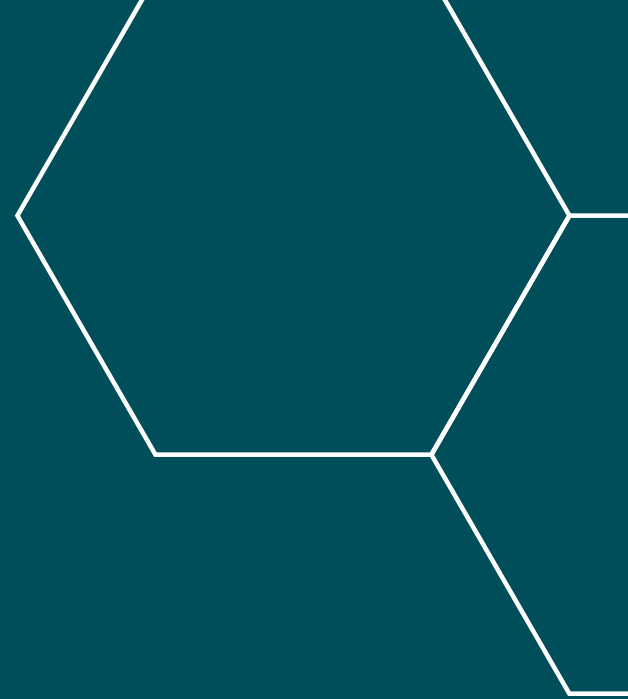




IDEAS POWERED BY CHEMISTRY



PRODUCT CATALOG

Chromatic Technologies Inc.

Engage and Elevate Your Brand
with Interactive Graphics that Talk.

WHAT OUR TECHNOLOGY CAN DO

Prove Your Promise™ with CTI, your innovation partner. We help CPG brands, advertising and design agencies, and converters distinguish themselves and engage with consumers at the point of sale and during use. CTI develops custom solutions that enhance graphic interactions and experiences, pioneering technologies that respond to temperature, light, and pressure and can be printed on all packaging formats.

THERMOCHROMIC TECHNOLOGY

These printable technologies reversibly change color as their temperature changes. They all work the same way: below the activation temperature, they are colored, and above the activation temperature, they are clear or lightly colored. As the ink cools, the original color returns. We offer these inks in water-based, solvent-based, and UV curable formats.

UV Flexo



Warm

Cold

Metal Deco



Warm

Cold

Solvent Flexo



Warm

Cold

Thermochromic offerings include: Metal Deco, Screen, Offset, Gravure, and Flexo inks.



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COLD INDICATOR

Cold-activated thermochromic printable technology go from a barely visible residual color to a vibrant color. By turning the mountains blue, Coors Light introduced the global debut of CTI's thermochromic cold-activated technology. This breakthrough expanded to high-speed commercial print formats, including PET bottles, heat-transfer glass bottles, laminated films, foils, coated/uncoated papers, and plastics. The color change in response to cold signifies refreshment, promoting brand loyalty and consumer engagement.



COLD REVEAL

CTI's Reveal technology takes cold-activated thermochromic to new heights, offering customers an immersive "theater-in-the-hand" experience. During this process, a graphic image transitions from a warm to a cold color state and ultimately to a third color state at room temperature. Aptly named Reveal, this technology unveils a hidden message or graphic after consuming a beverage.



MESSAGE REVEAL

Reveal technology hides a message when a product is warm or cold. The message, game, or code is revealed only after consuming a cold beverage. It's a wonderful way to surprise and delight consumers as they drink your brand.



MESSAGE HIDING

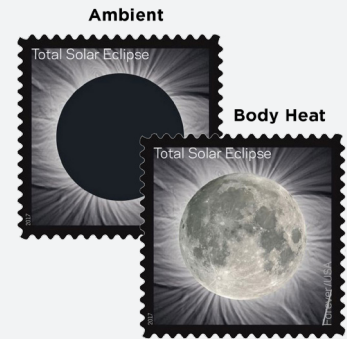
Our high-temperature thermochromic printable technology creates pure coffee magic. The color disappears as your hot coffee reaches its target temperature, revealing the hidden message. This technology is exciting and functional.





BODY HEAT ACTIVATED

Thermochromic technology can be utilized for warmer temperature applications ranging from 29°C / 84°F to 35°C / 95°F. Referred to as “body-heat activated,” this process involves touching or rubbing the print to generate friction-induced heat and trigger a color change to either clear or another color. Warm and high-heat thermochromic applications always transition from the full color to a residual or lighter shade. Returning to the original full-color state relies on the temperature difference between the ambient environment and the print’s target temperature.



HEAT INDICATOR

Our thermochromic heat indicator technology turns colorless as the temperature increases, revealing a message to alert consumers. This is a significant advantage because it indicates to consumers when a product is too warm to consume, fully cooked, or at the right temperature.

Satisfied consumers are four times more likely to buy again and recommend products. Consumers also don’t separate “temperature” from the “product” in the “brand experience.” Consumers spend money on a “hot cup of coffee” or an “icy-cold soda.” Those consumers have never said, “The coffee was lukewarm but delicious!”



RETORT STABLE

CTI’s color-changing thermochromic technology faces challenges when used on food pouches or beverage containers during retort sterilization. Whether it’s flexible packaging solutions with a hidden message that appears when kitty’s food is warm enough to serve...or cold-brew coffee in aluminum cans with thermochromic features showing that it’s chilled to the perfect temperature...all our solvent cold- and heat-activated commercial high-speed solvent Flexo and Gravure technologies survive retort. That means you can have it all: Highly engaging brand features that are proven to lift intent-to-purchase and have no impact on line speeds or productivity with the converter.

CTI’s solvent-based thermochromic technology withstands retort conditions and is available in all colors and temperatures.





PHOTOCHROMIC TECHNOLOGY

Our photochromic printable technology changes color when exposed to UV light. This technology appears colorless in normal lighting conditions but vibrant when exposed to sunlight or other UV light sources. We offer photochromic technology in many high-speed commercial print formats, resulting in fantastic brand experiences. They're a great way to design interactive packaging features and engage consumers in ways that lift brand recognition, loyalty, and sales.

UV Flexo



Indoors

In Sunlight

Metal Deco



Indoors

In Sunlight

Photochromic offerings include: Metal Deco, Screen, Offset, Gravure, and Flexo inks.



GLOW-IN-THE-DARK TECHNOLOGY

This printable technology glows yellowish-green after blacklight or UV light exposure, adding fun and mystery to Halloween packaging, snack foods, beverages, and other consumer packaged goods that want to create this effect. Glow-in-the-dark packaging has become popular among major candies and snacks to help them stand out and engage consumers.



Glow-in-the-Dark offerings include: Screen, Offset, Gravure, and Flexo inks.



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HYBRID ACTIVATED TECHNOLOGY

Our hybrid printable technology combines thermochromic and photochromic printable technology into one, creating a unique experience. With our hybrid technology, you get not just one but four different color profiles: one color when it's indoors warm, the second color when it is cold, the third when it is exposed to UV or sunlight, and finally, when exposed to sunlight and it is cold, our technology creates a color combination of both colors. This makes our hybrid printable technology perfect for various applications, from promotional materials to packaging.

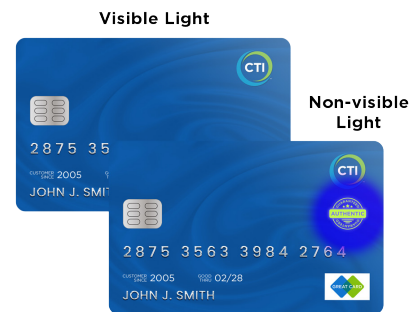


Hybrid activated offerings include: Metal Deco, Screen, Gravure, and Flexo inks.



SECURITY & ANTI-TAMPERING TECHNOLOGY

CTI's advanced printable technology ensures product authenticity and security. Our solutions provide tamper-evident packaging, offering robust protection against counterfeiting and tampering. Explore how our innovative printable technology can safeguard your products and enhance consumer trust.



Security offerings include: Metal Deco, Screen, Offset, Gravure, and Flexo inks.



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VISIBLE FLUORESCENT

Fluorescent printable technology is based on pigments that can absorb ultraviolet energy and virtually immediately re-emit it within the visible spectrum. This causes the print to glow and appear very bright in daylight conditions. The technology works under black light and changes from invisible to color.



INVISIBLE FLUORESCENT

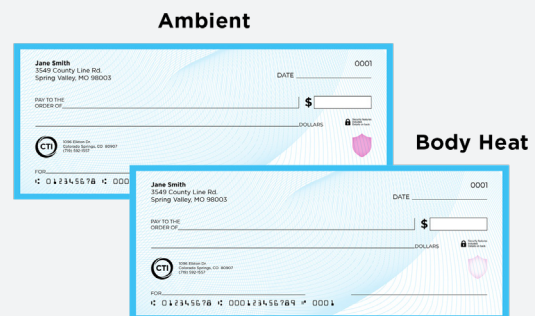
CTI Fluorescing Security printable technology is crucial in detecting counterfeit products using a multi-layer strategy. This specialized invisible technology exhibits fluorescence solely under specific UV wavelengths. By carefully evaluating new customers, CTI ensures that only authorized printers can access this unique technology. Fluorescing strength varies with printed film weight.

Available colors: red, lime green, and blue fluorescing.



TOUCH-ACTIVATED

When materials printed with this technology are touched or rubbed, the color vanishes or transforms to a different color (for color-to-color combinations). This serves as a clear indication of the document or product's authenticity. Ink formats with thicker film weights, like UV Screen and UV Flexo, allow for hidden and revealed graphics. These touch-activated security features offer straightforward and cost-effective solutions.





HIGH-PRESSURE PROCESSING TECHNOLOGY

While most CTI technologies revolve around temperature and light, we also have technology that develops color with pressure. High-pressure-activated technology delivered through a commercial HPP ink to verify High-Pressure Processing (HPP) offers a quick visual way to sort packages that haven't been HPPed, offering an extra quality check before hitting grocery shelves.

CTI's HPP Indicator Technology may be delivered through a printable ink or ready-to-use labels from CTI.



Not processed



Insufficiently processed



Successfully processed

Quick Code	Description	Target Pressure	Water Temperature
W-1	Verifies HPP process. Broad indicator for the warmest operating conditions and any pressure above 40,000 PSI.	40,000 PSI	20°C Maximum



Not Processed



Successfully Processed





MASTERBATCH ACTIVATION TECHNOLOGY

Our innovative thermochromic and photochromic technology allows for the creation of color-changing masterbatch materials that provide visual temperature alerts. These inks can be integrated into various packaging solutions, including body wash bottles or closures that change color when the water is too hot, helping to prevent scald burns. By incorporating our technologies, we enable products to offer essential safety features, compelling consumers to choose them. These innovative solutions enhance product functionality and help brands stand out on crowded shelves.



THERMOCHROMIC TEMPERATURE ACTIVATION RANGE

Market	Full Color		Clearing Point	
Cold Activated	2°C	36°F	6°C	43°F
	4°C	39°F	8°C	46°F
	6°C	43°F	10°C	50°F
	8°C	46°F	12°C	54°F
	10°C	50°F	14°C	57°F
	12°C	54°F	18°C	64°F
	15°C	59°F	22°C	72°F
Body Heat Activated	22°C	72°F	29°C	84°F
	25°C	77°F	31°C	88°F
	27°C	81°F	33°C	91°F
	28°C	82°F	35°C	95°F
High Temp	37°C	99°F	45°C	113°F
	55°C	131°F	65°C	149°F

INK FORMULATIONS OFFERED

Freeze/Thaw Indicators: -10°C to 5°C: Used to indicate risk to products

Cold Temperature Indicators: 6°C to 18°C: Indicates product readiness for consumption

Cold Activated Reveal: Two inks clearing points at different temperatures

Body Heat Activated: 29°C to 45°C: Drives customer interaction to react to touch, regular body heat and rubbing.

Message Hiding: 2°C to 55°C in combination with a color matched standard ink

High Temperature Indicators: 50°C to 70°C: Used to indicate risk to products or potential harm by burning.



FLEXO & GRAVURE THERMOCHROMIC TECHNOLOGIES

COLORLESS TO COLOR



Ambient/Warm
Temperature



Colder
Temperature

MAGENTA

#FCF3F8

#E04B9B

BLUE

#EFF1F9

#0071BA

RED

#FEF5F6

#F27597

ORANGE

#FFF6F3

#F48474

AQUA

#F3FAFA

#3BC1CC

GREEN

#ECEFE8

#006F44

PURPLE

#F2EFF7

#704C9F

CHARCOAL

#F6F5F5

#91918C

COLOR TO COLOR



Ambient/Warm
Temperature



Colder
Temperature

PINK TO PURPLE

#F386A0

#7E3E98

YELLOW TO ORANGE

#CFE28F

#F37577

YELLOW TO GREEN

#CFE28F

#009491

BLUE TO BURGUNDY

#5FB3E5

#A6228C

ORANGE TO BLACK

#FCA054

#595E5B

BLUE TO BLUE

#5FC4E3

#0C6DA1

GRAY TO GREEN

#ECEFE8

#6C966C

Colors are approximate hex values. Colors might appear different on a computer monitor then actual print. Actual colors will vary depending on artwork, printing process, pressman, and the substrate being printed on. You MUST do a trial for your individual project to get an accurate idea of what kind of color intensity you will achieve.



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SCREEN THERMOCHROMIC TECHNOLOGIES

COLORLESS TO COLOR



Ambient/Warm Temperature



Colder Temperature

MAGENTA

#F7D9EB

#CB007B

BLUE

#D9E2F2

#003CA6

RED

#FCD8E3

#EA0D44

ORANGE

#FFE5D9

#FC5000

AQUA

#D9F5F4

#00BAB3

GREEN

#DDE7E1

#1D5C39

PURPLE

#E2D9F0

#3E0099

BLACK

#DEDFDD

#202721

COLOR TO COLOR



Ambient/Warm Temperature



Colder Temperature

PINK TO PURPLE

#E54179

#201161

YELLOW TO ORANGE

#EBE717

#E2211B

YELLOW TO GREEN

#C2D501

#074F51

BLUE TO BURGUNDY

#318CDD

#752158

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METAL DECO THERMOCHROMIC TECHNOLOGIES

COLORLESS TO COLOR



Ambient/Warm
Temperature



Colder
Temperature

MAGENTA

#D9D8D6

#E18BB8

TURBO BLUE

#D9D8D6

#75A0CD

RED

#D9D8D6

#F080A2

ORANGE

#D9D8D6

#FE8772

AQUA

#D9D8D6

#61CBC8

GREEN

#D9D8D6

#9AAE87

CHARCOAL

#D9D8D6

#73777C

PURPLE

#D9D8D6

#BA82CA

MOCHA

#D9D8D6

#A37D73

COLOR TO COLOR



Ambient/Warm
Temperature



Colder
Temperature

PINK TO PURPLE

#DA84B9

#3E0099

YELLOW TO ORANGE

#ECD920

#EC7601

YELLOW TO GREEN

#E1D255

#71A84F

BLUE TO BURGUNDY

#D1DBE5

#CB94B4

Colors are approximate hex values. Colors might appear different on a computer monitor then actual print. Actual colors will vary depending on artwork, printing process, pressman, and the substrate being printed on. You MUST do a trial for your individual project to get an accurate idea of what kind of color intensity you will achieve.



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HYBRID METAL DECO TECHNOLOGIES



Indoors & Warm



Indoors & Cold



In Sunlight & Cold



In Sunlight & Warm



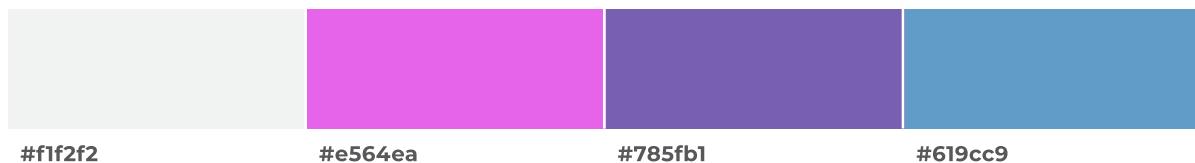
Hybrid:
Sunset



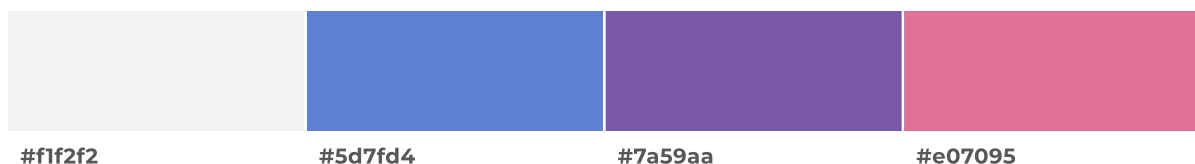
Hybrid:
Ocean



Hybrid:
Garden



Hybrid:
Firework



Solvent-based and flexographic printing options are available.

Colors are approximate hex values. Colors might appear different on a computer monitor then actual print. Actual colors will vary depending on artwork, printing process, pressman, and the substrate being printed on. You MUST do a trial for your individual project to get an accurate idea of what kind of color intensity you will achieve.



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FLEXO & GRAVURE PHOTOCHROMIC TECHNOLOGIES

COLORLESS TO COLOR	
Indoors	In Sunlight
YELLOW #FFFAF1	#F9BF3C
BLUE #F5F9FD	#76ACE4
RED #FBF1F4	#CB3564
ORANGE #FFF7F5	#FE8772
AQUA #F5F9FA	#6BAEB3
GREEN #F7F9F8	#8DACA0
PURPLE #F8F7F9	#9790A4
MAGENTA #F8F7F9	#C36784

Colors are approximate hex values. Colors might appear different on a computer monitor then actual print. Actual colors will vary depending on artwork, printing process, pressman, and the substrate being printed on. You MUST do a trial for your individual project to get an accurate idea of what kind of color intensity you will achieve.



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METAL DECO PHOTOCROMIC TECHNOLOGIES

COLORLESS TO COLOR



Indoors & Warm Temperature



In Sunlight & Colder Temperature

YELLOW

#D9D8D6

#FFB449

BLUE

#D9D8D6

#50B3E5

RED

#D9D8D6

#B65A80

ORANGE

#D9D8D6

#DC844E

GREEN

#D9D8D6

#92A295

PURPLE

#D9D8D6

#A2779C

Colors are approximate hex values. Colors might appear different on a computer monitor then actual print. Actual colors will vary depending on artwork, printing process, pressman, and the substrate being printed on. You MUST do a trial for your individual project to get an accurate idea of what kind of color intensity you will achieve.



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