



Scrap Tire Pyrolysis Residue Upgraded by CBp Europe Patented Technology Shows Cost Reduction Potentials for Replacing or Blending with Carbon Black

Samples of raw pyro-carbon residue from EFTI and Kouei Japan scrap tire pyrolysis recycling plants were upgraded using CBp Europe patented and proprietary post-treatment technology.

([PRWEB](#)) February 10, 2005 -- Independent tests by Akron Rubber Development Laboratory confirms that the generic CBp process successfully upgrades raw pyro-carbon residue (char) into cost-competitive grades of black reinforcing fillers that can be reused in rubber manufacturing for replacing or blending with carbon blacks and as an asphalt modifier. The reinforcing properties are related to the quality of the raw heterogenous pyro-char.

However, in every case the tensile properties were always better than N-900 series carbon blacks. On CBp controlled runs tensile strengths exceeded N-600 carbon blacks in tests by BFGoodrich and Metso Minerals.

The patented CBp technology was introduced at the Carbon Black 1996 World Conference "A Black Filler for Rubber Prepared from Tire Pyrolysis Char" by William Klingensmith and Michael Beck of Polymer Valley Chemical Inc as an economical solution necessary to commercialise pyrolysis of scrap rubber. Reinforcement qualities were presented equivalent to carbon blacks with particle sizes at 0.05 to 0.10 microns. The initial market demand for CBpCarbon was estimated at 50,000 tons per year without considering additional marketing and the tire and asphalt markets for CBpCarbon products. Since then many successful CBp upgrading tests were integrated with other pyrolysis technologies by CBp post-treatment of the raw non-commercial pyrosates; including ABB, now Alstom, Metso Minerals, Surface Combustion, Unisphere, Beven, Titan Technologies, ECO2, GWES, Coalite, etc.

US EPA report, Markets for Scrap Tires, states in Section 8 on pyrolysis: "Pyrolysis units are expected to have minimal air pollution impacts" but adds: "If markets for char cannot be developed, the char becomes a major solid waste problem".

The Rubber Manufacturers Association (RMA) describes carbon black as an important ingredient in nearly all rubber products to improve properties such as tensile, wear resistance and modulus. Scrap tires and rubber can contain 25% to 35% carbon black. According to the Freedonia reports the global demand for carbon black will grow 3.4% yearly through 2006 to 8.7 million metric tonnes.

A modular 4000 per day passenger tire equivalent pyrolysis plant can produce 3500 tonnes of CBpCarbon per year or less than 0.05 percent of the present carbon black market, allowing for major niche product market growth potential. The surplus of regional scrap tire pyrolysis feedstock is not subject to the volatility of the imported oil presently used to manufacture carbon blacks. This can permit stable long term price guarantees.

In earlier tests, reinforcing fillers were also obtained by CBp upgrading pyrolysed automotive shredder residue, often referred by industry as "ASR" or "fluff". General Motors provided 40 tonnes of this raw pyrolysed ASR material for these tests in co-operation by the Vehicle Recycling Partnership, USCAR (General Motors, Ford and Daimler-Chrysler).

Tests by the Indiana Department of Transportation and Purdue University sponsored by the US Department of Transportation show cost-benefit application potentials for improving rutting resistance by asphalt modification



using the CbpCarbon products.

A summary of this extensive testing and potentials for using scrap tire and ASR derived CbpCarbon reinforcing fillers for asphalt modification is planned for the Second Rubber Modified Asphalt Conference sponsored by the RMA and American Chemical Society Rubber Division in San Antonio May 18-19, 2005.

Recycling is an increasingly important issue confronting the auto industry. The European Union will require by January 2006 that 85% of every vehicle be recycled. In France, the creation of Aliapur with eleven rubber tire manufacturers demonstrates this Group's determination to pursue an active policy of recycling end-of-life tires (ELT). Efforts aimed at requiring manufacturers to increase recycling responsibilities and End-Of-Life Vehicles (ELV) programs are under way in the U.S. as well.

The CBp patented technology is a breakthrough allowing the potential for plastic, rubber and automobile industries to meet these recycling objectives.

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