

# Low-Carbon Materials and the Concrete Building Code

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## ABSTRACT

Over the last few decades, concrete researchers have focused intently on developing alternative binder technologies to reduce the carbon footprint of concrete. The result has been a robust toolbox of materials that promise (among other benefits) reduced life cycle environmental impacts when compared to traditional portland cement concrete. Although many of these materials have been proven strong and durable, there has been little progress with respect to their practical adoption. Existing standards, specifications, and building codes are tailored to traditional portland cement-based materials, and this is one critical barrier to the adoption of low-carbon concrete materials. However, significant progress is being made to address these incompatibilities. This presentation will discuss emerging material technologies to help decarbonize concrete, barriers to adoption within existing standards, specifications, and codes, and how industry organizations are working to address these barriers.

## BIOGRAPHY

**Robert Thomas** is an Assistant Professor of Civil Engineering at Clarkson University. His research mission is to engineer concrete solutions for the next generation of civil infrastructure. His vision is a robust toolbox of material technologies to support resilient and fully decarbonized concrete structures. His research interests include cement chemistry, concrete durability, sustainability, and infrastructure repair.