





RECYCLED ACRYLIC FABRICS, THE PROBLEM OF IMPURITIES

Daniele Piga

29/10/2020, REACT webinar

Global textile market share, by application, 2019 (%)

Market value USD 961,5 billion in 2019

+ 4,3% to 2027

Only 1% of market is recycled

Source: www.grandviewresearch.com

Textile Market Size, Share & Trends Analysis Report By Raw Material (Wool, Chemical, Silk, Cotton), By Product (Natural Fibers, Polyester, Nylon), By Application, By Region, And Segment Forecasts, 2020 – 2027, Grand View Research

Recycled Textile Market to Reach \$8.0 Billion by 2026 at 5.2% CAGR, Allied Market Research







TECHNICAL FABRICS

North America coated fabrics market size, by product, 2012 - 2020 (USD Million)



REACT focused on:

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- Awnings
- Furniture

Coated Fabric Market Size, Share & Trends Analysis Report By Product, By Application (Transportation, Protective Clothing, Industrial, Furniture), By Region, And Segment Forecasts, 2012 - 2020, Grand View Research



THE CHALLENGE



Acrylic fibre is used for clothing, outdoor furniture, boat covers and awnings, with almost 2 million tonnes produced every year.

In the 'awning and outdoor furnishing' textile market, acrylic is still the main material used (more than 90% of production) thanks to its unmatchable performance (combination of weatherability, UV resistance and mechanical strength).



- 11'000 tonnes/year of outdoor acrylic textiles

- 2.5 million awnings installed in Europe

IT IS ESTIMATED THAT EVERY YEAR, IN EUROPE, ABOUT 7'700 TONNES OF ACRYLIC TEXTILE WASTE ARE DISPOSED OF BY LANDFILL OR INCINERATION





Our goal is to identify processes to treat and recycle acrylic textile waste in an ecological and economical way. We aim to enable European fabric producers to improve sustainability and reduce environmental and health risks, by disposing of less waste, recovering hazardous chemicals and using smaller amounts of traditional chemicals.

Recycling of acrylic textile waste

- To develop a method to **remove undesirable substances** from waste of acrylic fabrics
 - with an environment friendly process (if possible)
 - to enhance their recycling
 - to improve sustainability
 - to reduce environmental and health risks
- Main application sectors are **awnings and outdoor furniture**







- to reach a removal rate of 90-95% of chemicals/substances that prevent their recycling
- to treat up to 99% of all sewage impurities obtained from removal steps
- to obtain a final textile product with yarn coming from 100% recycled fibre, mixing regenerated fibres from card, winding opened thread and waste material collected fibre, each up to 33%
- to re-use the acrylic textiles as raw material for other production cycles, to reach 30 % of waste prevented from disposal (3.600 tonnes total) for the outdoor sector (awnings and furnishing)







• Different finishing applied

Fabric and / or Product without Finishing









REACT SORTING







Reduced risk of retaining hazardous substances in recycled materials

- A reduction of hazardous substances in recycled materials
- Reduction of hazardous substances in landfill

Increased purity and quality of secondary raw materials

- Our project aims to a 90% removal of chemicals of the finishing process
- The mixing with the virgin regenerated fibre (up to 33%), the final purity of the recycled fibre will reach 90-95%







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Visit our website https://www.react-project.net

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THANK YOU FOR YOUR ATTENTION

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