

# Waterless dyeing is finally here

This month, a commercial scale supercritical CO<sub>2</sub> dyeing machine for polyester fabrics will be delivered to Tong Siang Co Ltd in Thailand to give brands more choice on eco-textile selection.

This technology has been around for a while but problems relating to suitable dye-stuffs, huge levels of energy consumption and dyeing efficiencies have hampered progress. Dutch-based engineering firm Dyecoo – which has manufactured Tong Siang's new machine – says that it's so confident about the environmental benefits of this new machine, that it has commissioned an independent life cycle analysis (LCA) study of the technology that it says will be released early next year.

The company revealed to us that the energy levels needed to bring

the Dyecoo machine up to the pressures needed to turn CO<sub>2</sub> gas into a liquid have been lowered to conventional water dyeing levels. It also claims to have sourced reliable disperse dyes that work in a non-aqueous environment and says fixation rates are 90%. The 10% that is washed off and falls to the bottom of the dyeing machine when it is depressurised is negligible – only “enough to fill a small medicine bottle” remains.

Although the first orders for this new technology have been received, Dyecoo accepts this technology is very much like Windows – under constant revision. But the new LCA should make the effectiveness of this new technology much more transparent and open and so we look forward to seeing the results and will bring them to our readers in due course.

## ... meanwhile Huntsman

Has also made major advances in terms of reducing the amount of water used in textile dyeing with the launch of a new range of reactive dyes for cotton that can reduce water and energy consumption by a massive 50% – even compared to current best available technologies.

The new Avitera SE dyes are said to be ‘polyfunctional’ reactives – meaning there are more than two reactive

## Save the date 2011

Following a successful event last month, The RITE Group has announced its next annual conference on sustainable textiles will take place on 12th October 2011, London, UK. See: <http://bit.ly/RITEconf2011>

groups in each dye molecule, to ensure that far more dye is fixed than with previous generations of reactive dyes. Early industrial trials indicate that a remarkable 85% of dye applied to cotton during jet dyeing (the common method for T-shirts) is fixed, and a much shorter post-dye wash off process can be carried out at energy-saving low temperatures of 60°C compared to the usual 80° to 95°C range.

This type of new technology makes perfect environmental and economic sense and is currently being integrated into the sourcing strategy of a major French retailer. See page: 20 ■



John Mowbray, Editor

## What's hot on ecotextile.com – our most popular on-line stories



### Is Wal-Mart scaling back on organic cotton?

Reports from garment manufacturers in India indicate that Wal-Mart could be cutting back on its use of organic cotton in favour of conventionally grown cotton clothing..

<http://bit.ly/WMccotton>

### Retailers breach REACH guidelines

Some of Europe's largest retailers are failing to provide consumers with information on toxic substances used in their products as required by REACH regulations.

<http://bit.ly/EUreachbreach>

### Low temperature bleaching

Dutch chemical firm Tanatex has teamed up with Italian textile finisher G. Tosi S.p.a., to develop a new low temperature bleaching process for mercerised cotton.

<http://bit.ly/lowtempleach>

### Bangladesh to address CSR issues

A conference in Bangladesh later this month will address the corporate and social responsibility of German business development in the country. <http://bit.ly/bczgGk>