

## TITLE

# Negative-Carbon Cement (NC2)

## CASE NUMBER

**C17234**

### VALUE PROPOSITION

- » Manufacturing process for a net negative carbon cement product, as compared to net neutral or net positive products that lead to atmospheric CO2 emissions.
- » Addresses the need for greener building materials as regulations around greenhouse gas emission become tighter.
- » Comparable strength and durability to standard cement products.

### UNMET NEED

- » The cement industry produces 4 billion tons of CO2 that is released into the atmosphere every year.
- » Currently, most cement and cement products are manufactured with a kiln that requires the burning of coal or natural gas. This contributes to greenhouse gas emissions and does not recapture any of the emitted CO2.
- » There is a strong need develop cement manufacturing and curing methods that reduce CO2 output and recapture emitted CO2.

### TECHNICAL OVERVIEW

- » Researchers at Johns Hopkins have developed a cement manufacturing and curing process that allows for net negative carbon emissions.
- » Alternative processes are used to produce the heat necessary to fire raw materials, cure the cement, and recapture carbon.
- » Recaptured CO2 is solidified and incorporated into building materials.

### STAGE OF DEVELOPMENT

- » Lab-based validation of the technology and process.

### ASSOCIATED INVENTORS

*Materials Science and Engineering  
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### TECHNOLOGY CLASSIFICATION

- » Energy
- » Engineering

### CONTACT INFORMATION

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### ASSOCIATED REPORTS OF INVENTION (ROIs) AND INTELLECTUAL PROPERTY (IP) FILING NUMBERS

ROI#	TITLE	STATUS	PRIORITY DATE	IP FILING NUMBERS
C17234	Negative-Carbon Cement (NC2)	Pending	9/13/2022	US Prov. Appl. No. 63/375,431