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Kineto-Cup
Encourage **GREEN** behavior by providing a compact solution to replace 58 billion paper mugs trashed every year in the US

• Collapsible Travel Mug for warm beverages

Compact

Self-Actuates with **Shape Memory Alloy**
Mapping the market

Features

KINETO-CUP

THERMALLY INSULATED

COLLAPSIBLE

REPLACE

$0.14

$2.00

$5.70

$9.99

$10.99

$12.95

$14.95

$15.95

$19.95

$19.99

$19.99

$29.99

Price
Technology - Shape Memory

- Shape Memory Alloy: Nickel Titanium (NiTi)

- At 400-500°C “memorizes” a specific shape

- Super-elastic, absorbs 8% recoverable strain, high yield strength
Collapsible Mechanisms

1) Complete structure made of Memory Alloy

2) Memory Alloy Actuators
   - Folding
   - Twisting
Sketch Model

• Prototype of a mug with NiTi structure

• Tested for force and deformation in springs
Making Prototype

Weaving

Casting
Testing
Results

- Expensive ($60 prototype)
- Entire alloy needs to be fully exposed to heat
- Risk of memory “amnesia” and deformation
Conclusion

Shape Memory Alloys not viable for the structure

AND

Focus on mechanical solutions for a collapsible mugs

OR

Use Memory Alloys for kinetic design features to enhance customer experience
New England Coffee