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## REVERSE100

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### 1. Recycled Content

- a. 62% Overall recycled content
- b. Yarn  
100% ECONYL® yarn - 100% Recycled Solution Dyed Nylon + Recycled Solution Dyed Space  
ECONYL® is manufactured using post-industrial and post-consumer Polyamide 6 waste, making it 100% sustainable.
- c. Primary Backing  
Colback SMR is produced out 100% post-consumer recycled PET, originated from bottle scrap.
- d. Secondary Backing – back2back  
The waste from the tile cutting process is shredded and added to the secondary backing, giving it a 10% post-industrial recycled content.

### 2. Production site

modulyss® centers all activity on 1 single production site (Zelee, Belgium), this allows us to reduce internal transportation and limits our CO<sub>2</sub> emissions drastically.

- a. Our production site is ISO-9001 (Quality Management) certified since 2000 and ISO-14001 (Environmental Management) since 2009.
- b. modulyss® works in accordance with ISO26000 and publishes a Corporate Social Responsibility report in line with the GRI guidelines.

### 3. Installation

- a. Adhesive  
modulyss® advises to use a solvent-free, easy release system with very low emissions.
- b. Installation waste  
In a rectangular building, installed before walls, using our installation descriptions the waste for Carpet tiles is 3-4%.  
In comparison for broadloom the waste during installation rises till +/- 10%.

### 4. End of Life

- a. Re-use  
At the end of life, after cleaning, carpet tiles can be re-used in non-critical areas, to extend the product life.
- b. Recycling  
Carpet tiles can be used as raw material for the backing of new carpet tiles in our back2back program.
- c. CARE  
Partnership modulyss®/Vanheede Environment Group in which carpet tiles are converted into secondary fuel to reduce CO<sub>2</sub> emissions significantly. The minerals are extracted from the carpet tiles and recycled into raw material for the cement production industry, which results in 50% recycling of our carpet tiles.

## 5. Voc's & Chemical Substances

This product fulfills the testing criteria for emissions of:

- a. **DIBT (DE)**  
Deutsche Institute für BauTechnik  
TVOC28 < 1,0 mg/m<sup>3</sup>  
This product is DIBT-certified, Abz-nummer Z-156.601-604.
- b. **CRI (US and international)**  
Carpet & Rug Institute  
Compliant to the requirements of Green Label Plus, GLP 1100 (see LEED®, point 6.b)
- c. **GUT (DE)**  
Gemeinschaft Umweltfreundlicher Teppichboden  
TVOC28 < 100 µg/m<sup>3</sup>  
This product meets the GUT-criteria, GUT-license number 24515. These criteria include VOC thresholds, odour and chemical substances.
- d. **REACH (EU)**  
modulyss® complies with the strict European REACH standards.
- e. **Living Building Challenge Red List & US EPA Chemicals Concern List (US)**  
modulyss® has obtained declarations from all of our suppliers that the materials supplied do not contain any of the substances listed, nor is any of these substances added to our production process.
- f. **Sundahus (SE)**  
SundaHus Miljödata is a system of health and environmental assessment of products in the construction and real estate businesses. The core of the system is a database of substances, materials and products. B-rating.

## 6. Life Cycle Analysis & Compliance to Green Building Certifications

- a. **BRE Global (UK)**  
Building Research Establishment  
This product can contribute towards credits in:  
  
Hea 02 – Indoor Air Quality  
To recognise and encourage a healthy internal environment through the specification and installation of appropriate ventilation, equipment and finishes.
  - Use of a low-emission adhesive on installation (BN EN 13999-1:2007) can contribute to this credit.
  - modulyss® carpet tiles meet the requirements of EN14041, including E1 classification for formaldehyde emissions, and can contribute to the credit for a healthy indoor air quality.  
Hea 05 – Acoustic performance  
To ensure the buildings' acoustic performance including sound insulation meet the appropriate standards for its purpose. This product is highly sound-absorbent. It reduces contact noise by 23 decibels (ΔL: 1 000 Hz - ISO 10140) and has an absorption coefficient of 0.15 (ISO 354).  
  
MAT 1 – Life Cycle Impact  
BREEAM Rating Offices  
Certificate ENP 428 v, A+ rating – Eco point score 0.26  
To recognise and encourage the use of construction materials with a low environmental impact (including embodied carbon) over the full life cycle of the building. For more information on the Green Guide to Specification visit [www.bre.co.uk/greenguide](http://www.bre.co.uk/greenguide) or [www.greenbooklive.com](http://www.greenbooklive.com)  
  
MAT 5 – Designing for Robustness  
To recognise and encourage adequate protection of exposed elements of the building and landscape, therefore minimising the frequency of replacement and maximising materials optimisation. This product satisfies the requirements of EN1307 classification, class 33 - LC1 for intensive use in a contract environment.  
  
WST 01 – Construction Waste Management  
To promote resource efficiency via the effective management and reduction of construction waste. This product can contribute to waste reduction on site. See item 3, installation, for more details. Concerns cutting waste on installation of carpet tiles.



**b. LEED (US and international)**

Leadership in Energy and Environmental Design

This product can contribute towards satisfying IEQ Credit 4.1 (low emitting materials – adhesives & sealants), IEQ 4.3 (low emitting – flooring systems), MR Credit 4 (recycled content) and MR Credit 5 (regional materials). Products are not reviewed under LEED, LEED credit requirements cover the performance of materials in aggregate, not the performance of individual products of brands. For more information on LEED, visit [www.usgbc.org/contact](http://www.usgbc.org/contact)

Total MR4 Recycled content: 34.8%

MR4 Post-Industrial Recycled content: 54.0%

MR4 Post-Consumer Recycled content: 7.8%

**c. HQE (FR)**

Haute Qualité Environnementale

In 2005 modulyss® was awarded the HEQ certificate by FDES in accordance with NF P01 010. This product can contribute to seven of the 13 HEQ targets as follows:

<b>Eco-Construction</b>	<b>MOQUETTES FDES</b>
Harmonious relation between buildings and their immediate environment	
Integrated choice of products and construction materials	T2
Low site nuisance	T3
<b>Eco-Management</b>	<b>MOQUETTES FDES</b>
Management of energy	
Management of water	
Management of waste caused by activities	
Management of servicing and maintenance	
<b>Comfort</b>	<b>MOQUETTES FDES</b>
Hygrometric comfort	
Acoustic comfort	T9
Visual comfort	T10
No unpleasant smells	T11
<b>Healthy</b>	<b>MOQUETTES FDES</b>
Sanitary quality of areas	T12
Sanitary air quality	T13

**d. ECNZ (NZE)**

Environmental Choice of New Zealand

This product is labeled by ECNZ Labeling Program, which encourages sustainable processes and products.

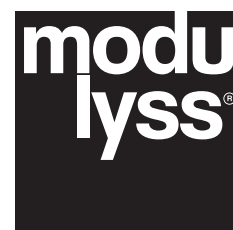
**e. Good Environmental Choice Australia (GECA) (AU)**

Australia's only independent, not-for-profit, multi-sector ecolabelling program. Certification program that assesses and certifies products and services that have a lower impact on the environment and human health and address important social considerations.

## 7. Green Energy

The electricity that we use at modulyss® is 100% 'green electricity' generated from renewable resources:

- In February 2010, modulyss® put its new solar panels into operation. The park has a capacity of 467500kWh, delivering 11% of our total electricity consumption.
- The remaining 89% originates from 100% Green Energy Purchase.



## 8. Production Process

### a. H<sub>2</sub>O

modulyss® reduced the water consumption for the carpet tile production with 46% since 2008; we only use rain water in production.

### b. Electricity savings

Through a variety of measures, we have succeeded in reducing our electricity consumption by 17% since 2008.

### c. Gas

Through intensive investments, we have reduced our own consumption of natural gas by 24% since 2008.

### d. Steam

Through the optimization of our processes, the volume of steam needed for production processes has been reduced by 23%.

### e. Recycling raw yarns

All the left overs and waste yarns are collected and recycled into new yarns.

### f. Ecological Packaging

We only use cardboard boxes that are made of 100% recycled material.

### g. Waste reduction

Compared to 2008 we have reduced the amount of residual yarns by 9% and the amount of cutting waste by 12%.

## 9. Health & Comfort

### a. Solvent-free Bitume

For the bitumebacking we only use bitumen that is not oxidized and is solvent-free.

### b. No heavy metals

modulyss® carpet tiles are free of heavy metals and other harmful substances, such as lead, mercury or chromium.

### c. Odour

modulyss® carpet tiles are free from odours (see GUT certification program)

### d. Acoustics

This product is strongly sound absorbent. It reduces the contact noise by 23 decibels ( $\Delta L$ : 1 000 Hz - ISO10140), with a perfect acoustic effect as result.

