Thermo

Plane Film Heater
Exothermic Vest
Picture Frame Heater
Desk Stove
Sauna Heating Panel

www.thermoq.com
Thermo-Q under-floor side wall

Plane Film Heater
Innovative film heater for under-floor heating without installation of a water boiler.

1.1 Healthy
- Far infrared ray radiation - 3.49x10^3 watt/m^2
- Anion radiation - more than 500 (ions/cc)
- The control of electromagnetic wave generation

1.2 Environment Friendly
Since it is operated without the process of combustion, there is not much need for ventilation even in the winter. It is a silent and clean heating system without odor. In the case of under-floor heating, you're safe from cement virulence because there is no curing work.

1.3 Convenient
- Easy installation
- Light-weighted and convenient to handle.
- Doesn’t need water boiler piping construction.
- Good for partial heating or remodeling.
- Installation is very simple with a 0.2mm thin film.
- Increases customer’s satisfaction through emission of far infrared rays and anions.
- Water-proof coating for safer use.
- Construction time can be significantly decreased.
- Composed of light-weighted material.

<table>
<thead>
<tr>
<th>Description</th>
<th>Item</th>
<th>weight per m² (kg/m²)</th>
<th>thickness (mm)</th>
<th>construction time (day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hot water piping system</td>
<td>about 12</td>
<td>110~120</td>
<td>10 (curing)</td>
<td></td>
</tr>
<tr>
<td>Electrical floor heating system</td>
<td>about 1.5~3</td>
<td>150</td>
<td>1~3 day</td>
<td></td>
</tr>
<tr>
<td>Thermo-Q</td>
<td>about 0.3~0.9</td>
<td>5~15</td>
<td>within 1 day</td>
<td></td>
</tr>
</tbody>
</table>
1.4 Economical

- The plane heater from.
  Existing Ni/Cr wire heaters have big temperature variations. Thermo-Q generates heat evenly on every exothermic part and excellently in efficiency.
- The heat radiation.
  Unlike air-heating convection, radiation warms up object and people in the room as sunlight does.
- The power saving effect.

<table>
<thead>
<tr>
<th>Installation Type</th>
<th>Description</th>
<th>Surface temperature</th>
<th>Power consumption (Per/m²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>for wooden floor</td>
<td>AC220V/22W,50cm X 50cm(20M)</td>
<td>45°C(113°F)</td>
<td>160w</td>
</tr>
<tr>
<td></td>
<td>AC220V/30W,50cm X 50cm(20M)</td>
<td>55°C(131°F)</td>
<td>220w</td>
</tr>
<tr>
<td>for marble floor</td>
<td>AC220V/80W,50cm X 50cm(20M)</td>
<td>65°C(149°F)</td>
<td>590w</td>
</tr>
<tr>
<td></td>
<td>AC220V/30W,50cm X 50cm(20M)</td>
<td>55°C(131°F)</td>
<td>220w</td>
</tr>
<tr>
<td>for marble wall</td>
<td>AC220V/40W,50cm X 50cm(20M)</td>
<td>60°C(140°F)</td>
<td>290w</td>
</tr>
<tr>
<td></td>
<td>AC220V/60W,50cm X 50cm(20M)</td>
<td>60°C(140°F)</td>
<td>340w</td>
</tr>
<tr>
<td></td>
<td>AC220V/80W,65cm X 50cm(20M)</td>
<td>65°C(149°F)</td>
<td>450w</td>
</tr>
</tbody>
</table>

In case of 100% installation rate
Temp. measured between the film and insulation

1.5 Safety

- Face exothermic materials.
  - It doesn’t exceed the default highest temperature.
  - The distribution of temperature is even, therefore, no partial overheating.
  - Though heated area may be partially damaged, it doesn’t affect the whole heating system.
  - Repeated bending or crumpling does not cause arching, so long life-span is ensured.
- Safety devices for Thermo-Q
  - There are two sensors in the temperature controller
  - One is for temp. adjusting and the other is for preventing over heating.
  - In the case of electricity leakage and an excess current, a breaker will cut the circuit.

Under - Floor heating film
- Ultra slim film heater with thickness of 0.3mm.
- Healthful heating system radiating far infrared rays, anions.
- Innovative power saving design, simple installation, instant use after installation.
Exothermic Vest
Enjoy warm winters with a vest that heats up like a sauna.

2.1 Astounding MATERIAL
The most essential aspect of the exothermic vest is the face exothermic material. The exothermic material created by Uniplatek Co., Ltd. is a crystallized result of many years of research and development.

2.2 95% Exothermic Material
Percent composition of exothermic material: 95%

2.3 Lithium Polymer Batteries
Uniplatek Co., Ltd. provides its product to be much safer and environmentally friendlier than other existing products, with its use of lithium polymer batteries.

2.4 Healthy
Far infrared ray radiation: $3.49 \times 10^4$ watt/m$^2$
The control of electromagnetic wave generation: 0.4 mG
2.6 Specification

<table>
<thead>
<tr>
<th>Specifications</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Heating Material</td>
<td>Carbon exothermic material</td>
</tr>
<tr>
<td>Color</td>
<td>Various</td>
</tr>
<tr>
<td>Size</td>
<td>S/M/L/XL/XXL</td>
</tr>
<tr>
<td>Radiant part</td>
<td>back and front of body</td>
</tr>
<tr>
<td>Recharger</td>
<td>AC 100-240V</td>
</tr>
<tr>
<td>Battery</td>
<td>7.4V/4,100m Ah, 3.7V/41,000 m Ah</td>
</tr>
<tr>
<td>Made in</td>
<td>Korea</td>
</tr>
</tbody>
</table>

2.7 Feature

- Safe & powerful lithium polymer battery applied.
- Rechargeable approx. 500 times.
- High-tech heating units generate far infrared rays.
- Comfortable suits as heating units are flexible.
- Heating range 104°F (40–70°C)
- Temperature is controllable and maintained approx. 6–10 hours.

2.8 How film heaters are made?

- Special exothermic materials are put on films, and electrodes are installed at each end. The heat resistant polymer film is coated to complete the heaters.
- As heat is generated from exothermic materials, electromagnetic wave are not emitted.
- These heaters are applicable for various functional clothes as shapes can be adjusted.
3.1 Picture Frame Heater

As a heater that can be hung on the wall, it provides a beautiful picture as well as far infrared rays and anions being emitted unlike other heaters with unstylish designs. It is a clean heating apparatus with no smell or noise. At an office or study room, it provides a fresh and comfortable environment.

3.2 Desk Heater

This model is a small-sized portable heater. It can be put under or on desks usually for students and office workers. This model also emits far infrared rays and anions.

3.3 Sauna Heating Panel

If you install a sauna heating panel in a sauna room, you can enjoy a cozy and comfortable sauna with far infrared rays and anions that enhance your health. You can make an individual sauna (1~2 persons) with a much lower cost at your home.
3.4 Specification

<table>
<thead>
<tr>
<th>Product</th>
<th>Item</th>
<th>Frame dimension</th>
<th>Heating temperature</th>
<th>Power consumption per 1 ea</th>
</tr>
</thead>
<tbody>
<tr>
<td>ThermoQ-SAUNA</td>
<td></td>
<td>450 x 450 mm</td>
<td>176°F (80°C)</td>
<td>200W</td>
</tr>
<tr>
<td>ThermoQ-DESK</td>
<td></td>
<td>300 x 400 mm</td>
<td>176°F (80°C)</td>
<td>100W</td>
</tr>
<tr>
<td>ThermoQ-PICTURE</td>
<td></td>
<td>550 x 700 mm</td>
<td>212°F (100°C)</td>
<td>400W</td>
</tr>
<tr>
<td></td>
<td></td>
<td>600 x 1,000 mm</td>
<td>212°F (100°C)</td>
<td>600W</td>
</tr>
</tbody>
</table>

3.5 Feature

It radiates far infrared rays and anions as well as heat energy. It radiates high heat of 140~194°F immediately after turning on. It is safe from fire, because the temperature does not exceed the default temperature setting. Radiation heating system generates no noise or ashes which are generated from kerosene stoves. It does not consume oxygen to heat space. Hot air circulation which produces dust is prevented. It is the best heating apparatus for a healthy life. It is completely coated for water-proof, so electric leakage that into water and moisture is not dangerous at all.
Priority to human resources, mutual benefit, and creative thinking.

**UNIPLATEK**

**Jul. 2000:** Appointed as a ‘Promising small and medium company’ by Daejeon Metro City

**May. 2001:** Certified ISO9001 (3549) by United Registrar of Systems Ltd.

**Aug. 2001:** Performed policy research task of Ministry of Science & Technology-Research Management Company

**Jan. 2003:** Performed Korea-Germany Joint technology cooperation research project (Fraunhofer research institute, Germany)

**Aug. 2003:** Developed power-saving face exothermic materials and technology agreement-Small and Medium Business Administration

**Nov. 2003:** Joint research for power-saving face exothermic materials-Korea Institute of Energy Research

**Dec. 2003:** Appointed as a company performing National task of Korea Electric Power Corporation

**Jun. 2004:** Cooperated tasks for developing next generation face exothermic materials-Ministry of Science & Technology

**Nov. 2005:** Acquired certificate of Electric Heating Appliances (E258647) Underwriters Laboratories Inc. UL/CSA

**Nov. 2005:** Acquired certificate of Qualification or Electric Heating Appliances (KSOT2, KSOT8) Underwriters Laboratories Inc. Witness Test Data Program (WTDP)

**Nov. 2005:** Diploma Awarded to Unplatek Co., Ltd
Hong Chul Yum (President of the WTA (World Technopolis Association), Mayer of Daejeon Metropolitan city)
Vladimir Gorodetsky (Mayor of Novosibirsk)

**Dec. 2006:** Acquired Russia’s safety certification (GOST)

**Dec. 2006:** Acquired China’s safety certification (CCC/CQ)

**May. 2007:** Acquired Europe safety certification (CE)

**Dec. 2007:** Korean World-Class Product Award 2007 (Plane Film Heater)

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**CERTIFICATE OF PATENT**

**Dec. 2004:** Insulation Cap for Connecting Electrode of Heating Unit
The Korea Intellectual Property Office

**Nov. 2005:** Method for increasing wear-resistibility of metal products using plasma ion implantation method - The Korea Intellectual Property Office

**Nov. 2005:** Carbon ink for high temperature use and common use, a continuous type dip-coating apparatus for manufacturing carbon paper, a face-shaped heating unit for high temperature use and common use, and manufacturing method thereof. The Korea Intellectual Property Office

**Nov. 2005:** Method for giving anti-static to polymer surface and non-delaminated flexible print circuit board using plasma ion implantation. The Korea Intellectual Property Office

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**CERTIFICATE OF UTILITY MODEL REGISTRATION**

**Sep. 2005:** Protection against the cold ancillary device that has exothermic and radiation functions (The Korea Intellectual Property Office)

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