

# ORLANDO BUSINESS JOURNAL

## Building homes out of coal creates jobs for this Orlando firm

When [Bill Easter](#) decided to launch a new division within his company Semplastics LLC, he went back to a familiar organization for help.

Easter co-founded Oviedo-based plastic components maker Semplastics in 2000 and moved to the University of Central Florida's Research Park business incubator more than a decade later. When Semplastics in 2013 spun out an advanced materials division, X-Mat, Easter returned to the incubator in search of a lab.

This venture is winning support from state and federal groups, racking up \$9.5 million to date in contracts and grants from NASA, Space Florida and more. X-Mat on Aug. 4 announced it was awarded \$1.1 million by the U.S. Department of Energy's National Energy Technology Lab to continue work to develop homebuilding materials, namely roof tiles, from coal.



This contract and other government deals are driving growth at X-Mat, which grew 367% from its initial three employees to 14, Easter said. Plus, the company will establish a pilot manufacturing line in West Virginia to get closer to commercializing the fireproof, non-toxic material derived from coal in hopes of creating an alternative use for the resource other than burning it.

“We do trash to treasure,” Easter said. “We’ve taken waste products and turned them into valuable things.”

X-Mat's process sequesters the carbon in the coal, resulting in a material that not only is non-toxic but also lightweight and durable. The National Energy Technology Lab has awarded \$3 million total to X-Mat for the project, and Easter said the company expects to build a partial house from coal by 2023. While the coal-based material can be made into columns and bricks, Easter said the biggest business opportunity is for roof tiles, facades and panels.

In addition to the research and development X-Mat carries out in Orlando and Oviedo, the \$1.1 million will help fund the completion of a 10,000-square-foot manufacturing facility in Bluefield, West Virginia. The National Energy Technology Lab oversees a program to work with research partners to "improve physical or chemical properties [of coal] so it can be used for new applications," Director Brian Anderson wrote in 2019.

Of course, Semplastic's work in advanced materials is not limited to coal and houses. The company in 2016 won a \$750,000 NASA contract to develop a material for lightweight telescope mirrors, according to federal contracting data. Semplastics in 2018 teamed with Israeli firm Polymertal to land \$240,000 from Space Florida for the development of several lightweight materials applicable to the aerospace industry.

Meanwhile, the company also is developing a process to repurpose used graphite for lithium ion batteries used in electric cars.

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