

Breakthrough: Recycling of fibreglass is now a reality

What to do with fibreglass waste? The industry has been searching for a valid answer to this question for many years. The answer has now been found and will shortly be demonstrated in practice.

Fibreglass is widely acknowledged as a material that has major advantages over more conventional rivals, such as wood, steel and aluminium. It is less energy-intensive in development and is used extensively for products which decrease carbon emissions – products such as low-energy windows. But what do we do with the fibreglass when its useful life is over?

Fiberline Composites, which manufactures fibreglass and carbon fibre profiles, is pleased to report that it now has the answer. Fiberline has signed a contract with two companies: Zajons in Germany, which specializes in converting waste to alternative fuels for industry – and Holcim (Germany), subsidiary of the world leading cement manufacturer from Switzerland. Under the contract, surplus fibreglass from Fiberline's production in Denmark will be shipped south for use as a key constituent of cement.

The contract is a good example of a true win-win situation as everyone benefits; Fiberline gains a waste solution it has been seeking for many years, and Holcim can utilize both the energy as well as the minerals in the fibreglass for cement production, thereby saving on fossil fuel and raw materials.

The next step – a collection scheme

Fiberline's Sustainability Manager Benedikte Jørgensen sees major perspectives in the contract: "In the short term this contract marks an important breakthrough for our company, but the next step will naturally be to look at a formalized collection scheme that also meets customer and user needs by ensuring that their fibreglass waste – such as life-expired low energy windows – will not simply pile up but be recycled."

At Zajons, which will be responsible for processing the waste before it arrives at the cement plant, CEO Jörg Lempke has high hopes of the contract:

"The Fiberline contract is the first of its kind with a Danish manufacturer, but we hope and believe that this example will be



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followed by other Danish companies as the success of the project depends on a constant volume of waste."

Fiberline expects to ship its first consignment of fibreglass for recycling in September.

Fiberline nearing 'zero landfill, zero energy' goal

For Fiberline, recycling of production waste is yet another step on the way to realizing the company's goal of 'zero landfill, zero energy'. A winner of the Danish Energy Prize in 2009, Fiberline currently obtains around 50% of the electricity it needs for manufacturing from its own wind turbine.



How fibreglass is recycled

The production of cement is dependent on large quantities of sand. And sand is also the main constituent of glass, and thus also of fibreglass. Fibreglass additionally contains polyester which can be used as an energy source in cement production, thereby replacing the use of fossil fuels.

The recycling process:

- 1 Fiberline sends the fibreglass waste to Zajons in Germany
- 2 Zajons consolidates the fibreglass in a giant crusher and adjusts the calorific value by adding other types of recycling materials
- 3 The waste is sent to the cement manufacturer
- 4 Holcim feeds the waste to the huge kilns that produce the finished cement.

Recycling 1000 tonnes of Fiberline profiles in cement manufacture saves up to 450 tonnes of coal, 200 tonnes of chalk, 200 tonnes of sand and 150 tonnes of aluminium oxide (Source: Holcim, 2010). And the recycling process produces no dust, ash or other residues.

Fiberline Composites A/S:

Fiberline is a family-owned enterprise based in Middelfart, Denmark. A knowledge-based production company, Fiberline sets the market standard and is a global leading manufacturer of high-tech profiles of carbon and fibreglass composite. We operate in three strategic focus areas and supply composite profiles for structural components, windows, doors and facades as well as wind energy applications.

Read more about Fiberline on www.fiberline.com

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