



SUCCESS

PATENT LICENSE AGREEMENTS

CONTRACT NUMBER:

16-292-01

COMPANY NAME:

Natural Fiber Welding
Peoria, IL

TECHNICAL PROJECT OFFICE:

Air Force Office of
Scientific Research
Arlington, VA

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AIR FORCE PATENT LICENSE Could Lead to Natural Fiber Automotive Components

AIR FORCE OFFICE OF SCIENTIFIC RESEARCH, Virginia – The Air Force Office of Scientific Research signed a Patent License Agreement with Natural Fiber Welding, Inc. that allows the company to use an Air Force developed fiber welding process in the creation of automotive components.

Air Force research showed that with proper solvents and control, polymers from neighboring natural fibers interact and individual fibers are ‘welded’ as new molecular associations are generated. Removal of the solvent results in molded materials with robust mechanical properties. This is referred to as fiber welding.

This process maintains the chemical makeup of natural materials even while fibers are redesigned into desired shapes and structures without the use of glue. In comparison to many conventional natural and synthetic materials, fiber welded composites are stronger, lighter, more affordable, sustainable, environmentally-friendly, and more easily recycled and reused. When used for automotive interior materials, these composites can also contribute to improvements in the fuel economy of vehicles since they are lighter in weight. Fibrous materials demonstrated include hemp, cotton, jute, sisal, and flax.

“Fiber welding is changing the way we use naturally occurring fibrous materials to improve peoples’ lives,” said Dr. Luke Haverhals, founder and chief executive officer of NFW. “We are very excited to continue expanding our relationship with the United States Air Force and our understanding and commercial application of this paradigm-shifting technology.”

NFW has seen success with the creation and efficient manufacturing of diverse natural, bio-based automotive products. The 3-dimensional products were molded with high-value materials from agriculture and “upcycled” waste fibers such as cotton, flax, silk, rayon, saw dust, and other waste wood products.

The PLA was signed in 2015 with the help of TechLink, a DoD Partnership Intermediary. PLAs are a form of technology transfer that allows individuals, companies, and universities to incorporate, manufacture, sell, or leverage

intellectual property developed by the Air Force in their own products. Each year, the Air Force signs approximately 30 to 40 licenses which contribute to maximizing the use of Air Force technology in the economy, creating new businesses and job opportunities and stimulating research.

“Technologies developed, tested and evaluated within the Air Force have tremendous potential for commercial applications. Furthermore, Air Force innovations can dramatically enhance the competitiveness of small businesses who otherwise may not have the resources to conduct the research and development that is necessary to develop these technologies,” said Abby Boggs, Air Force technology transfer specialist.

For additional information about PLAs, technology transfer, or how to partner with the Air Force, please contact the Air Force Technology Transfer Program Office at 937-904-9830, af.techtransfer@us.af.mil, or visit the T2 website at www.wpafb.af.mil/t2.

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