carbon relax

OUR VISION
OF WELL-BEING

OUR VISION OF
WELL-BEING

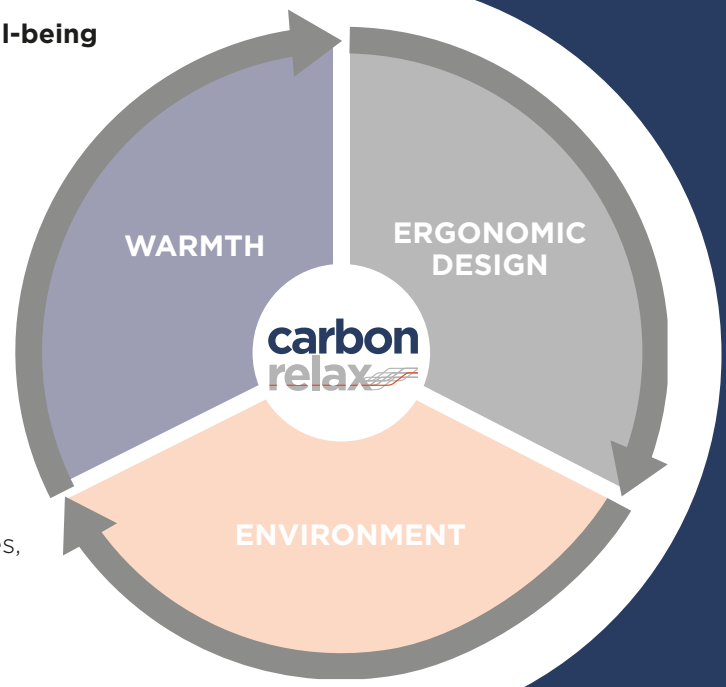
WARMTH
ERGONOMIC DESIGN
ENVIRONMENT

ARE ESSENTIAL FACTORS
TO MAINTAIN
OUR PSYCHO-PHYSICAL HEALTH.

Starting from the need to improve personal well-being and the quality of life, we have developed an innovative technology called

carbon relax

that allows to generate constant, uniform and widespread heat in a non-invasive way.
Thanks to the innovative, patented Carbon Relax solution, we have finally been able to eliminate the use of electrical cables safety problems, Hot-Spot phenomena, bothersome protuberances, quality of the heat and environmental impact.



The innovative Carbon Relax technology allows to generate heat without the use of electrical cables and to produce heat-generating products that are soft, flexible and as resistant as normal fabric.

The Carbon Relax technology provides **ANTI-STATIC PROPERTIES**, in order to absorb and dissipate the electricity charges accumulated by the body throughout the day, therefore ensuring anti-stress, relaxing effects. Yet another advantage is provided by the use of yarns with **ANTI-BACTERIAL, HYPOALLERGENIC AND ANTI-STATIC PROPERTIES**, that promote health and hygiene even further, especially for children, old people and person with allergies.
Our products with the Carbon Relax technology succeed in fulfilling the most demanding needs in terms of performance and safety, substantially improving the experience of use, comfort and handling.
Our mission and future orientation comply with a smart use and an highly innovative appearance, combined with sensible use and respect for the environment.

OUR PRODUCTS:

They are a reliable response for people who wish to take care of themselves, of others as well as the environment in which they live.

ONE PRODUCT THAT, AT THE SAME TIME, PROVIDES MANY BENEFITS.

OUR VISION OF WELL-BEING

	TRADITIONAL SOLUTION	CARBON RELAX
HEAT	DIFFORM, VARIABLE HEAT OVER THE HEATED SURFACE	**UNIFORM, CONSTANT HEAT OVER THE HEATED SURFACE**
	BURN RISKS	**100% SAFE HEAT SPREADS**
	HOT-SPOT PHENOMENA SERPENTINE RESISTOR LAYOUT (Hot-spots concentrated in cable folds)	**TOTAL ABSENCE OF HOT-SPOTS RESISTORS ARRANGED IN PARALLEL**
ERGONOMIC DESIGN	BOTHERSOME PROTUBERANCES (Presence of electric cables)	**ADAPTS PERFECTLY TO THE BODY (Presence of electric cables)**
	STIFFNESS	**FLEXIBILITY**
	HARDNESS	**SOFTNESS**
SAFETY	HIGH VOLTAGE 120/240 Volt	**EXTRA LOW VOLTAGE LOWER THAN 20 Volt**
	MINIMUM INSULATION FROM POWER SUPPLY NETWORK	**SAFETY EXTRA LOW VOLTAGE POWER SUPPLY UNIT- MAXIMUM INSULATION FROM POWER SUPPLY NETWORK**
	ELECTRIC SHOCK RISKS	**SAFE EVEN WHEN ACCIDENTALLY WET**
HEALTH	AC POWER SUPPLY HARMFUL ELECTROMAGNETIC WAVES	**DC POWER SUPPLY HARMLESS ELECTROMAGNETIC WAVES**
	INVASIVE HEAT AND DIRECT CONTACT	**REGENERATING WARMTH PENETRATES DEEP INTO THE EPIDERMAL TISSUE**
	COMPRESSION OF INTERVERTEBRAL DISCS AND MUSCLES	**IT ADAPTS AND ACCOMPANIES THE NATURAL CURVES OF THE BODY AND SPINE**
WELL-BEING	SLEEP DISTURBANCES	**RESTFUL SLEEP MUSCULAR DISTENSION**
	BACKACHE	**IT ADAPTS TO THE ANATOMICAL SHAPE OF THE BODY**
	WORSENS MUSCULAR TENSION	**GREATER PHYSICAL AND MENTAL RELAXATION**
ENVIRONMENT	PRESENCE OF OXIDATION PHENOMENA	**ABSENCE OF OXIDATION PHENOMENA**
	ELECTRICAL POLLUTION ALTERNATING CURRENT POWER SUPPLY	**NO ELECTRICAL POLLUTION LOW VOLTAGE DIRECT CURRENT**
	LOW THERMAL EFFICIENCY	**GREATER THERMAL EFFICIENCY AND A LOWER CONSUMPTION OF ELECTRICITY**

CARBON RELAX
TECHNOLOGY

INNOVATION

The patented **Carbon Relax technology** is born from the need to create a NEW KIND OF "WARMTH" and to replace traditional, disadvantageous materials such as electrical cables with innovative solutions, beneficial not only for human health and well-being, but also for the environment.

The Carbon Relax technology uses HIGH-TECH CARBON NANOTUBE YARNS woven into the texture of the fabric itself, the capillary layout of these yarns provides both a uniform, constant and healthy distribution and transmission of heat.

Such layout, combined with the high electrical resistivity of the high-tech carbon nanotube yarns,

GENERATES
A HIGH JOULE EFFECT

2.058
TIMES MORE THAN COPPER

This effect makes allows to transform electricity into thermal energy (heat), guaranteeing a greater efficiency of conversion, compared with traditional heat-generating products.

A low-voltage current is sufficient, less than 20 Volt, to generate heat, therefore guaranteeing the utmost safety also in the case in which the product is accidentally wet. This makes it possible to manufacture portable products that are powered with compact batteries, making them handy and light to use, providing the utmost flexibility and freedom both at home and outdoors

Thanks to a greater efficiency in converting electricity into thermal energy and its capillary layout on the fabric itself, the heat generated is not invasive and does not come into direct contact with the skin, as it is capable of being uniformly and constantly dissipated, providing a pleasant, embracing, safe and regenerating sensation of warmth.

Thanks to the specific properties of the high-tech carbon nanotube yarns, a product that is capable of resisting the attacks of harmful bacteria and micro-organisms is obtained.
It also has high anti-static properties, a characteristic that is durable over time.

When compared to electrical cables, high-tech carbon nanotube yarns DO NOT BECOME RUSTY when they come into contact with water and humidity; their electrical characteristics remain intact enabling the product to be entirely machine washable.

THE HIGH-TECH CARBON NANOTUBE YARN IS ECOLOGICAL AND 100% RECYCLABLE.

CHARACTERISTICS OF THE HIGH-TECH CARBON NANOTUBE YARN

- IT **HEATS UP MUCH QUICKER** THAN OTHER CONDUCTORS
- IT **REQUIRES LESS ENERGY** TO REACH THE SAME TEMPERATURE
- IT **CAN STORE A GREAT AMOUNT OF HEAT**
- IT **RAPIDLY TRANSFERS HEAT**
- IT HAS A **GREATER ELECTRIC CONVERSION EFFICIENCY**
- **THE YARN STRUCTURE IS EXTREMELY FINE,** ITS FIBRE IS FINER THAN A HUMAN HAIR
- IT HAS A **HIGH MECHANICAL RESISTANCE**
- IT IS **FLEXIBLE**
- IT IS **LONG-LASTING**
- IT GUARANTEES THE **SAME EFFICIENCY IN ALL CONDITIONS** OF TEMPERATURE AND HUMIDITY
- IT GETS **NEITHER RUSTY NOR IT IS SUBJECT TO CORROSION**
- IT **DOES NOT PRODUCE HAZARDOUS ELECTROMAGNETIC FIELDS**
- IT HAS **ANTI-STATIC**, **HYPOALLERGENIC** AND **ANTI-MITE** PROPERTIES
- IT IS **RECYCLABLE**

CARBON RELAX
TECHNOLOGY

JOULE EFFECT

The reason for which electricity is so useful to man is that it can be easily converted into other types of energy, in particular into thermal energy (heat). This can be easily observed in a resistor, that when electricity passes through it, it heats up, or rather it releases or dissipates a part of the electricity in the form of heat. An iron or an electric heater makes use of this property. The main effect caused by the passage of electricity is heat also in a light bulb, that makes the yarn become incandescent, consequently developing luminous energy.

This is known as the Joule effect, called after the name of the English physicist James Prescott Joule (1818-1889) who discovered it; the phenomenon causing the passing of electricity through a conductor is accompanied by the generation of heat.

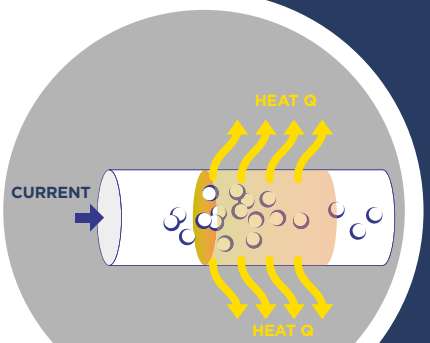
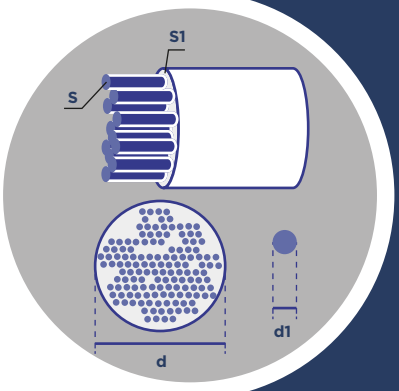


FIGURE A

Electricity passing through a cable causes its temperature to rise. Consequently, heat transfer is produced.

The excellent, high resistivity of carbon fibre, equal to 2,058 times that of copper, makes it an excellent heat-generating material.

ELECTRICAL RESISTIVITY, ALSO KNOWN AS SPECIFIC ELECTRICAL RESISTANCE, IS THE ABILITY OF A MATERIAL TO OPPOSE RESISTANCE TO THE PASSING OF ELECTRICAL CHARGES (FIGURE A), THE GREATER THIS OPPOSITION IS, THE GREATER IS THE JOULE EFFECT AND THE GREATER IS THE PRODUCTION OF HEAT.



A high-tech carbon nanotube yarn is an extremely fine structure and it consists of thousands of fine fibres. The cross-section of a high-tech carbon nanotube yarn is approximately 1 mm^2, in this cross-section, there are thousands of fibres.

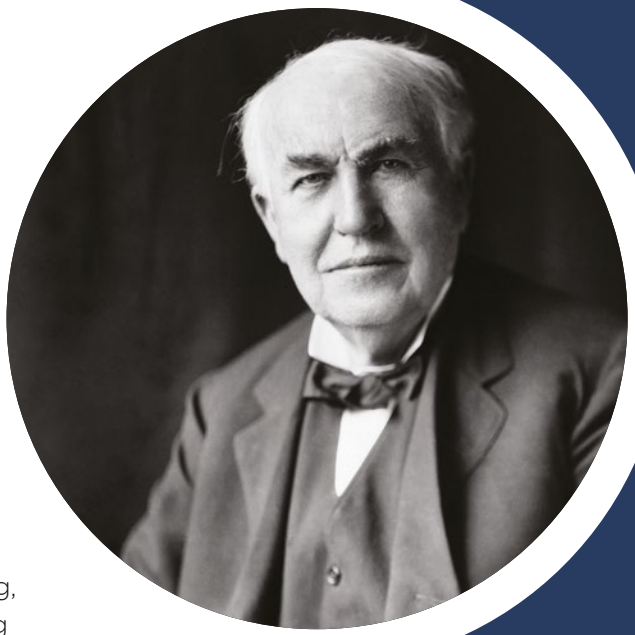
Moreover, the high-tech carbon nanotube yarns has yet another special characteristic: its resistance increases when the temperature rises, this makes it possible to transform more electricity in thermal energy (heat), guaranteeing greater efficiency compared to traditional systems.

CARBON FIBRE:
AN ANCIENT FIBRE MATERIAL OF THE FUTURE

CARBON HAS BEEN PART OF OUR LIVES SINCE ANCIENT TIMES.

Sir Joseph Wilson Swan, the British inventor, illuminated the growth of the modern world with the first-ever light bulb, which was subsequently improved by the American **Thomas Edison** was lighted by incandescent carbon filaments.

The advantages of carbon have always been put to good use by humans in order to make their lives fuller and more comfortable.
It has become a fundamental material in cutting-edge technologies in several applications, widely used in:



- AEROSPACE,
- MEDICAL,
- SPORTS,
- TECHNICAL CLOTHING,
- ELECTRONIC INDUSTRIES,
- HIGHLY-SPECIALISED AND PERFORMING SECTORS.

The carbon nanotube yarns are extremely innovative, they make it possible to create products with pioneering, technically-advanced characteristics, capable of fulfilling the most demanding needs in terms of well-being and safety.

Thanks to its characteristics, carbon fibre is quickly making its name as a privileged, prestigious material, within sectors aimed at improving the quality of life while respecting the environment.

SAFETY

PROTECTION AGAINST ELECTRIC SHOCKS – “NO ELECTRIC SHOCK”

We have made your safety and well-being our priorities.
This is the latest innovation in terms of well-being and safety,
thanks to operation an extremely low-voltage current, use lower than 20 Volt.
It complies with all the safety devices foreseen by international standards.
It protects against the risk of electric shocks caused by water or external impacts.

Class III
In this case, the protection against electric shocks is based on its Safety Extra Low Voltage (SELV) power supply.
The Safety Extra Low Voltage (SELV) power supply is produced in accordance with the most severe safety standards and international legislation.

VOLTAGE RANGE	VOLT AC	VOLT DC	DEFINING RISK
extra low voltage supply	< 50 V ms	< 120 V	low risk

PROTECTION AGAINST FIRE RISKS

The capillary, parallel layout of the high-tech carbon nanotube yarns inside the fabric avoids the creation of **“Hot-Spots”** that occur in the electrical cables arranged in serpentine patterns.
The capillary layout of the high-tech carbon nanotube yarns makes sure that the transmission and dissipation of heat are not jeopardised even if a yarn is broken.

NO HAZARDOUS MAGNETIC WAVES

Thanks to the DC power supply and the extremely low voltage, no hazardous magnetic waves are generated, typical of Alternating Current powered products with a high voltage.

The innovative Carbon Relax technology permits to generate heat suitable both for humans and the surrounding environment.

HEAT

Thanks to the innovative Carbon Relax technology, non-invasive, constant, uniform warmth is generated, able avoid the phenomena of overheating.

This warmth avoids the overheating of the body, burns and skin irritation.

It generates a type of warmth that is constant, uniform and safe: all factors which focus on the well-being of your body.

It generates:

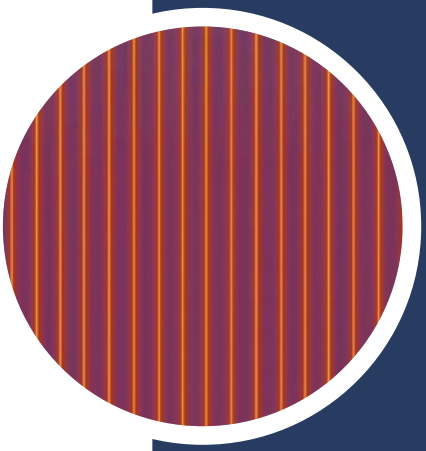
INVIGORATING WARMTH

RELAXING WARMTH

EMBRACING WARMTH

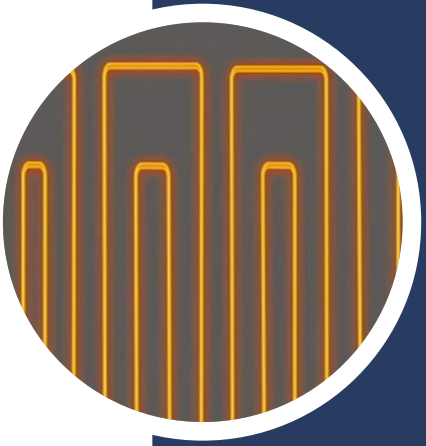
HOMOGENEOUS HEAT

The capillary layout of the high-tech carbon nanotube yarns in the fabric, guarantees an uniform coverage of the surface to be heated. Therefore the transmission and dissipation of heat is homogeneous and provid a sensation of relaxation that helps muscular distension.



NO HOT-SPOTS

No “Hot-Spots” are generated, that can cause burns and overheating in certain parts of the body as occurs with the serpentine arrangement of electrical cables in traditional heat-generating products.

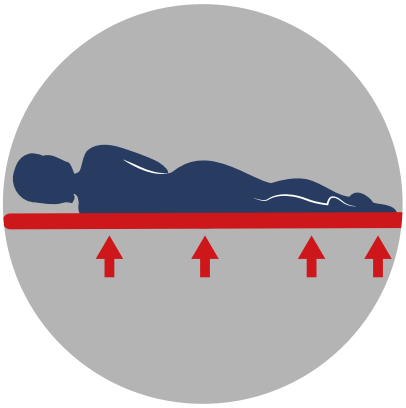


ERGONOMIC DESIGN

The traditional technology with various thicknesses of electrical cables arranged in a serpentine pattern, makes products rigid, cumbersome in terms of volume and difficult to use.
The presence of electrical cables creates bothersome and uncomfortable protuberances, causing pressure points that are dangerous for the human body during use.

WHEN THIS HAPPENS, THE BODY MUST CONTINUOUSLY ADAPT ITSELF IN ORDER TO REDUCE THE COMPRESSION OF INTERVERTEBRAL DISC AND MUSCLES, THEREFORE SLEEP, REST OR THERMOTHERAPY ACTIVITIES ARE DISTURBED AND DISCONTINUOUS, LEAVING A SENSATION OF FATIGUE AND OVERALL DISCOMFORT, DETRIMENTAL TO THE WELL-BEING OF THE INDIVIDUAL.

A heat-generating product must adapt itself anatomically to the human body and its shape, the presence of uncomfortable and bothersome protuberances may jeopardise this, causing the excessive compression of subcutaneous tissue.
WITH THE INNOVATIVE CARBON RELAX TECHNOLOGY, THIS NO LONGER HAPPENS.



The absence of electrical cables guarantees to the body, to every single vertebra of the spine and to the muscle its natural position, without these being subjected to any abnormal compressions. A complete adherence to the body part to be heated offers the individual the utmost comfort.

Muscular distension and relaxation, not only acting on the muscular system, also has beneficial effects on the nervous system, with relative consequences both at a **bodily and emotional level.**

Backache is caused by an abnormal compression of intervertebral discs.

A traditional electric bedwarmer causes the onset of uncomfortable pressure points that can lead to bodily discomfort and disorders.

ANTI-STATIC PROPERTIES

THE CARBON RELAX TECHNOLOGY HAS A DISSIPATIVE, ANTI-STATIC EFFECT THAT ALSO PROTECTS AGAINST ELECTRIC SHOCKS.

The high-tech carbon nanotube yarns absorb and favour the dissipation of the electrical charges accumulated by the body throughout the day, therefore providing an anti-stress and relaxing effect.
They are capable of effectively preventing the release of static electricity and they create a barrier against electromagnetic pollution and electrostatic charges.

The electromagnetic pollution caused by the objects surrounding us, by the telecommunication systems of the computer and household appliances may favour a continuous state of bodily tension and stress.
The presence of high-tech carbon nanotube yarns and the Carbon Relax technology confers the fabric with the capacity to lower the level of tension.
Moreover, high-tech carbon nanotube yarns guarantee a high, long-lasting, permanent anti-static power.

ANTI-BACTERIAL PROPERTIES

CARBON RELAX PREVENTS THE PROLIFERATION OF GERMS AND BACTERIA THAT ARE POTENTIALLY HARMFUL TO HUMAN HEALTH.

The textile structure of the Carbon Relax technology makes it possible to obtain a product with **anti-bacterial, anti-mycotic and anti-mite** properties.

Such structure is composed of bacteriostatic yarns capable of preventing bacterial proliferation, neutralising the microbial flora responsible for causing the formation of bad smells, creating an extremely effective anti-microbial and anti-odour effect.

ENVIRONMENT

We believe that technology must improve the quality of people's lives while, at the same time, protecting the environment.

In order to benefit from optimal well-being, people need a healthy, safe environment in which they can rest and relax.

For this reason, we have designed cutting-edge products that are easy to use, capable of being beneficial both to people's health and well-being, as well as to the environment in which they live.

A UNIQUE COMBINATION FOR DEMANDING CONSUMERS.

NO HAZARDOUS MAGNETIC WAVES

Thanks to the DC power supply and the extremely low voltage, no hazardous magnetic waves are generated, typical of Alternating Current powered products with a high voltage. The innovative Carbon Relax technology makes it possible to generate heat that is good for both humans and for the surrounding environment.

ENERGY-SAVING PROPERTIES

The Carbon Relax technology has been studied to provide innovative, high-performing products able to allow a "smart energy consumption".
An increase in the heating-up speed of the high-tech carbon nanotube yarns requires less time is required to reach the desired temperature while the same power and conditions are guaranteed, if compared with a traditional heat-generating product.
The utmost efficiency of the Carbon Relax technology guarantees a reduction in energy consumption, approximately 35% less than technologies currently in use, with a consequent energy saving.

ENJOY WELL-BEING
MADE IN ITALY

CREATIVITY
INNOVATION
HIGH QUALITY
BEAUTY

DISTINCTIVE CHARACTERISTICS OF MADE IN ITALY PRODUCTS THAT ARE APPRECIATED WORLDWIDE.

The patented Carbon Relax technology is

100% MADE IN ITALY

OUR TECHNOLOGY IS THE TRAIT D'UNION BETWEEN THE AGE-OLD ARTISANAL TEXTILE QUALITY AND TECHNOLOGICAL INNOVATION.

Thanks to our products that combine
a strong technical competence
with a unique design,
you will be able to enjoy an unrepeatable
experience of Italian well-being
in your own home.
The softness and warmth of our products
will embrace you with unique comfort.

CARBON RELAX
TECHNOLOGY

	TRADITIONAL SOLUTION WITH ELECTRICAL CABLES	CARBON RELAX	CARBON RELAX PERSONAL BENEFITS
TECNOLOGY	Electrical cables – problems of corrosion, oxidation, uncomfortable due to their thickness, stiffness, less thermal efficiency and diffusivity.	CARBON RELAX HIGH-TECH NANOTUBE YARNS WOVEN DIRECTLY INTO THE FABRIC TEXTURE. IT DOES NOT OXIDISE OR CORRODE, IT IS MUCH MORE LONG-LASTING, IT HAS A GREATER THERMAL EFFICIENCY, THERMAL DIFFUSION AND IT IS EFFECTIVE ANY CONDITIONS OF TEMPERATURE AND HUMIDITY.	COMFORT, SAFETY, ERGONOMIC DESIGN AND WELL-BEING
	Electrical cables woven into the fabric texture	HIGH-TECH FABRIC OBTAINED FROM THE COMBINATION OF NATURAL OR ARTIFICIAL FIBRES CARBON RELAX HIGH-TECH NANOTUBE YARNS WOVEN DIRECTLY INTO THE FABRIC TEXTURE.	FLEXIBILITY, RESISTANCE AND SOFTNESS OF THE FABRIC
	Electrical cables arranged in a snake-like pattern	CAPILLARY LAYOUT OF THE HIGH-TECH NANOTUBE YARNS	HOMOGENEOUS AND UNIFORM HEAT TRANSMISSION AND DIFFUSION
POWER SUPPLY	110 -260 VAC - 50/60Hz	SAFETY EXTRA LOW VOLTAGE LOWER THAN 20 Volt DC	100% SAFE, NO ELECTRICAL SHOCKS
ENERGY EFFICIENCY	The electrical resistivity of copper electrical cables in much lower compared to Carbon Relax high-tech nanotube yarns.	THE ELECTRICAL RESISTIVITY OF THE CARBON RELAX HIGH-TECH NANOTUBE YARNS IS 2,058 TIMES GREATER THAN COPPER. IT PRODUCES MORE HEAT, DUE TO ITS GREAT HEAT TRANSMISSION CAPACITY AND ITS SPEED IN DISSIPATING THE THERMAL ENERGY PRODUCED BY MEANS OF THE JOULE EFFECT. THE CARBON RELAX HIGH-TECH NANOTUBE YARN REACHES THE DESIRED TEMPERATURE IN LESS TIME USING THE SAME AMOUNT OF POWER.	ENERGY-SAVING, LESS POLLUTION
HEAT	Invasive, intermittent and direct contact heat is generated.	IT GENERATES NON-INVASIVE, CONSTANT AND CONTROLLED HEAT. A PLEASANT SENSATION OF COMFORTABLE, RELAXING HEAT CAPABLE OF PENETRATING DEEP AND RELAXING MUSCULAR TENSION.	HELPS TO ACHIEVE A BETTER CONDITION TO OBTAIN THE RIGHT DEGREE OF MENTAL AND PHYSICAL RELAXATION, A PLEASANT WAY OF TAKING CARE OF YOURSELF.

NOTES

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