



For More Information

Resources are available to help companies determine the viability of utilizing recycled content rubber in their products. There are also companies located in South Carolina who process recycled tire and rubber products that can assist with sourcing needs.

For more information on *who is involved and how to engage in developing further uses* for crumb rubber, please contact:

**The South Carolina Department of Commerce
Recycling Market Development Program**

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For more information on *crumb rubber, recycling markets, waste reduction and recycling in general*, visit the **Business Services** section at SCcommerce.com and these additional resources:

Asphalt Rubber Technology Service

www.ces.clemson.edu/arts

Rubber Manufacturers Association

www.rma.org

**S.C. Department of Health and Environmental Control
Office of Solid Waste Reduction & Recycling**

www.scdhec.gov/recycle

U.S. Environmental Protection Agency

www.epa.gov/epawaste

Institute of Scrap Recycling Industries, Inc.

www.isri.org

Did You Know?

In 2006, the Rubber Manufacturers Association, the national trade association for the rubber products industry, recognized the South Carolina Department of Commerce's Recycling Market Development Advisory Council (RMDAC) and the South Carolina Department of Health and Environmental Control with a Certificate of Environmental Excellence for achieving the highest performance ranking among all states in the nation for scrap tire management.

In fact, last year approximately 5.2 million scrap tires were generated in the state. These tires were used in civil engineering applications, tire-derived fuel and crumb rubber.

RMDAC is responsible for advocating opportunities to develop sustainable recycling markets in South Carolina, and crumb rubber is one area of focus for the Council. The initiative's goal is to connect businesses who make crumb rubber and other recycled rubber materials with South Carolina rubber and plastics manufacturers. This connection will ultimately create higher value-added products.



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Developed in conjunction with the South Carolina Recycling Market Development Advisory Council (RMDAC). Gerry Fishbeck, RMDAC Chair.

CRUMB RUBBER INITIATIVE



RECYCLING MARKET DEVELOPMENT



What is Crumb Rubber?

Crumb rubber, also called ground rubber, is made from grinding rubber products, such as scrap tires. It consists of wire-free, fine rubber particles ranging in size from 0.075 to 4.75 millimeters. One scrap tire can produce 10 to 12 pounds of crumb rubber.

What Products Are Made From Crumb Rubber?

Crumb rubber can be used in rubber, plastic and rubber-plastic compounds to manufacture a variety of products. The use of ground rubber in molded and extruded rubber and plastic products is one of the largest markets for crumb rubber.



It can be used as a component in thermoplastics and thermosets. Automotive industry applications such as bumpers, hoses, floor mats, mud guards and pick-up bed liners are a few examples where crumb rubber is being incorporated into the manufacturing process.

Other uses for ground rubber include agricultural applications, footwear, rubberized asphalt, ground cover for playground equipment and surface material for track and athletic fields.

Why Use Crumb Rubber to Manufacture Products?

Rubber is resistant to electricity, moisture, vibration, heat and cold. Recycled rubber can be used as filler for reducing cost and adding functionality or modifying properties of the end products. It also reduces waste, promotes recycling and creates a greener product. Using recycled rubber rather than virgin rubber can help to "green" the supply chain and make a product more sustainable.



What are the Economic & Environmental Benefits of Recycling?

South Carolina has more than 300 recycling businesses that contribute to over 37,000 jobs in the state, which have a \$6.5 billion annual economic impact. The rising cost of materials is an incentive for incorporating lower cost and high-quality recycled rubber into the manufacture of rubber and plastic products. Utilizing recycled material in product manufacturing also promotes sustainable business practices by decreasing environmental footprints, increasing financial profitability and fostering greater community support.

The environmental benefits of recycling include reducing the need to extract, moving and processing raw materials, as well as saving natural resources. Manufacturing products from recycled materials saves energy, reduces reliance on foreign oil, reduces greenhouse gas emissions and stimulates the development of green technology.



The Asphalt Rubber Technology Service

The Asphalt Rubber Technology Service (ARTS) is a partnership between the South Carolina Department of Health and Environmental Control (DHEC) and Clemson University. ARTS promotes, designs and tests the use of crumb rubber in rubberized asphalt and other civil engineering infrastructure applications.



ARTS provides grant funding to South Carolina cities and counties for test projects each year, utilizing rubber-modified asphalt in paving and other applications. It also performs research to discover new uses and improve upon existing uses of scrap tires. In addition, training classes and seminars are conducted on the use, design, testing and construction of rubberized asphalt and other applications.

As South Carolina is host to a number of rubber and plastics manufacturers, ARTS, DHEC and the South Carolina Department of Commerce's Recycling Market Development Advisory Council are partnering to promote the use of crumb rubber in products manufactured by companies in the state. ARTS can assist companies with basic resources such as testing and research on crumb rubber.

