Thermometric Inks

Paper:

Thin, lightweight, foldable thermochromic displays on paper.

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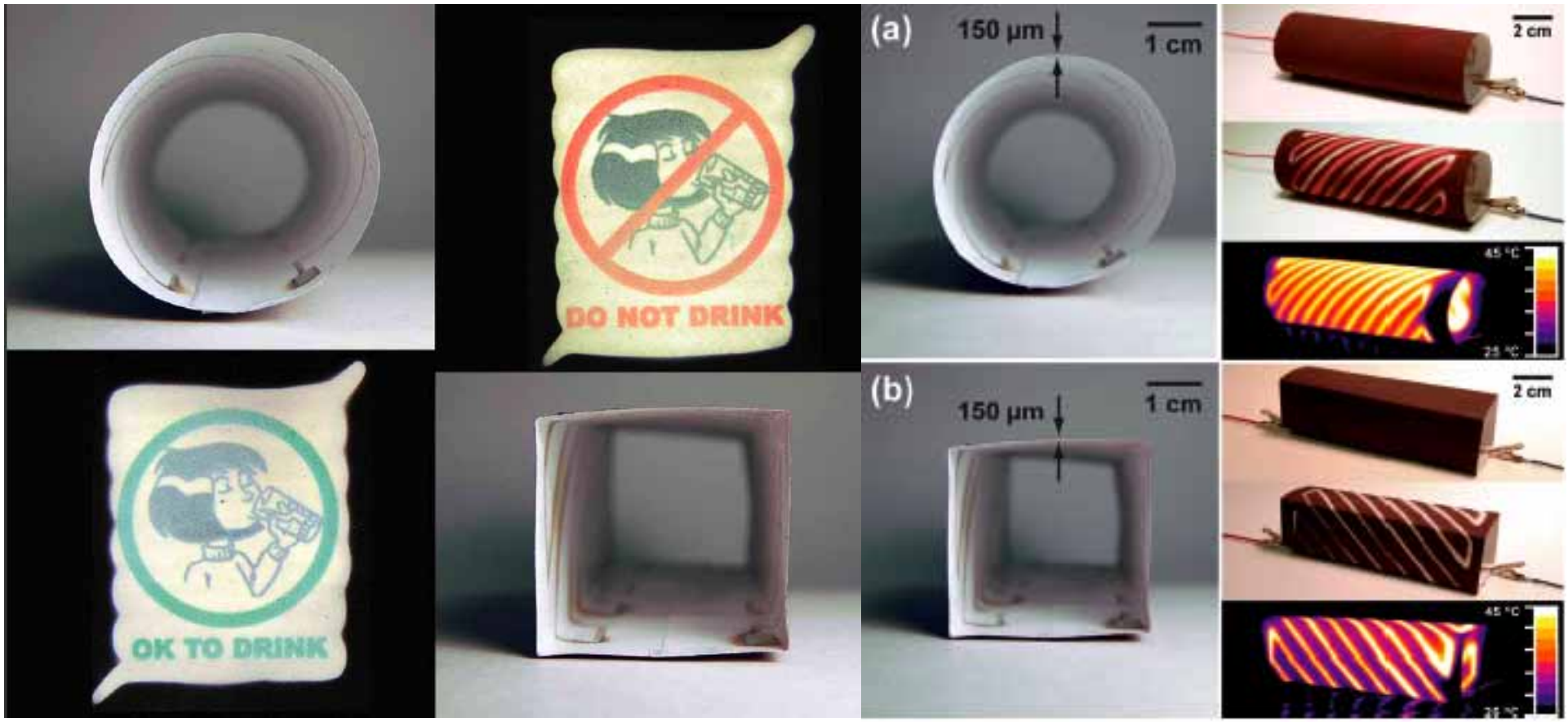
Paper:

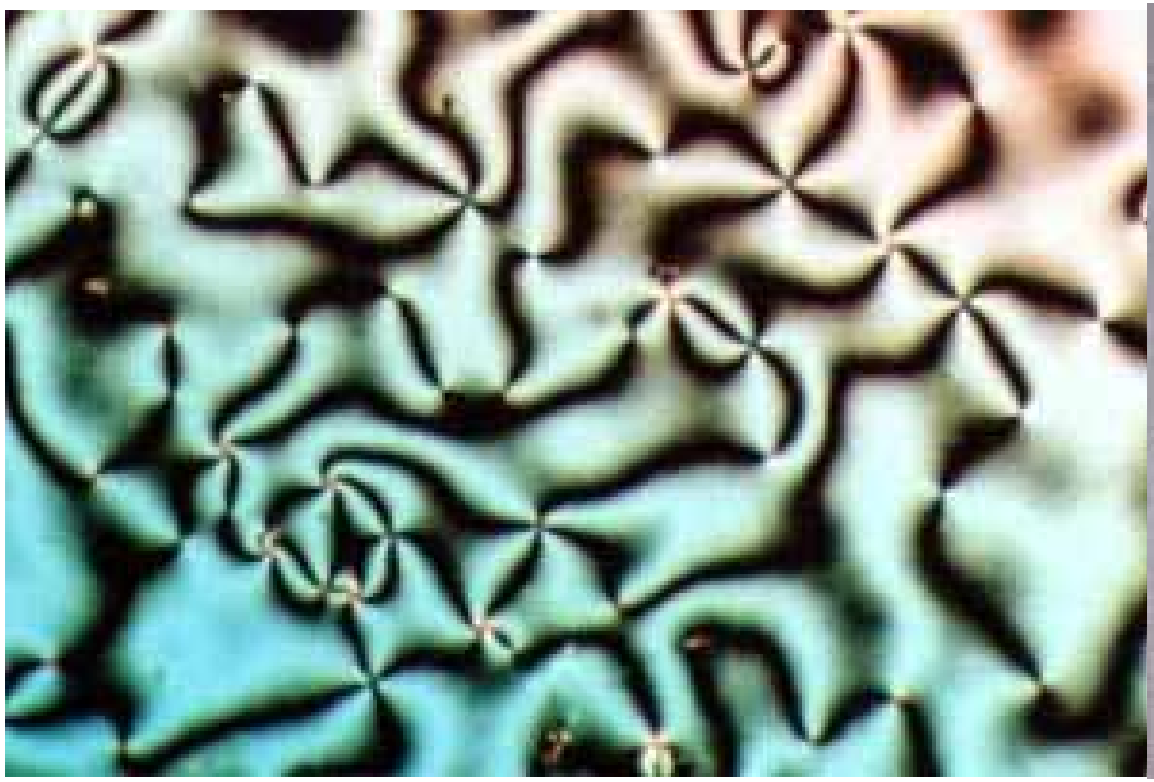
Passing electrical current through the wires heats the paper and changes the thermochromic ink from colored (black, green, or other colors) to transparent; this change in property reveals the paper underneath the ink—exposing any messages printed on the paper—and serves as the basis for a two-state "shutter" display.



What is Thermochromic Ink:

Liquid crystals:

Difficult to work with.
Require specialized printing equipment.
Accurately defined.



What is Thermochromic Ink:

Leuco dyes:

Less accurate temperature response than liquid crystals.

Easier to work with

Allow for a greater range of applications

Applications:

http://www.youtube.com/watch?v=gDFACj607Dg&feature=related

http://www.youtube.com/watch?v=wckgz5DuivU&feature=related

http://www.youtube.com/watch?v=20z-PHLbdUA&feature=related

http://www.fashioningtech.com/profiles/blogs/designing-dynamic-textiles

http://www.ppg.com/corporate/ideascapes/glass/products/alliance/Pages/pleotint.aspx

Resources:

http://www.dyespigments.com/leuco-dye.html

http://www.hwsands.com/category/134.aspx

Color	Pantone	Powder	Aqueous Slurry	LDPE Pellets
Blue	Reflex Blue	TCA45-Temp	TCA43-Temp	TCA44-Temp
Black	Pantone 7C 2x	TCA10-Temp	TCA08-Temp	TCA09-Temp
Red	192	TCA69-Temp	TCA67-Temp	****
Magenta	Process Magenta	TCA70-Temp	TCA72-Temp	TCA71-Temp
Orange	165	TCA63-Temp	TCA61-Temp	****
Green	349	TCA52-Temp	TCA50-Temp	TCA51-Temp
Brown	N/A	TCA20-Temp	TCA18-Temp	****
Turquoise	Green C	TCA49-Temp	****	****
Purple	2735	TCA40-Temp	****	****
Yellow	100U	TCA59-Temp	TCA57-Temp	****