PRODUCTION OF BUILDING PRODUCTS FROM COAL AND COAL WASTE BEGINS IN WEST VIRGINIA

X-MAT BEGINS SMALL-SCALE PRODUCTION AND TESTING

X-MAT, an NETL Carbon Ore Processing Program recipient, began small-scale production and testing of Coal-Derived Building Materials (CDBM) at a new facility in Bluefield, West Virginia. The technology uses proprietary ceramic forming resin to encapsulate coal and coal-waste particles into composite materials for application in building products such as roofing tiles and siding.

The X-MAT CDBM exhibits high-performance characteristics, including high strength (five times the flexural strength of the best commercial brick, and more than twice the compressive strength of construction-grade concrete block), lower density, improved mechanical durability and abrasion resistance, very high temperature stability, and resistance to chemicals, acids, salts, and water.

COAL-DERIVED MATERIALS REDUCE BUILDING COSTS AND PERMANENTLY STORE CARBON

X-MAT has reduced the cost of CDBM by decreasing the temperature required to activate a ceramic forming resin. The process utilizes low-cost carbon in coal and coal wastes and allows the carbon to be locked away permanently.

DESIGNING MANUFACTURED HOMES FROM COAL-BASED BUILDING MATERIALS

X-MAT is exploring applications of CDBM for higher-performance modular construction by developing a conceptual design of a CDBM-based dwelling structure and establishing and testing fastening methodologies for these building materials.

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FY21 FUNDING

$624K

DOE $498,442

PERFORMER $126,000

PARTNERS

X-MAT

Semplastics

AWARD NUMBER

DE-FE0031985

PROJECT BUDGET

FECM RDD&D PRIORITY

ADVANCE CRITICAL MINERALS, RARE EARTH ELEMENTS (REE), AND MINE REMEDIATION

CLICK HERE FOR MORE INFORMATION