Sustainable Flame Retardant Technical Textile from Recycled Polyester

SUPERTEX

The textile industry represents and important source of income and employment in Europe: in 2005 the EU textile and clothing industry counted 155,000 enterprises employing more than 2.2 million people. Most of the production steps involved in the textile chain are not sustainable processes since they are chemicals consuming processes – such as finishing processes – and they are responsible for the production of large amount of waste, either wastewater and landfill waste. SUPERTEX project is aimed at demonstrating that a secondary raw material such as recycled Polyester (RPET) can be exploited within the Textile Industry for the fabrication of environmentally sustainable, high added value Technical Textile products. Main objectives are: demonstration of the transferability of the production processes for PET multifilament yarns (MY) to RPET and recycled PET-polyolefin blends from post-industrial and post-consumer waste; addition of new functionalities (fire resistance) to the RPET-based MY; first application of RPET-based MY in the fabrication of textile structures for Mobiltech and Hometech markets.

Benefits

A wide usage of a waste materials, such as PET for the production of multifilament yarns, mainly applied in the Technical Textile sector.

Results

- Demonstration of the transferability of the production processes for PET multifilament yarns (MY) to RPET and recycled PET-polyolefin blends from post-industrial and post-consumer waste. A marketable price in the range 2.0 – 3.0 €/kg is expected
- A production technology for a range of textile materials based on RPET MY with different fineness, mechanical and functional properties, and performance comparable or better than conventional products from virgin polymer
- Production of Flame Retardant (FR) textile by using safer products then the conventional products (alternative to antimony and halogenated compounds will be used)
- A significant impact of the RPET MY textile is expected both upstream (RPET feedstock global market) and downstream (Technical Textile market) through replacement of virgin PET and other polymers.

Partners and coordinator

| NTT, Next Technology Tecnotessile SocietÄ_ Nazionale di Ricerca Tecno. R.L. [1] | Italy |
| LEITAT, LEITAT Technological Centre [2] | Spain |
Contact

NTT, Next Technology Tecnotessile Società Nazionale di Ricerca Tecno. R.L.
13 Via del Gelso
59100 PRATO Toscana
Italy

Contact point

Name: Mr. Solitario Nesti
E-mail: chemtech@tecnotex.it
Tel: +39 0574 634040

Budget

Overall budget: 1.457.045,00 € (EU contribution: 50,00 %)

Key documents

- Project Fact File [10]
  DOC 361.5 KB

In brief

Sector: Recycling
Duration: 01/09/2011 to 31/08/2014
Contract number: ECO/10/277225
Website: http://www.supertex.tecnotex.it

Tags:
recycling
textile
Media coverage

  STAMP Toscana - 03/07/2013

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