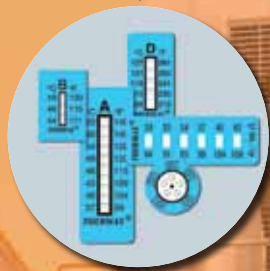
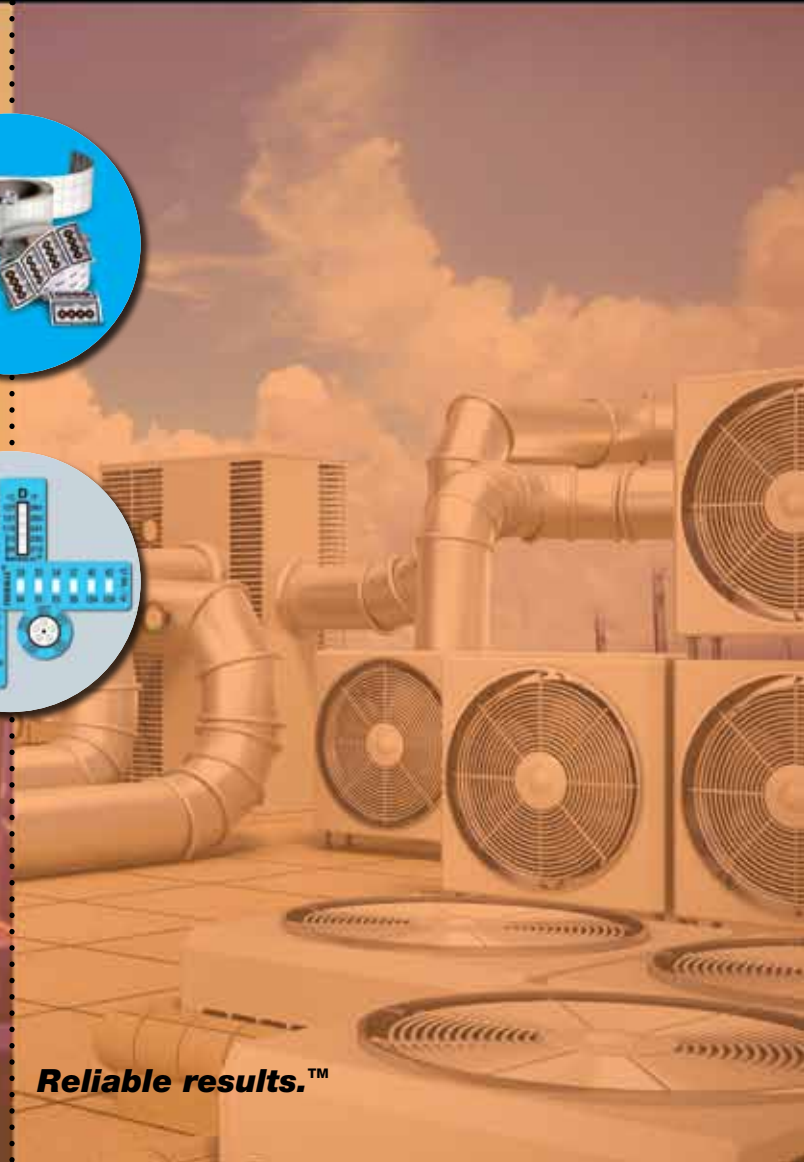




Temperature Indicating Labels



Accurate indication.



Reliable results.™

Since 1938, the Tempil® brand has been a multi-market leader in the development of innovative and accurate temperature indicating technology. At LA-CO Industries Inc., we understand the importance temperature monitoring plays in your operations. Tempilabel® and Thermax®* brands offer temperature indicating solutions that are simple to use, versatile and economical. Featuring an easy to use adhesive backing, our labels can be affixed to any surface quickly. Plus we offer multiple sizes, styles and temperature ranges designed to meet your specific temperature measurement needs. Whatever industry you are in, whatever application you have, we have a temperature indicating label for you.

* An LCR Hallcrest Brand

Benefits

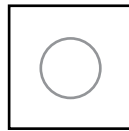
Accurate

Tempilabel and Thermax phase change temperature indicator labels are made of materials with melting points calibrated to a guaranteed accuracy of $\pm 2\%$. The label color changes to black, for irreversible labels, letting the user know when a preset minimum or maximum temperature has been reached.

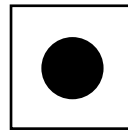
Easy to Use

Tempilabel and Thermax react within seconds, unlike a thermocouple or probe that must reach equilibrium with the surface and have to compensate for heat conducted away from the region being tested. Tempilabel and Thermax are in direct contact with the surface being measured; and easily show that the temperature has been reached.

EXAMPLE: Tempilabel Series 21



Rated temperature has not been reached.



Rated temperature has been reached at some point in time.

Cost Effective

When compared to other temperature monitoring methods, our labels require no set up, calibration or re-calibration periods. Tempilabel and Thermax labels are tamperproof and unlikely targets for theft.





Industrial Applications

Tempilabel® and Thermax® Temperature Indicating Labels have a wide variety of uses in quality control and preventive maintenance at all levels of the industrial channel.

Moving and Rotating Equipment:

- Motors, equipment, gearboxes
- Bearings, belt drives
- Dishwashers
- Wave Soldering

Fixed:

- Ovens
- Printed circuit boards
- Batteries

Case Study – Army Helicopter Pre-Flight Check

Since 1979 the United States Army has relied on Black Hawk Helicopters for combat and transport missions during conflicts in Grenada, Panama, Iraq, Somalia, the Balkans, Afghanistan, and other areas in the Middle East. The Black Hawk Helicopter is so reliable that it's earned the nick name "The Winged Workhorse". Tempil® Temperature Indicating Labels work to monitor the maximum temperatures reached on the helicopter hydraulic pumps. Checking the Tempilabel Series 4 is a critical step in every pre-flight visual checklist. A blackening of the Tempilabel boxes alerts the pilot and crew that the helicopter must not be flown until appropriate maintenance action has been taken. Tempil Temperature Indicating Labels are dependable in the most grueling conditions that the Black Hawk and its crews fly in.



Electrical Applications

Electrical parts can be especially heat sensitive; offering countless opportunities for Tempil and Thermax temperature indicating labels to contribute to minimizing temperature impact.

- Circuit breakers
- Lighting ballasts
- Thermal switches
- Internal electronic equipment temperature monitoring

Case Study – Circuit Breaker Temperature Monitoring

When a major poultry producer was losing valuable product due to electrical problems with their poultry ventilation system, they turned to Tempil for a perfect solution. Both poultry and eggs are vulnerable to overheating and maintaining proper ventilation is very important to producing market ready products. By placing a Tempilabel Series 21 single point temperature indicating label on each circuit breaker in their electrical panel the producer was able to identify heat incursions before they led to costly electrical shut downs of the ventilation system. The easy to read color change from white/silver to black alerts maintenance engineers to potential electrical problems allowing for a proactive fix without incurring valuable inventory loss.



Heat Sensitive Supply Chain Applications

Include Tempil® Temperature Indicating Labels as part of your design, planning, execution, control and monitoring of supply chain activities to help ensure product integrity for delivery to the final consumer in today's global marketplace.

- Medical Devices
- Medicine and Vaccines
- Metal and Plastic Products that lose integrity when exposed to high or low temperatures

Case Study – Supply Chain Temperature Monitoring

A key element in the successful rollout of a new diabetes test is ensuring the test not be exposed to temperatures above 120° F at any time during the supply chain. Tempil Temperature Indicating Labels are affixed to each test package and are easy to use. A color change from white/silver to black indicates that a temperature violation has occurred and the test must be discarded. Tempilabel® provides both the test manufacturer and the consumer a cost effective and reliable method of ensuring product quality.



HVAC Applications

Tempil Temperature Indicating Labels can play a key role in HVAC equipment maintenance. Simply use these labels on critical appliance parts and gauge whether the equipment has reached unsafe temperatures.

- Compressor discharge lines
- Steam traps
- Control boxes of commercial rooftop units

Case Study - Monitoring Refrigerator Compressor Overheating

While it's common knowledge that a leading cause of premature reciprocating compressor failure is overheating, temperature monitoring can pose a challenge. Because the hottest location in a refrigeration system is at the discharge port of the valve plate inside the compressor head, it is difficult to measure the exact temperature at this location. Placing a Series 21 Tempilabel single level temperature indicating label for 220° F (part number 26262) approximately six inches from the compressor outlet will give a good indication of the temperature at the discharge port. There will be approximately 50°F to 75°F degree drop in temperature between the discharge port and 6 inches out on the discharge line, so it's easy for a technician to know that a change in color from white/silver to black in the Tempilabel Series 21 indicates that the compressor is getting dangerously close to overheating. Including Tempilabels in a disciplined preventive maintenance program is a simple step to avoid complicated compressor failures.

Other Unique Temperature Monitoring Applications

Lighting ballasts
Fire sprinkler heads

Automotive racing
Hot air balloons

Hobby remote control cars and planes

Series 21 Tempilabel

One convenient temperature level per indicating label - various single temperatures available.

Size: 0.47" x 0.51" (12 mm x 13 mm)

Unit: Pack of 210 labels or rolls of 1,000 as indicated below.

Part Number		Temperature Range
Pack of 210	Roll of 1,000	
26250	26275	°F 100
		°C 38
26251	26276	°F 110
		°C 43
26252	26277	°F 120
		°C 49
26254	26278	°F 130
		°C 54
26255	26279	°F 140
		°C 60
26256	26280	°F 160
		°C 71
26257	26281	°F 170
		°C 77
26258	26282	°F 180
		°C 82
26259	26283	°F 190
		°C 88
26260	26284	°F 200
		°C 93
26261	26285	°F 210
		°C 99
26262	26286	°F 220
		°C 104
26263	26287	°F 230
		°C 110
26264	26295	°F 240
		°C 116
26265	26288	°F 250
		°C 121
26266	26289	°F 260
		°C 127
26267	26290	°F 270
		°C 132
26268	26291	°F 280
		°C 138
26269	26292	°F 290
		°C 143
26270	26293	°F 300
		°C 149
N/A	26273	°F 375
		°C 191
26271	26294	°F 400
		°C 204
26272	26296	°F 500
		°C 260

Series 4 Tempilabel

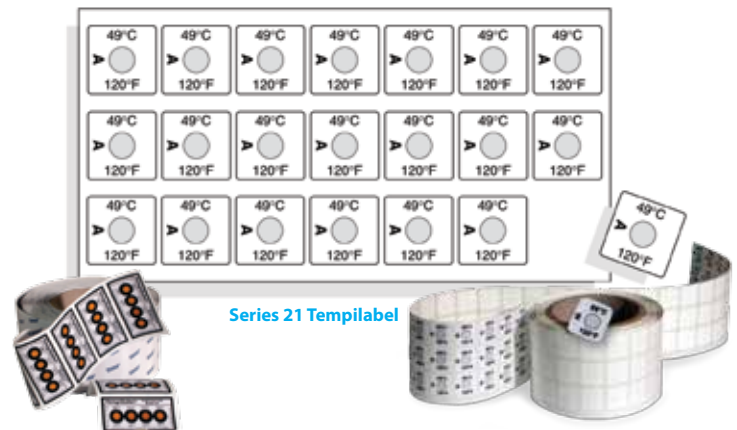
Four different temperature levels on one indicating label - various temperature ranges available.

Size: 0.91" x 1.77" (23 mm x 45 mm)

Unit: Pack of 10*

*Rolls of 500 may be available, contact LA-CO Industries, Inc. for details.

Part Number	Temperature Range			
26700	°F 100	110	120	130
	°C 38	43	49	54
26709	°F 120	130	140	150
	°C 49	54	60	66
26701	°F 130	140	150	160
	°C 54	60	66	71
26702	°F 170	180	190	200
	°C 77	82	88	93
26703	°F 190	200	210	220
	°C 88	93	99	104
26704	°F 220	230	240	250
	°C 104	110	116	121
26710	°F 270	280	290	300
	°C 132	138	143	149
26705	°F 330	340	350	360
	°C 166	171	177	182
26706	°F 125	150	175	200
	°C 52	66	79	93
26707	°F 100	150	200	250
	°C 38	66	93	121
26708	°F 200	250	300	350
	°C 93	121	149	177



Series 4 Tempilabel

Tempilabel Reversible

Seven different temperature levels on one indicating label - various temperature ranges available. Temperature indications are not permanent - indications can change as temperatures fluctuate.

Size: 0.51" x 1.73" (13 mm x 44 mm) / Unit: Pack of 10

Part Number	Temperature Range						
26900	°F 32	41	50	59	68	77	86
	°C 0	5	10	15	20	25	30
26901	°F 86	95	104	113	122	131	140
	°C 30	35	40	45	50	55	60
26902	°F -22	-13	-4	5	14	23	32
	°C -30	-25	-20	-15	-10	-5	0
26903	°F 140	149	158	167	176	185	194
	°C 60	65	70	75	80	85	90
26904	°F 194	203	212	221	230	239	248
	°C 90	95	100	105	110	115	120





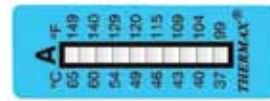
Thermax Clock Indicators



Thermax 5 Level



Thermax 6 Level



Thermax 8 Level



Thermax 10 Level

Thermax 5 Level Clock Style Indicators

Size: 0.55" diameter (14 mm) / Unit: Pack of 10

Part Number	Temperature Range					
26001	°F	105	110	115	120	130
	°C	40	43	46	49	54
26002	°F	140	150	160	170	180
	°C	60	65	71	77	82
26003	°F	190	200	210	220	230
	°C	88	93	99	104	110
26004	°F	240	250	260	270	280
	°C	116	121	127	132	138
26005	°F	290	300	310	320	330
	°C	143	149	154	160	166
26006	°F	340	350	360	370	380
	°C	171	177	182	188	193
26007	°F	390	400	410	420	435
	°C	199	204	210	216	224
26008	°F	450	465	480	490	500
	°C	232	241	249	254	260

Thermax 5 Level Strips

Size: 0.7" x 1.53" (18 mm x 39 mm) / Unit: Pack of 10

Part Number	Temperature Range					
26535	°F	84	91	93	99	104
	°C	29	33	34	37	40
26517	°F	99	104	109	111	115
	°C	37	40	42	44	46
26519	°F	120	129	140	149	160
	°C	49	54	60	65	71
26521	°F	171	180	190	199	210
	°C	77	82	88	93	99
26523	°F	219	230	241	250	261
	°C	104	110	116	121	127
26525	°F	270	280	289	300	309
	°C	132	138	143	149	154
26527	°F	320	331	340	351	360
	°C	160	166	171	177	182
26529	°F	370	379	390	399	410
	°C	188	193	199	204	210
26531	°F	421	435	450	466	480
	°C	216	224	232	241	249
26533	°F	480	489	500	536	554
	°C	249	254	260	280	290

Thermax 10 Level Strips

Size: 0.7" x 2.0" (18 mm x 51 mm) / Unit: Pack of 10

Part Number	Temperature Range										
26100	°F	104	108	111	115	120	129	140	144	149	160
	°C	40	42	44	46	49	54	60	62	65	71
26103	°F	171	180	190	199	210	219	230	241	250	261
	°C	77	82	88	93	99	104	110	116	121	127
26105	°F	270	280	289	300	309	320	331	340	351	360
	°C	132	138	143	149	154	160	166	171	177	182
26107	°F	370	379	390	399	410	421	435	450	466	480
	°C	188	193	199	204	210	216	224	232	241	249

Thermax 6 Level Strips

Size: 0.47" x 1.26" (12 mm x 32 mm) / Unit: Pack of 10

Part Number	Temperature Range					
26601	°F	84	91	93	99	104
	°C	29	33	34	37	40
26603	°F	111	115	120	129	140
	°C	44	46	49	54	60
26605	°F	149	160	171	180	190
	°C	65	71	77	82	88
26608	°F	210	219	230	241	250
	°C	99	104	110	116	121
26610	°F	270	280	289	300	309
	°C	132	138	143	149	154
26612	°F	331	340	351	360	370
	°C	166	171	177	182	188
26614	°F	390	399	410	421	435
	°C	199	204	210	216	224
26616	°F	466	480	489	500	536
	°C	241	249	254	260	280

Thermax 8 Level Strips

Size: 0.7" x 2.0" (18 mm x 51 mm) / Unit: Pack of 10

Part Number	Temperature Range							
26801	°F	99	104	109	115	120	129	140
	°C	37	40	43	46	49	54	60
26803	°F	160	171	180	190	199	210	219
	°C	71	77	82	88	93	99	104
26805	°F	241	250	261	270	280	289	300
	°C	116	121	127	132	138	143	149
26807	°F	320	331	340	351	360	370	379
	°C	160	166	171	177	182	188	193

Thermax 9 Level Strip

Size: 0.7" x 2.0" (18 mm x 51 mm) / Unit: Pack of 10

Part Number	Temperature Range				
26809	°F	399	410	421	435
		466	480	489	500
	°C	204	210	216	224
		241	249	254	260

Thermax Chill Checker

Size: 1.25" diameter x 0.23" deep

(31.75 mm diameter x 5.84 mm deep) / Unit: Pack of 10

Part No.	Temp Range	Part No.	Temp Range
26009	°F 41	26010	°F 63
	°C 5		°C 17

Labels should be stored under dry conditions at ambient temperature. Certain Tempilabel products may require overnight delivery with the addition of an ice pack. This shipping method is only used when the product integrity may be threatened by hot climates. Many orders for Tempilabel products are shipped via standard methods.

