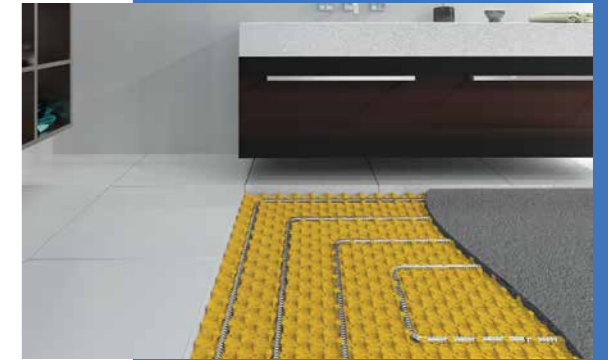
## FIREFIGHTING

We offer an up-to-date reliable solution for organization of sprinkler units in the automatic fire extinguishing systems. A corrugated tube, fasteners and fittings form a secure unit that can withstand high pressure, which is very important in case of local hydraulic shocks.



## WATER UNDERFLOOR HEATING

Corrugated stainless steel tubes are perfect for water underfloor heating systems. Depending on your needs, we either have ready-to-install kits for heating small to medium floor areas or we can supply corrugated stainless steel tubes and an installation kit separately for larger floor areas. All-in-one kits include all components for simple and convenient installation.



## GAS SUPPLY

Our product range includes corrugated stainless steel tubes in a yellow jacket and special fittings for the installation of the flexible connectors in gas supply systems. We fully comply with the highest safety requirements of gas systems. Our tubes are convenient for the gas equipment installation in confined spaces.



## AIR CONDITIONING AND VENTILATION

When it comes to air conditioning and ventilation systems corrugated stainless steel tubing is an ideal solution due to its high resistance to temperature changes, mechanical impact and corrosion. For tubing of fan coil units and air handling units we recommend using annealed flexible corrugated tubes.



## CABLE CONDUITS

Corrugated steel tubes are ideal for use as a sealed metal hose when laying power supply and communication networks. It reliably protects the cable from external mechanical and temperature impacts.





# WATER LEAK PREVENTION SYSTEMS

SST Thermal Solutions is one of the leading specialists in water leak detection equipment. We designed our Stahlmann water leak detection and prevention system for maximum efficiency to detect leaks quickly, locate leaks accurately, issue minimal false alarms, work effectively under all operating conditions and use sensors with high reliability and low maintenance.

According to insurance companies' data, water is a far more common cause of property damage than fire, even if it is not located in an area subject to flooding. This property damage can come from many sources: a failing water heater, a burst pipe, a broken supply line under the sink, a clogged toilet, or even a split hose connected to the washing machine.

The installation of water leak detection and prevention systems is becoming a more and more widespread practice nowadays because of the increasing demands for the level of living comfort, class of housing and more strict safety requirements.

Our water leak prevention solutions are designed for residential market applications right through to complex multizone ones for commercial properties. Whatever your requirements we have the expertise to protect your property from costly and disruptive water damage.

## ADVANTAGES:

- Easy integration with other smart home systems
- Convenient centralized solution for real estate developers
- Premium valves made of bronze: pliable, strong and chemically-resistant material for increased reliability and durability of your system
- A unique system for easy installation compared to other water leak prevention systems
- Special tape sensors for detecting leaks on roofs and ceilings inside buildings, alongside facility perimeters and pipelines. High accuracy in determining exact location of a leakage.
- Convenient and easy configuration and monitoring of the system on your mobile device, including leakage alerts on your smartphone.



- RESIDENTIAL APARTMENTS AND COTTAGES
- INDUSTRIAL FACILITIES
- HOTELS AND RESTAURANTS
- FITNESS AND SPA-CENTERS, POOLS, SAUNAS
- SCHOOLS AND HOSPITALS
- CINEMAS, ENTERTAINMENT CENTERS, THEATERS, MUSEUMS
- OFFICE BUILDINGS
- AIRPORTS AND RAILWAY STATIONS
- SHOPPING MALLS AND EXHIBITION CENTERS
- WAREHOUSES, PARKING SPACES





# WIRING ACCESSORIES

Inspired by the Italian architecture we created our own brand of wiring accessories that harmoniously combines reliability, aesthetics, functionality and ergonomics.

OneKeyElectro wiring accessories have been created based on our vast experience in electrical engineering and current trends in industrial design. We offer our customers several lines of designer high-end products – perfect in proportions, exquisite in design.

OneKeyElectro is a laureate of the European Product Design Award. Florence series was awarded a Silver Prize in the nomination A' Building Materials, Construction Components, Structures & Systems Design Award. Our color palette includes four colors - white snow, vanilla cappuccino, smoky opal and black night. The matte surface of mechanisms and frames does not create optical highlights. It is wear-resistant and non-marking.

All materials used are eco-friendly, durable and safe. Our plastic elements are made of high-quality polycarbonate, which has a good heat resistance and eliminates the probability of the electric shock.

**OneKeyElectro brings together a unique series of wiring accessories:**

## FLORENCE

The soft and pleasant to touch electrical mechanisms and frames of Florence series, created in accordance with the Renaissance canons, show harmony between round and square shapes, and golden ratio reminiscent of the perfect proportions of Santa Maria del Fiore.



## LA GARDA

The deep and transparent Garda frames made of beautiful triplex glass is a total reflection of the clear lake, bearing the same name.



## ROTONDO

The charming Rotondo series combines formal aesthetics with a high level of functionality. It is a perfect solution both for open and hidden wiring.



# LANDMARK

## **PORT OF FUJAIRAH TERMINALS, UNITED ARAB EMIRATES**

Design, supply, installation, testing and commissioning of electric heating systems, design and manufacturing power & control panels as well as supply of accessories and thermal insulation. Installation of a heating system based on skin-effect.

## **BPCL MAHUL REFINERY, INDIA**

Implementation of electric heating systems based on self-regulating cable for Catalytic Cracking Units to maintain process temperatures.

## **KUMHO MITSUI CHEMICALS PLANT, SOUTH KOREA**

Installation of a 15,000 m long heating system based on skin-effect to maintain process temperatures in pipelines for nitrobenzol transportation.

## **SHELL LUBRICANTS FACTORY, EGYPT**

Electric heating systems based on self-regulating heating cables, explosion-proof junction boxes, sensors, control & monitoring systems.

# PROJECTS

## **FGV BULKERS TERMINALS, MALAYSIA**

Electric heat tracing systems for Kuantan liquids storage terminal in Pahang and the Port of Johor, one of the largest palm oil terminals in the world, to protect pipelines from freezing and maintaining process temperatures.

## **DUQM POWER COMPANY, OMAN**

Electric heating cable systems, ex-proof junction boxes, control panels and accessories to facilitate smooth operations of the electricity and water plants in Duqm.

## **WELLHEAD PLATFORM ZHDANOV-A, TURKMENISTAN**

Electric heating systems for uninterrupted operations of pipelines systems as well as de-icing systems to create safe environment for personnel.

## **VNUKOVO INTERNATIONAL AIRPORT, RUSSIA**

De-icing and protection of hangar roofs from icicles by electric heating cable systems based on armored series-resistance and self-regulating cables.





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