

# TMCHallcrest

## Surface Temperature Monitoring System

### THERMAX®

#### Irreversible Temperature Sensitive Products



### IRREVERSIBLE LABELS

A fast, simple temperature monitoring system based on Proprietary colour change technology

- Inexpensive and Easy to Use
- Immediate Response
- Permanent Record of Highest Temperature
- Oil, Water and Steam Resistant
- Accuracy Tolerances
  - 29°C to 99°C is +/-1°C
  - 100 to 154°C is +/-1.5°C
  - 160°C to 280°C +/- (1%+1°C)
- Temperature range 29-290°C
- Labels or Strips
- Silver to Black Colour Change
- Last Black Event is the highest temperature achieved

#### THERMAX 10 LEVEL STRIPS

<b>A</b>	°C	40	42	44	46	49	54	60	62	65	71
	°F	104	108	111	115	120	129	140	144	149	160
<b>B</b>	°C	77	82	88	93	99	104	110	116	121	127
	°F	171	180	190	199	210	219	230	241	250	261
<b>C</b>	°C	132	138	143	149	154	160	166	171	177	182
	°F	270	280	289	300	309	320	331	340	351	360
<b>D</b>	°C	188	193	199	204	210	216	224	232	241	249
	°F	370	379	390	399	410	421	435	450	466	480

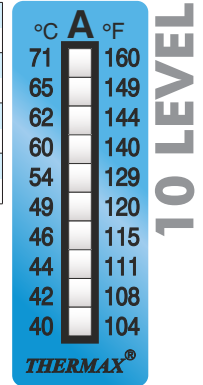
#### Specifications:

Size: 51 x 18mm (2.00" x 0.7")

Type: Vertical, Self adhesive.

Scale: °C and °F

Range: (Sold in units of 10)



#### THERMAX 8 LEVEL STRIPS

<b>A</b>	°C	37	40	43	46	49	54	60	65	
	°F	99	104	109	115	120	129	140	149	
<b>B</b>	°C	71	77	82	88	93	99	104	110	
	°F	160	171	180	190	199	210	219	230	
<b>C</b>	°C	116	121	127	132	138	143	149	154	
	°F	241	250	261	270	280	289	300	309	
<b>D</b>	°C	160	166	171	177	182	188	193	199	
	°F	320	331	340	351	360	370	379	390	
<b>E</b>	°C	204	210	216	224	232	241	249	254	260
	°F	399	410	421	435	450	466	480	489	500

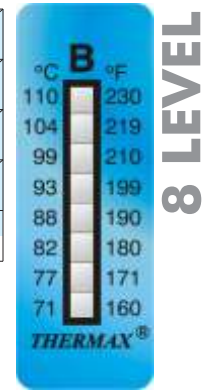
#### Specifications:

Size: 51 x 18mm (2.00" x 0.7")

Type: Vertical, Self adhesive.

Scale: °C and °F

Range: (Sold in units of 10)



#### THERMAX 6 LEVEL MINI STRIPS

<b>1</b>	°C	29	33	34	37	40	42
	°F	84	91	93	99	104	108
<b>2</b>	°C	44	46	49	54	60	62
	°F	111	115	120	129	140	144
<b>3</b>	°C	65	71	77	82	88	93
	°F	149	160	171	180	190	199
<b>4</b>	°C	99	104	110	116	121	127
	°F	210	219	230	241	250	261
<b>5</b>	°C	132	138	143	149	154	160
	°F	270	280	289	300	309	320
<b>6</b>	°C	166	171	177	182	188	193
	°F	331	340	351	360	370	379
<b>7</b>	°C	199	204	210	216	224	232
	°F	390	399	410	421	435	450
<b>8</b>	°C	241	249	254	260	280	290
	°F	466	480	489	500	536	554

#### Specifications:

Size: 12 x 32mm (0.47" x 1.26")

Type: Horizontal, Self adhesive.

Scale: °C and °F

Range: (Sold in units of 10)



### 6 LEVEL

#### THERMAX 5 LEVEL STRIPS

<b>A</b>	°C	37	40	*43	*46	*49
	°F	99	104	109	115	120
<b>B</b>	°C	49	54	60	65	71
	°F	120	129	140	149	160
<b>C</b>	°C	77	82	88	93	99
	°F	171	180	190	199	210
<b>D</b>	°C	104	110	116	121	127
	°F	219	230	241	250	261
<b>E</b>	°C	132	138	143	149	154
	°F	270	280	289	300	309
<b>F</b>	°C	160	166	171	177	182
	°F	320	331	340	351	360
<b>G</b>	°C	188	193	199	204	210
	°F	370	379	390	399	410
<b>H</b>	°C	216	224	232	241	249
	°F	421	435	450	466	480
<b>I</b>	°C	249	254	260	280	290
	°F	480	489	500	536	554
<b>S</b>	°C	29	33	34	37	40
	°F	84	91	93	99	104

#### Specifications:

Size: 39 x 18mm

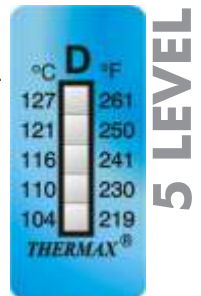
(1.53" x 0.7")

Type: Vertical, Self adhesive.

Scale: °C and °F

Range: (Sold in units of 10)

(\*Please note that the temps on the 5A may be subject to change due to ongoing development)



### 5 LEVEL

Thermax irreversible temperature strips and indicators provide a permanent record that an item has exceeded its rated temperature and can be used in most applications where temperature is a concern.

# TMCHallcrest

## Surface Temperature Monitoring System

### THERMAX®

#### Strips and Indicators

### APPLICATIONS

#### Pharmaceuticals and Food Stuffs

#### ◆ Prevention of heat-related deterioration

During Transportation and Distribution

Prove that a thermal disinfection temperature has been reached

#### Manufacturing—

#### Electronics, Aerospace, Automotive

#### ◆ Monitoring temperature surface (curing-bonding)

Confirm that soldering temperatures have been achieved

#### ◆ Observing machinery overheating due to friction

Warranty abuse monitor engine component temperature

Confirm temperature integrity in machine maintenance

#### ◆ Insure that temperature sensitive products meet installation requirements

Warn users that environmental conditions exceed temperature limits

Complies with the essential requirements of the relevant European health, safety and environmental protection legislation  
Conforms to BS EN ISO 9001:2000

#### Specifications:

Size: 12 x 13mm (0.47" x 0.51")  
Type: Single temperature indicator shows when maximum temperature has been achieved. Self adhesive.  
Scale: °C and °F  
Range: (Sold in units of 50)



#### THERMAX ENCAPSULATED INDICATORS

°C	29	33	34	37	40	42	43
	44	46	49	54	60	62	65
	71	77	82	88	93	99	104
	110	116	121	127	132	138	143
	149	154	160	166	171	177	182
	188	193	199	204	210	216	224
	232	241	249	254	260	280	290

°F	84	91	93	99	104	108	109
	111	115	120	129	140	144	149
	160	171	180	190	199	210	219
	230	241	250	261	270	280	289
	300	309	320	331	340	351	360
	370	379	390	399	410	421	435
	450	466	480	489	500	536	554

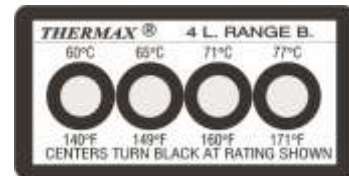
ENCAPSULATED

#### THERMAX 4 LEVEL STRIPS

<b>A</b>	°C	37	44	49	54	<b>F</b>	°C	149	154	160	166
	°F	99	111	120	129		°F	300	309	320	331
<b>B</b>	°C	60	65	71	77	<b>G</b>	°C	171	177	182	188
	°F	140	149	160	171		°F	340	351	360	370
<b>C</b>	°C	82	88	93	99	<b>H</b>	°C	193	199	204	210
	°F	180	190	199	210		°F	379	390	399	410
<b>D</b>	°C	104	110	116	121	<b>I</b>	°C	216	224	232	241
	°F	219	230	241	250		°F	421	435	450	466
<b>E</b>	°C	127	132	138	143	<b>J</b>	°C	249	260	280	290
	°F	261	270	280	289		°F	480	500	536	554


#### Specifications:

Size: 23 x 45mm (0.91" x 1.77")  
Type: Horizontal, Self adhesive.  
Scale: °C and °F  
Range: (Sold in units of 10)



4 LEVEL


#### THERMAX 4 LEVEL MICRO LABELS

<b>1</b>	°C	40	42	44	46	
	°F	105	110	115	120	
<b>2</b>	°C	49	54	60	65	<b>4 LEVEL MICRO</b>
	°F	120	130	140	150	
<b>3</b>	°C	71	77	82	88	<b>4 LEVEL MICRO</b>
	°F	160	170	180	190	
<b>4</b>	°C	93	99	104	110	<b>4 LEVEL MICRO</b>
	°F	200	210	220	230	
<b>5</b>	°C	116	121	127	132	<b>4 LEVEL MICRO</b>
	°F	240	250	260	270	
<b>6</b>	°C	138	143	149	154	<b>4 LEVEL MICRO</b>
	°F	280	290	300	310	
<b>7</b>	°C	160	166	171	177	<b>4 LEVEL MICRO</b>
	°F	320	330	340	350	
<b>8</b>	°C	182	188	193	199	<b>4 LEVEL MICRO</b>
	°F	360	370	380	390	
<b>9</b>	°C	204	210	215	224	<b>4 LEVEL MICRO</b>
	°F	400	410	420	435	

#### Specifications:

Size: 4 x 11mm (0.15" x 0.43")  
Type: Horizontal, Self adhesive.  
Scale: °C  
Range: (Sold in units of 10)

#### THERMAX CLOCK INDICATORS

<b>1</b>	°C	40	43	46	49	54	
	°F	105	110	115	120	130	
<b>2</b>	°C	60	65	71	77	82	<b>CLOCK</b>
	°F	140	150	160	170	180	
<b>3</b>	°C	88	93	99	104	110	<b>CLOCK</b>
	°F	190	200	210	220	230	
<b>4</b>	°C	116	121	127	132	138	<b>CLOCK</b>
	°F	240	250	260	270	280	
<b>5</b>	°C	143	149	154	160	166	<b>CLOCK</b>
	°F	290	300	310	320	330	
<b>6</b>	°C	171	177	182	188	193	<b>CLOCK</b>
	°F	340	350	360	370	380	
<b>7</b>	°C	199	204	210	216	224	<b>CLOCK</b>
	°F	390	400	410	420	435	
<b>8</b>	°C	232	241	249	254	260	<b>CLOCK</b>
	°F	450	465	480	490	500	

#### Specifications:

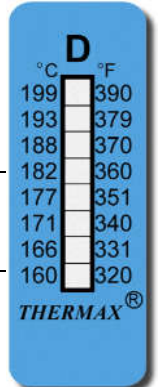
Size: 15mm Diameter (0.59")  
Type: Circular, Self adhesive.  
Scale: °C and °F  
Range: (Sold in units of 10)

## Product Data Sheet

**Product Description:** A range of temperature test strips that will record, permanently, the highest bracketed temperature reached by the label.

**Standard Range:** Various styles of labels are produced to cover temperatures between 29 and 290°C

**Physical Properties:**  
(Not for specification purposes)



	Low Temperatures (171°C and below)	Mid Temperatures (172°C to 210°C)	High Temperatures (211°C to 260°C)	Very High Temperatures (261°C +)
Adhesive Type	Acrylic	Modified Acrylic	Modified Acrylic	Pure Acrylic
Carrier	Polyester	Tissue	Tissue	None
Covering Film	Polyester	Polyethylene Naphthalate	Polyimide	Polyimide
Response Time	2 to 5 seconds			
Colour Change Material	Non-toxic, white crystalline solid on a black absorbent backing, adhered with acrylic adhesive			
Tolerance	29 to 99°C = ±1°C, 100 to 154°C = ±1.5°C and 160 to 280°C = ±1% +1°C			
Shelf Life	Temperatures from 29–34°C / 84–93°F = <b>6</b> months storage life, providing they are stored in a refrigerator (≤10°C/50°F) inside a sealed bag. Temperatures from 37–49°C / 99–120°F = <b>12</b> months storage life, providing they are stored in a refrigerator (≤10°C/50°F) inside a sealed bag. Temperatures from 50–290°C / 122–554°F = <b>24</b> months storage life, store at room temperature & Humidity (i.e. 16 to 27°C/60 to 80°F & 40 to 60%RH)			

**Application Data:** Peel temperature-indicating label from backing paper. Apply to dust & grease free surface. Indicators change from white/grey to black when the temperature rating has been achieved. Note that labels with a polyimide film will appear orange to start.

**These products are made to the highest standards however they are not suitable for all applications. Please discuss any specific needs with our team.**

Information in this Product Data Sheet is compiled from our general experience and data obtained from various technical publications. While TMC believes that the information provided herein is accurate at the date hereof, no responsibility for its completeness or accuracy can be assumed. The information is provided solely for consideration, investigation and verification by the user. Customer must test the products to ensure they meet their needs and are suitable for use in their process.

Revision date – February 2019

Thermographic Measurements Ltd., Riverside Buildings, Dock Road, Connah's Quay, Flintshire, CH5 4DS, UK