



X-MAT receives funding from DOE to build house made of coal

Department of Energy awards international material engineering company nearly \$625,000

ORLANDO, Fla. (Dec. 15, 2020) – Imagine living in a house made almost entirely out of coal – from the structural columns to the walls to the roof. What if this coal house was safer, more affordable and stronger than a traditional home made of wood or brick?

Semplastics, an international material engineering company, is on a mission to turn this dream into reality. And with continued support from the Department of Energy’s National Energy Technology Laboratory (NETL), this could be accomplished sooner than you’d think.

X-MAT®, the Advanced Materials Division of Semplastics, has recently received a nearly \$625,000 contract from the NETL to create coal-derived building materials in order to construct a coal house. Using coal as the primary medium, X-MAT’s® building materials are:

- Non-toxic and fire resistant, making them safer than traditional options.
- Light weight, allowing for a quicker installation time.
- Extremely strong and durable.
- Able to be used for both interior and exterior needs.
- Offer greater design flexibility, allowing for more personalization.

The carbon from the coal used in this new, revolutionary construction process is completely sequestered and is entirely safe for the environment. The coal is mixed with the patent-pending X-MAT® coating technology to produce the coal-derived building materials.

“There are so many fascinating, eco-friendly ways to use and recycle coal,” said Bill Easter, founder of Semplastics and X-MAT®. “Our team has already reimagined coal in unique ways such as the X-TILE™, a lightweight, fireproof coal roof tile that can withstand extreme temperatures. Building a house almost entirely from coal is next on our docket. We’re very thankful to the DOE for its continued support of our work.”

In total, the NETL has awarded Semplastics and X-MAT® \$6 million in grants and contracts. In addition to the most recent contract, the firm received a \$1.4 million contract to create new uses for coal waste, a \$1.5 million grant for X-TILES™ and a nearly \$1 million contract to help fund the research for turning coal into battery materials.

“Semplastics’ technologies are coal reimagined,” said Easter. “Not only are we giving coal a new reputation, we’re creating better, sustainable products for the future.”

About Semplastics

Semplastics, a Florida-based material engineering company, launched in 2000. Over the last 20 years, Semplastics has supplied plastic engineered components to a broad range of industries from medical to aerospace. The Advanced Materials Division of Semplastics, X-MAT®, was later formed in 2013. Since inception, X-MAT® has developed a revolutionary, high-performance material that combines properties of metals (electrical conductivity), engineering plastics (lightweight) and ceramics (high operating temperature). Semplastics has held partnerships with NASA, Space Florida and the Department of Energy. Its game-changing material has various current applications including fireproof roof tiles and building materials, lightweight space mirrors, battery electrodes and 3D printing ceramics. Semplastics' technology can be custom-engineered to fit many specifications and has unlimited potential market applications. To learn more about Semplastics and X-MAT®'s capabilities and future projects, visit their websites at <https://semplastics.com/> and <https://www.x-materials.com> or call (407)353-6885.

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