

# **INNOVATIONS**

FOR A COMFORTABLE LIFE

**IN COLD WEATHER** 

**PRODUCT RANGE** 



# **EXPANDING YOUR BUSINESS CAPABILITIES**



## **TECHNOLOGY INFO**

We produce a unique electrically conductive filament based on polymers and carbon nanotubes.

Our filament can be integrated into any material for futher heating.

# **ABOUT US**

Our professional team, patented technology and unique modern equipment from the world's top-level mechanical engineering leaders allow us to produce high quality innovative products.





### SAFE

Our products are certified, patented and have successfully passed fire safety tests.



### **ENERGY EFFICIENT**

The heating elements are placed as close to the heat consumer as possible. This reduces the "parasitic" heated volumes and reduces the heating time of the product to the target temperature.



### **INNOVATIVE**

The electrically conductive
AMPERETEX filament and
products based on it can be used
to shield electromagnetic fields
or achieve an antistatic effect,
additionally providing structure
reinforcement.



### **RELIABLE**

Ampertex products are effective in de-icing and heating systems for various surfaces and objects. These systems are characterized by high reliability, resistance to environmental factors, durability of operation, full automation of control.



# **HEATING MESH (HM)**

### Specific power and operating temperature:

approx. 350 W/m $^2$  heating up to +40°C\* approx. 650 W/m $^2$  heating up to +60°C\*

approx. 800 W/m<sup>2</sup> heating up to +80°C\* (for tapes with a width of 0.15 m or more)







- · Used as a basic raw material for the production of heating elements.
- Can be integrated into various materials during their production stage.
- Requires additional insulation of conductive filaments before use.
- Requires UV protection when used outdoors.
- · Impregnation with acrylates is possible to stiffen the mesh\fabric.

Supply voltage = 220 V

Polymer heating mesh application range: from -50°C to +140°C\*.

\*In cases where the mesh is packed in a covering material, the limits of the operating temperature are limited by the temperature of destruction of the material itself.



### **APPLICATION AREAS:**

### Medical industry:

- specialized medical or examination equipment,
- thermal blankets and hot water bottles.
- bandages and bracers for physiotherapy;

Agriculture: greenhouses, farms;

**Green energy**: heating of solar panels and wind turbine blades;

### Industry:

- heating of pipelines, tanks and cisterns,
- heating of construction sensitive to temperature fluctuations,
- heating of equipment and instrumentation for diving\underwater works,
- warm mobile workplace arrangement.

Dimensions		Heating temperature*, °C		
m	+40	+60	+80	
0.04x1	14 W	26 W	-	
0.07x1	25 W	46 W	-	
0.13x1	46 W	85 W	-	
0.15x1	53 W	98 W	120 W	
0.20x1	70 W	130 W	160 W	
0.45x1	158 W	293 W	360 W	
0.95x1	333 W	618 W	760 W	
1.45x1	508 W	943 W	1160 W	

### **APPLICATION AREAS:**

Construction, housing and utilities:

- anti-icing systems for roofing,
- anti-icing solutions for public transport stops and crossings,
- anti-icing coating for railways, bus stations and airports,
- parking and garage heating;

### Clothing and textiles:

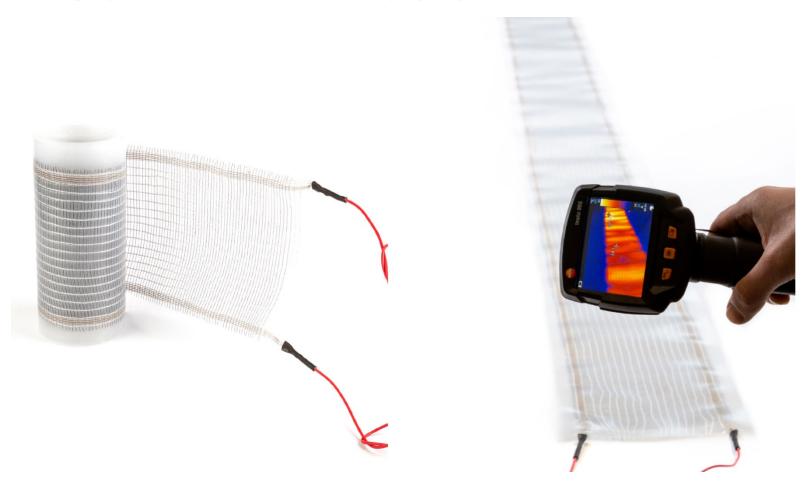
- upholstered furniture: seat and backrest heating,
- outdoor furniture heating,
- clothes: sportswear, active wear, accessories;

**Automotive industry**: battery heating, car interior, etc.

Each element of the heating network has at least 2 electrodes for power supply. The electrodes are made in silver-plated thread and can be reinforced at the contact points with copper or aluminum foil.

# **FLEXIBLE HEATING TAPES (FHT)**

Heating tapes are flexible, insulated with polyethylene





# **APPLICATION AREAS:**

## Agricultural industry:

- greenhouses,
- farms,
- other structures;

### Industry:

- heating of pipelines, tanks and cisterns,
- heating of construction sensitive to temperature fluctuations.



## **LAYER COMPOSITION:**

- · Plastic film
- · Heating mesh
- · Plastic film

### **Additional information:**

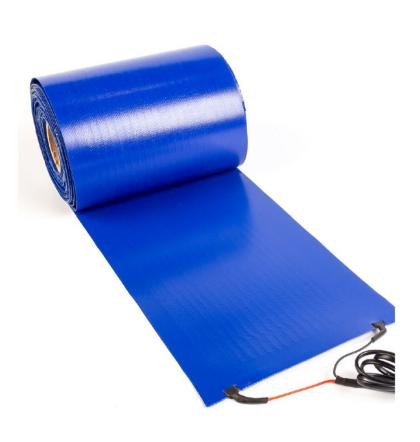
- The tape is moisture-resistant.
- Can only be used in overheating resistant environments.

For example, for heating the soil of greenhouses.

Specifications	Width	
	0.10 m	0.20 m
Length	3/5/10 m	3/5/10 m
Thickness	2.2 mm	2.2 mm
Specific power	25 W/run. m	50 W/run. m
The power of a 3 meter long element	<b>7</b> 5 W	150 W
The power of a 5 meter long element	125 W	250 W
The power of a 10 meter long element	250 W	500 W
Supply network voltage	220 V	220 V

# **FLEXIBLE HEATING TAPES (FHT)**

**PVC** insulated









### **APPLICATION AREAS:**

### Industry:

- heating of pipelines, tanks and cisterns,
- heating of construction sensitive to temperature fluctuations
- warm mobile workplace arrangement;

## Construction, housing and utilities:

• anti-icing systems for roofing;

### Clothing and textiles:

• upholstery for outdoor furniture;

### Automotive industry:

• battery heating;

### Medical industry:

- specialized medical or examination equipment,
- bandages and bracers for physiotherapy.

**Agriculture**: greenhouses, farms.



### **LAYER COMPOSITION:**

- · PVC membrane
- · Heating mesh
- · PVC membrane

### **SPECIFICATIONS:**

Specific power from 17 to 100 W/run. m.

Supply network voltage = 220 V

# The power of the element with heating up to +40°C

(Under normal conditions)

Width	Length		
	3 m	5 m	10 m
0.07 m	52 W	87 W	175 W
0.10 m	75 W	125 W	250 W
0.17 m	130 W	210 W	420 W
0.20 m	150 W	250 W	500 W

# The power of the element with heating up to +60°C

(Under normal conditions)

Width	Length		
	3 m	5 m	10 m
0.07 m	105 W	175 W	350 W
0.10 m	150 W	250 W	500 W
0.17 m	240 W	400 W	800 W
0.20 m	300 W	500 W	1000 W

#### **Additional information:**

- · The most universal type of tape. The tape is flexible, moisture-resistant, protected from UV-lights.
- · Used for heating pipelines, tanks and other containers, roofs under the seam surface, water waste pipes.
- · Can be integrated into other materials at the request of the Consumer.

# **FLEXIBLE HEATING TAPES (FHT)**

covered with a self-adhesive sealing tape with UV protection





Heating temperature: up to + 40°C (for heating the roof)



# **APPLICATION AREAS:**

Construction, housing and utilities:

• anti-icing systems for roofing;

Agricultural industry:

- greenhouses,
- farms,
- other structures;



### **LAYER COMPOSITION:**

- · Bitumen-polymer tape with UV protection;
- · Heating mesh;
- · Double-sided bitumen-polymer adhesive tape.

### **SPECIFICATIONS:**

# Supply network voltage = 220 V

Specific power from 17 to 50 W/ run. m.

#### Additional information:

- · Can be used for heating roofs, water drains.
- Protects roof elements from the formation of icicles and ice.
- Easily mounted on the roof thanks to the adhesive layer.
- · Grounding cable connection is possible.

# The power of the element with heating up to +40°C

(Under normal conditions)

Width	Length		
	3 m	5 m	10 m
0.07 m	52 W	87 W	175 W
0.10 m	75 W	125 W	250 W
0.17 m	130 W	210 W	420 W
0.20 m	150 W	250 W	500 W



# **SOLID HEATING PANELS (SHP)**







## **APPLICATION AREAS:**

### Green energy:

 heating of solar panels and wind turbine blades;

### Construction, housing and utilities:

- anti-icing systems for roofing,
- anti-icing solutions for public transport stops and crossings,
- anti-icing coating for railways, bus stations and airports,
- parking and garage heating;

## Automotive industry:

• battery heating, etc.;

### Industry:

- •heating of construction sensitive to temperature fluctuations
- warm mobile workplace arrangement.



### **SPECIFICATIONS:**

Specific power from 350 to 800 W/m<sup>2</sup>

### Supply voltage = 220 V

### Additional information:

- Panels for heating public areas, including public transport stops, parking lots, playgrounds and sports grounds, treadmills.
- The panels are not the final coating and are covered with different materials:
- ✓ multicolored EPDM rubber (up to 40 mm thick),
- ✓ paving tiles,
- ✓ roll-type rubber coatings,
- ✓ polymer coatings with high wear resistance.

## Characteristics and power consumption:

(Under normal conditions)

Dimensions, m	Heating tem	Heating temperature*, °C	
	+40 +60	+80	
0.25x0.5	29 W 54 V	W 67 W	
0.5x0.5	69 W 127	W 157 W	
0.25x1	62 W 114	W 141 W	
0.5x1	136 W 253	W 312 W	
1x1	289 W 537	W 661 W	
1x1.5	436 W 811	W 998 W	
1x2	587 W 1,09	0 W 1,342 W	



# STEPS AND PORCH WARMING ANTI-ICING CARPETS





# **APPLICATION AREAS:**

Construction, housing and utilities:

- anti-icing systems for roofing,
- anti-icing solutions for public transport stops and crossings,
- anti-icing coating for railways, bus stations and airports,
- parking and garage heating;

### Industry:

- •heating of construction sensitive to temperature fluctuations
- warm mobile workplace arrangement.



# Specific power and operating temperature:

- approx. 350 W/m² heating up to + 40°C (textolite based) for a normal temperate climate;
- approx. 650 W/m² heating up to + 60°C (textolite based) for a cold climate;
- approx. 800 W/m² heating up to + 80°C (prepreg based) for the Arctic climate and special projects.

#### **Additional information:**

- · In addition to the steps and entrance areas themselves, the product can be applied on ramps to achieve an antiicing effect.
- · It is possible to produce elements according to your dimensions, which requires more time and has an increased cost per product.

Created on the basis of fiberglass panels with a rubber roll coating or a coating of colored EPDM rubber.

#### **SPECIFICATIONS:**

• Specific power from 350 to 800 W/m<sup>2</sup>,

Supply voltage = 220 V.

• Heating from + 40°C to +80°C\* \*Under normal conditions.

Particular relevance for shops, social institutions and municipal institutions with increased traffic. Can be used as an anti-icing coating for railway, bus stations and airports

## Characteristics and power consumption:

(Under normal conditions)

Dimensions, m	Heating temperature*, °		ture*, °C
	+40	+60	+80
0.25x0,5	29 W	54 W	67 W
0.25x1	62	114	141
0.5x0.5	69 W	127 W	157 W
0.5x1	136	253	312
0.5x1.5	188 W	349 W	429 W
0.5x2	253 W	469 W	577 W
1x1	289 W	537 W	661 W
1x1.5	436 W	811 W	998 W
1x2	587 W	1,090 W	1,342 W

