

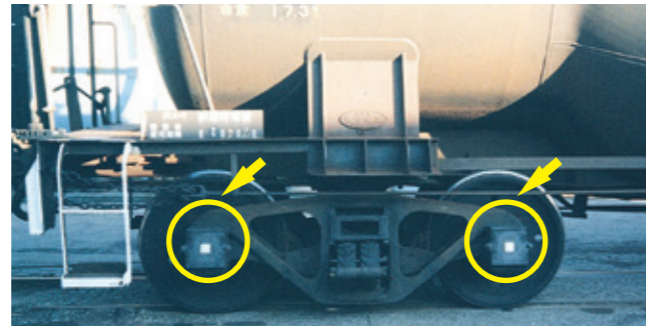
Temperature Indicating Materials – Usage Examples

For maintenance of electrical/electronic equipment

1. Power Transforming Equipment

Monitoring abnormal temperatures in electric power equipment and terminal connections

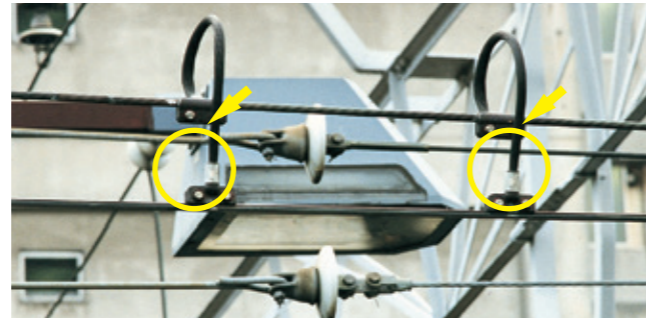
- Line switch (LS) fixed contact exterior
- Disconnect switch (DS) fixed contact exterior or movable contact
- Oil circuit breaker (OCB) terminal fastener
- Transformer (Tr) terminal fastener and main body
- Silicon capacitor (SC) terminal fastener
- Monitoring abnormal temperature in current transformer (CT) terminal fasteners and super high-voltage transformers



Temperature indicator label LI

2. Power Distribution Equipment

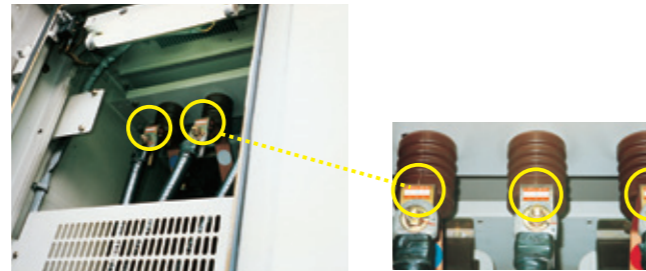
- Monitoring abnormal temperatures in busbars, circuit breakers and MBB connections inside power-receiving cubicles
- Pole-mounted transformer load management
- Monitoring abnormal temperatures in power capacitors, arc suppression resistors and terminals and blade parts of circuit breakers



Customized temperature indicator label

3. Control Equipment

Temperature monitoring of electromagnetic switches, electromagnetic contactors, electromagnetic relays, knife switches, high-voltage circuit breakers, high-voltage load break switches, power capacitors (parallel, high-voltage, series), surge arresters, inductive reactors, and magnetic amplifiers



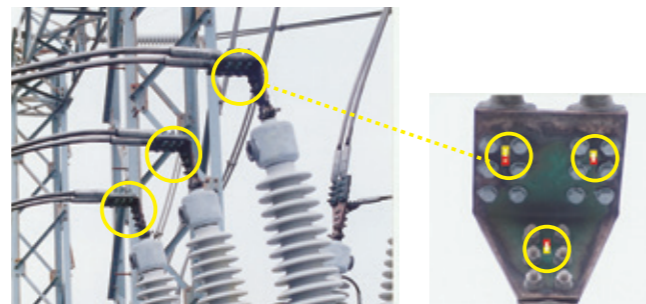
Temperature indicator label 3E

4. Rotating Electrical Equipment

Temperature monitoring of motors

Temperature monitoring of rotating machine parts

- Stator windings/insulated rotor windings
- Armature windings with commutators
- Resistive field winding and compensating winding
- Exposed single-phase field winding
- Commutators and slip rings
- Bearings



Combination temperature indicator label

5. Electronic Components

- Circuit components:
 - Temperature monitoring of capacitors, resistors, coils and integrated circuits
- Vibrating components:
 - Temperature monitoring of crystal oscillators, mechanical filters and reed selectors
- Mechanical components:
 - Temperature monitoring of electromagnetic relays, connectors, plugs, jacks and switches
- Semiconductor devices:
 - Temperature monitoring of transistors, diodes, thyristors and integrated circuits

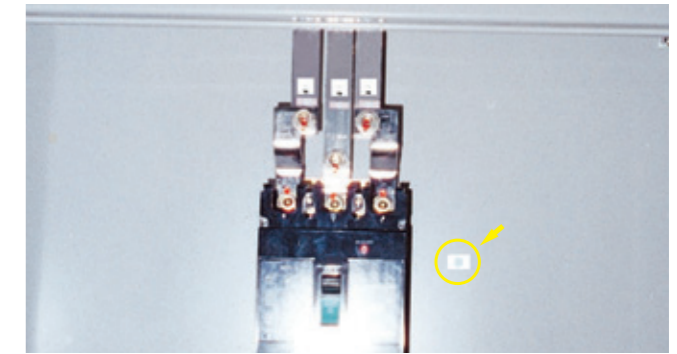
6. Power Transmission Equipment

- Monitoring for abnormal heat generation in jumper compression sockets and sleeves
- Temperature monitoring of terminals for feeder lines, negative feeder lines, overhead lines, support lines, feed branch connectors, jumper connectors, branch connectors, feed ears, connectors, and feeder switches.

Temperature Indicating Materials – Usage Examples

For monitoring household items

- Gas water heater water temperature sensing and burn prevention
- Temperature sensing for hot plates and frying pans
- Temperature sensing for hot sake bottles
- Monitoring/measurement of temperature inside refrigerators
- Room temperature monitoring/measurement
- Temperature sensing for electric moxibustion utensils
- Confirmation of body warmer ignition
- Temperature sensing for hair irons/hair curlers
- Temperature indication for vacuum cleaners with mite-removing function



Dew Label™

For monitoring temperature in manufacturing processes

1. Mining

- Temperature monitoring of metal melting furnaces
- Determining completion of refining during electrorefining of copper
- Temperature monitoring for heat treatment
- Temperature monitoring of bucket conveyors

2. Automobiles/Shipbuilding

- Temperature monitoring during paint baking
- Confirmation of brake shoe adhesive hardening conditions
- Temperature monitoring of molds and dies
- Confirmation of engine internal temperature
- Confirmation of preheating temperature during welding

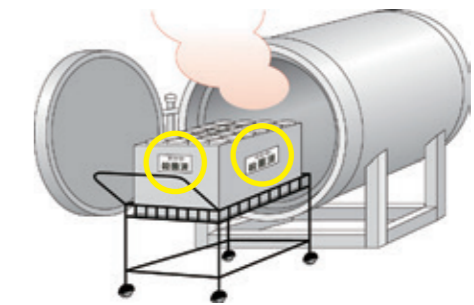
3. Electrical/Electronic/Communication Equipment

- Temperature monitoring during light bulb manufacturing
- Checking light bulb life
- Checking temperature increases inside electrical machinery
- Checking temperature increases of printed circuit boards

- Checking temperature in heat treatment for copiers
 - Determination of heating factuality in response to complaints
 - Temperature monitoring for heat treatment of heat-shrinkable tubes for communication cables
- #### 4. Food
- Level gauges for brewing tanks
 - Checking temperature in heat processing during manufacturing
 - Checking temperature in heat processing of udon noodle heating
 - Confirmation of temperature during breadmaking
 - Checking temperature rise during transportation
- #### 5. Textiles
- Temperature monitoring during printing
- #### 6. Schools
- Checking the temperature of sterilizing cabinets for school lunch utensils
 - Checking heat transfer for educational materials

Temperature Indicating Materials for Food Sterilization Process – Usage Examples

- Confirmation of processes for retort-packaged food/Checking completion of heating processes during canned food manufacturing
- Checking the temperature of utensil sterilizing cabinets for school lunches
- Confirmation of autoclave sterilization



Temperature Indicating Materials for Cold Chains – Usage Examples

- Temperature monitoring during transportation/storage of pharmaceuticals, chemicals and frozen food
- Temperature monitoring during low-temperature transportation
- Temperature monitoring inside warehouses
- Food freshness maintenance
- Checking temperature history during transportation of chocolate
- Checking the temperature inside refrigerators



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UV Detection Products – Usage Examples

- Assessing UV lamp effectiveness/Assessing hardening of UV-curable resin
- Confirmation of UV sterilization/Confirmation of sunlight UV level