

**New York State
Environmental Investment Program
Research Project Summary
Re-Tread Products Inc. (RTP)**

Project

Re-Tread Products, Inc. (RTP) has developed a new building material made from recycled tires called the "Tire Log™," which is a patented innovation made from waste tires with a unique and energy efficient approach to recycling tires. RTP's process takes full advantage of the embedded energy in tires that is wasted in conventional tire recycling, which primarily involves the grinding, burying or burning of waste tires. The need for practical recycled tire products that utilize a large quantity of waste tires while producing a value-added product has been a high priority of New York State, as well as for solid waste administrators on the national and international level.

In 2006, the Tire Log™ was successfully used in a civil engineering demonstration/feasibility study as a replacement for creosote-treated timbers to build a six-foot high retaining wall. In March 2007, RTP was issued a U.S. patent on its Tire Log™ products. Due to the success of that initial demonstration project, RTP was awarded a research & development (R&D) grant in March 2008. This award was to conduct R&D on automating the manufacturing system to enable mass production of the Tire Log™ in a uniform and cost-effective manner.

Project Description

The crucial Learning Target during this project was to determine the best method for automating the Tire Log™ manufacturing process. This was completed by assessing proposed manufacturing system concepts from engineering consultants to insure that the Tire Log™ would be designed and manufactured in accordance with the specifications and claims as stated in RTP's patent. RTP, along with the design engineers, then completed the design and working plans for the tire tread winding system that was determined to be the most critical component of the manufacturing system selected. Fabrication of the winding component of the system was completed

Background

and tested by the engineering consultants and RTP personnel.

Project Results

The winding system developed during this project has verified the capabilities of this system and has enabled RTP to prove its functionality within the full manufacturing system that has been proposed by design engineers. The company has concurrently developed and modified many of the subcomponents and ancillary devices, along with various manufacturing processes that encompass the system as a whole. One of the critical components developed was a prototype system to insert grommets through the Tire Log™ that is used for securing the Tire Log™ together, as well as providing an aperture for the use of bolts or similar fasteners to be used in conjunction with the Tire Log™. This is a significant development in that up until now, this critical component of the manufacturing system had not been developed cost effectively. The other subcomponents, equipment and processes that were more fully developed and utilized during this project include:

- removing the sidewalls from the waste tire and shear the tread material into strips to be utilized in the winding system;
- attaching tire strips together before being utilized in the winding system;
- producing the core of the Tire Log™; and
- cutting Tire Log™ to specified lengths.

The completion of these tasks have enabled RTP to assess the manufacturing concepts, while developing prototype machinery before moving on to a full system with permanent production equipment that will enable the company to mass produce the Tire Log™ in a uniform and efficient manner.

Contractor: Re-Tread Products, Inc.
County: Cattaraugus County
ESD Region: Western
ESD Contact: 518/292-5340

NYS EIP Investment: \$200,000
Contractor Match: \$124,063
Total: \$324,063
Completion Date: February, 2009