Cradle to Cradle update at:
DESSO has a long and rich history with origins in both the Netherlands and Belgium.

1930  Started as a Belgian manufacturer producing woven carpets in Oss, the Netherlands, for residential and commercial applications.

1939  Ownership was transferred and the name of the company changed to ‘Tapijtfabriek H.Desseaux’.

1950  Desso was introduced as a brand name.

1960  Two other companies located in Dendermonde and Waasmunster also became part of DESSO.

1980  DESSO started to set up the artificial grass division.
History

1981 Purchase of Bergoss Brand

1992 DESSO and Esco merged into one company, retaining the name Desso.

Late DESSO was taken over by DLW and then Armstrong

1990's

2007 DESSO is independent once again after the acquisition of a majority share holding in the company by NPM Capital, a Dutch investment firm.

Today DESSO can look back at almost 80 years of proven performance, having built a reputation as a reliable partner producing quality flooring for all types of applications.
Employees: 1000
Carpet tiles: 7,000,000 m²
  - Tufted products 90%
  - Fibre bonded products 10%
Broadloom: 5,000,000 m²
Artificial grass: 2,800,000 m²
Woven carpets: 750,000 m²
Prof. Dr. Michael Braungart is very excited about the start of a long term relationship with DESSO.

“By committing themselves to the Cradle to Cradle production circle, DESSO will be supporting the good health of the planet and helping to improve product quality and environmental performance via eco-effectiveness”.

Prof. Dr. Michael Braungart, Chemist and Founder of the Environmental Protection Encouragement Agency (EPEA)
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Eco-efficiency

Increased attention on sustainability
✓ Efficient production
✓ Waste reduction
✓ Energy saving

Desso’s past achievements
✓ Water preservation
   annually 50% in Belgium, goal 100% (= 410 million litres)
✓ Energy consumption
   23% reduction in energy use and CO₂ emissions over the last 10 years
✓ Recycling
   Post industrial waste is recycled and used as fuel
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Eco-effectiveness

1. Positive footprint
2. Improve quality of life and environment
3. Re-utilize all materials used in the product. Design criteria: easy disassembly
4. Use post-customer materials as raw material in the product
5. All raw materials should be 100% safe for humans and environment
6. Use renewable energy in all stages of the cycle

All about Eco Effectiveness
DESSO: Cradle to Cradle Company

Implications for DESSO

• Develop new products for improved indoor air quality
• Invest in new Cradle to Cradle product line
• Invite young designers and students to work on Cradle to Cradle products
• Build national and international community around Cradle to Cradle quality
• Stronger marketing for Cradle to Cradle on global market
• Establish the carpet take back system and recycling system
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Stages for implementation of the vision 2010-2020

- 50% use of post-customer products
- 100% purchased renewable energy
- Factory effluent water
- Take back and recycling systems
- Cradle to Cradle supply-chain management
- 100% Cradle to Cradle product certification
- 100% Renewable or recycled sources
- 100% Safe return of materials
- 100% Reuse or recycle of materials
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Strategic plans

Energy
- 2020 100% durable energy
  - Biomass
  - Wind energy
  - Solar energy
- Start in Waalwijk JV with Host/ENECO

Biodiversity
- Increase biodiversity in industrial environment.
  - First “green roof” done
  - Focus on certain species
Biological cycle
DESSO is doing research on prototype carpet and carpet tiles with materials in the biological cycle. Here some examples of carpets with yarns made out of paper, bamboo and jute.
Prototype with paper yarn
Prototype with bamboo yarn
Prototype From jute
Technical cycle
Clients and suppliers are regarded as partners to reach quality.

Proess of quality from cradle to cradle with time:

- Create ‘Passive Positive List’ for existing products
- Use only positively defined materials
- Phase out non-acceptable raw materials
- No need to be perfect from day 1

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Analysis of all Raw Materials with Prof. Michael Braungart (EPEA)
Desso B.V.
PA 6,6 Carpet Tiles - Continuous Dyed

Includes the following:
- Pallas
- Torso
- Flavia
- Flux
- Palatino
- Penta
- Trapez

William McDonough
Principal and Co-Founder

Michael Braungart
Principal and Co-Founder

Jay Bolus
V.P., Technical Operations

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Desso is progressing fast with Cradle to cradle products in the technical cycle. An alternative for the traditional, bitumen based backing had to be found. Bitumen as a product is safe and gives the tiles fantastic features but the content can vary and is therefore not suitable for a cradle to cradle carpet tile backing.

To both the biological and the technical cycles applies:

All materials used must be 100% safe to: humans & environment
Traditional carpet tile
Together with EPEA an alternative for bitumen tile backing is found in the material Polyolefine. This material is a 100% safe and endlessly recyclable.
Desso Cradle to cradle carpet tile with Polyolefine backing
Desso Cradle to cradle carpet tile with Polyolefine backing
Ministry of agriculture
MATERIALS

- Positive defined dyestuff
- PA 6 yarn
- PES/PA primary backing
- Hotmelt + stabiliser
- Polyolefins backing + stabiliser
REUTILIZATION

Positive defined material input

usage

collection

separation

Polyolefins

PES/Polyamide

recycling

Backing

Yarn
Because of the great knowledge and know how in the field of carpet tile production within the Desso organization we will be able to offer, as the first European carpet manufacturer, a Cradle to Cradle tile backing from June 2010.
EcoBase installation
EcoBase installation
C2C PC Quality check

Carpet tiles produced with Polyolefin

- Normal in house test procedure
  - Dimensional stability test
  - Lay flat performance
  - Wear tests
- Lay flat performance under extreme circumstances (external)
- Installations in test areas (at Desso and at customer sites)
- Installer feedback
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Take back system at DESSO

RAW MATERIAL
Use of materials after consumption as raw material in the product.

SEPARATION
Always leave behind a positive footprint.

TECHNICAL
Enhancing quality of water and air by improvements to the product or the process.
Recycling our products in the cement industry:
  ▪ Used as high caloric fuel
  ▪ Stabilizer (chalk) is used as raw material

Introducing a ‘take back’ system
  ▪ Collect used carpets from our clients

Developing an innovative separation technique:
  ▪ Separate the yarn from the backing
  ▪ Backing can be reused as backing
  ▪ Yarn can be remelted as colored yarn
  ▪ Depolymerize to obtain raw material for yarn to produce white yarns
To separated carpet tile
Shredded material
First separation
Reusable yarn
Reusable EcoBase
EcoBase®

When nature inspires, rewards come naturally.
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Take back system at DESSO
MATERIAL RECOVERY

Number of times material and systems cycle through a building in a single lifetime

SITE  STRUCTURE  SKIN  SETTING  SYSTEMS  STUFF

1st Generation

7th Generation

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DESSO will contribute to

✓ C2C business community worldwide
✓ Help stimulate the formation of necessary C2C infrastructure

Innovation Platform

✓ Encourage all stakeholders (suppliers, design community, waste management partners, customers) to consider new products and C2C design paradigms
✓ Jointly develop know-how and new technology
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For more information, please contact us or visit our website

www.desso.com