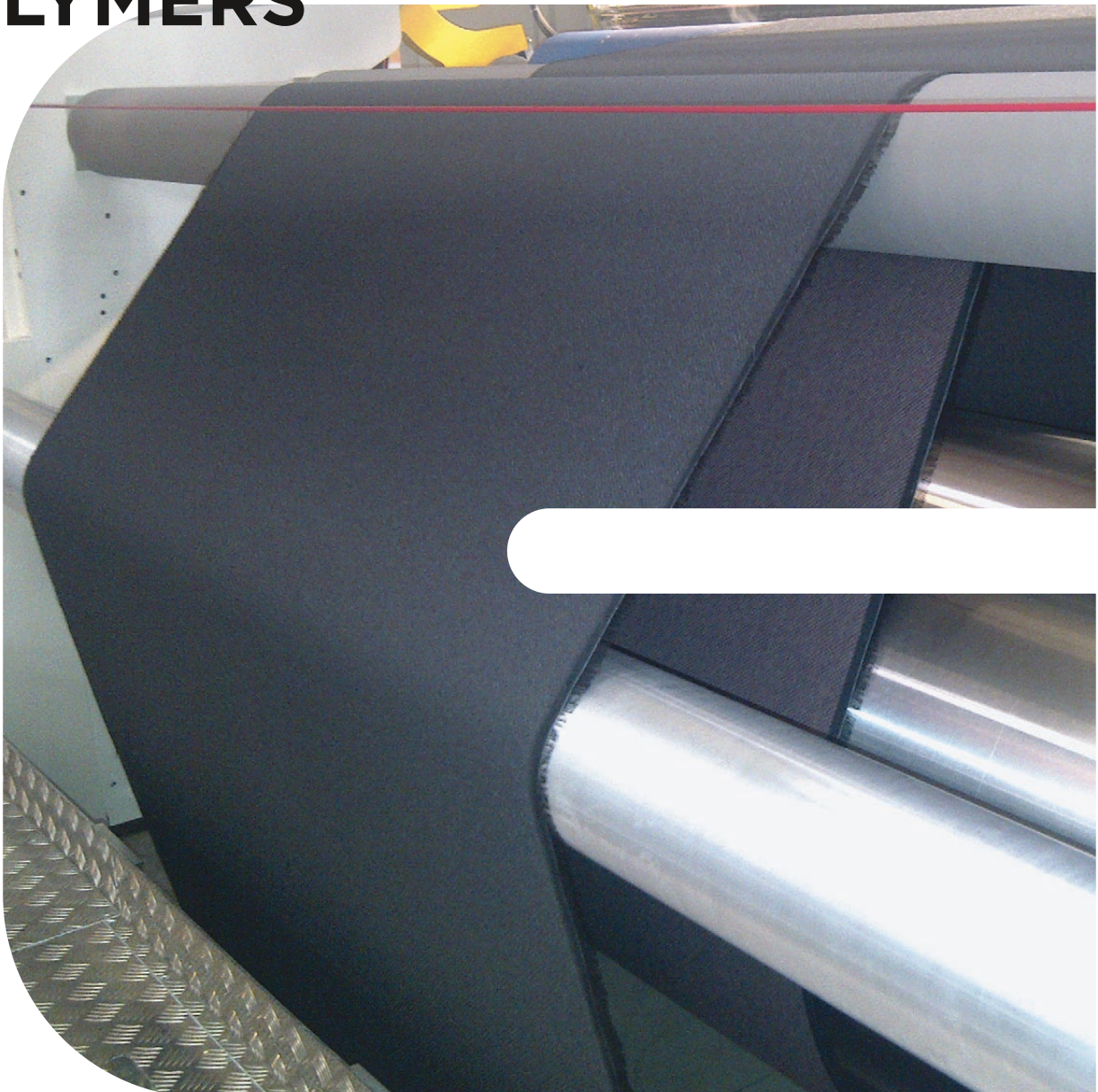


”Design for Recycling“ Textile Flooring **LICOCENE® PERFORMANCE POLYMERS**



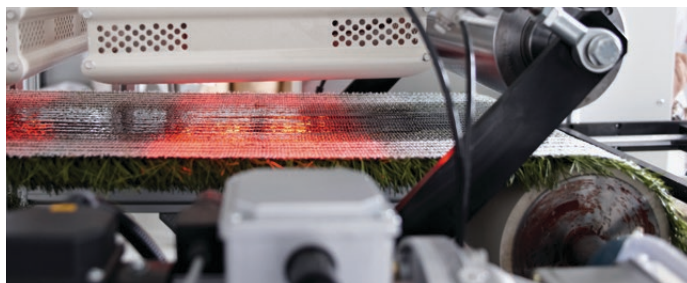
”Design for Recycling“ Textile Flooring **LICOCENE® PERFORMANCE POLYMERS**

Although the vast majority of carpets today are made of recyclable woven or tufted materials, most textile flooring still ends up in landfill or end-of-life incineration. This is largely due to the traditional use of a latex, water-based backing which cannot be removed from the pile fibers and creates a difficult-to-recycle material mix. Due to their unique chemical properties (e.g. low molecular weight), Licocene Performance Polymers

used as primary/secondary backing, can be easily dissolved and recovered at the end of the life cycle using suitable solvents. This is a huge step forward for the industry in terms of achieving zero waste targets. All thermoplastic polymers being used for Licocene backed carpets and artificial turf can be recovered using dissolution technologies like the Fraunhofer IVV CreaSolv® process.

KEY PRODUCT FEATURES

- Licocene Performance Polymers are 100 % polymer-based, which helps to reduce VOC and odor in production and use phase
- Back coated with Licocene Performance Polymers, carpets and floorings can achieve the same and even better in-use performance compared to traditional latex-backing
- By replacing latex, water and the associated drying process can be fully avoided, adding up to energy savings of up to 80 %. As a result, no contaminated waste water occurs



MECHANICAL PERFORMANCE COMPARISON VIRGIN LICOCENE PP 2602 VS. RECYCLED LICOCENE PP 2602 RECOVERED FROM ARTIFICIAL TURF AFTER FIVE YEARS IN USE

	VIRGIN LICOCENE PP 2602	RECYCLED LICOCENE PP 2602
Tensile strength	9.89 N/mm ²	9.0 N/mm ²
Elongation until break	959 %	898 %

DIN EN ISO 527

YOUR BENEFITS

- Via the CreaSolv® recycling technology, it has been validated that Licocene Performance Polymers can be recovered economically attractive with a minimum of 90 % of their virgin quality for re-use, ensuring a cradle-to-cradle approach
- The whole process provides the missing link for the industry to design fully recyclable carpets and artificial turf from the outset for both multi-material and mono-material – a significant contribution to a circular economy starting from post-consumer waste
- Our Licocene Performance Polymers carry Clariant's EcoTain label and are now also available as renewable-based solutions (Licocene Terra range)

RECYCLING PILOT PLANT COST ASSESSMENT - ESTIMATED IMPACT OF DIFFERENT COST ITEMS

RECYCLING COSTS	[%]
Writing-off	- 35 %
Interest	- 15 %
Staff	- 12 %
Energy	- 22 %
Waste	< 1 %
Operating material	- 6 %
Maintenance	- 5 %
Insurance	- 4 %
Total cost estimate	100 %

This information corresponds to the present state of our knowledge and is intended as a general description of our products and their possible applications. Clariant makes no warranties, express or implied, as to the information's accuracy, adequacy, sufficiency or freedom from defect and assumes no liability in connection with any use of this information. Any user of this product is responsible for determining the suitability of Clariant's products for its particular application. * Nothing included in this information waives any of Clariant's General Terms and Conditions of Sale, which control unless it agrees otherwise in writing. Any existing intellectual/industrial property rights must be observed. Due to possible changes in our products and applicable national and international regulations and laws, the status of our products could change. Material Safety Data Sheets providing safety precautions, that should be observed when handling or storing Clariant products, are available upon request and are provided in compliance with applicable law. You should obtain and review the applicable Material Safety Data Sheet information before handling any of these products. For additional information, please contact Clariant.

***For sales to customers located within the United States and Canada the following applies in addition: NO EXPRESS OR IMPLIED WARRANTY IS MADE OF THE MERCHANTABILITY, SUITABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE OF ANY PRODUCT OR SERVICE.**

® Trademark of Clariant, registered in many countries
CreaSolv® is a registered trademark of CreaCycle GmbH
© 2020 Clariant International Ltd

CLARIANT INTERNATIONAL LTD
Rothausstrasse 61
4132 Muttentz
Switzerland

BUSINESS UNIT ADDITIVES
ADVANCED SURFACE SOLUTIONS
Phone +49 821 479 21 46
Email waxes@clariant.com

WWW.CLARIANT.COM/ADDITIVES
WWW.CLARIANT.COM/ECOTAIN
WWW.CLARIANT.COM/ECOCIRCLE
WWW.CLARIANT.COM

