



## Application

FIBRE, NONWOVEN,  
TAPE, TEXTILE

# Fibres in front.

## Globe-spanning technologies for flexible solutions.

### Plastic fibres going from strength to strength.

Fibres for textile and industrial applications have to face ever increasing requirements. Requirements which in many cases are fulfilled better by industrially manufactured, so-called plastic fibres rather than natural fibres due to their specific property profiles. More comfortable to wear, easier care, better colouring and a perfect balance between weight and strength are just some of the reasons in favour of the increasing use of plastic fibres not only in textile consumer goods, hygiene and household products, but also in the building and automotive industry. In today's cars, for example, around 35 m<sup>2</sup> of textile materials are already used in 40 applications – ranging from door and side panels and airbags to headliners. Visible nonwovens account for approx. 10% of these.

### Capitalising on waste as a cost-efficient secondary resource.

The trend towards higher quality fibres, nonwovens, tapes and textile fabrics faces increasing raw material prices and more stringent environmental regulations. As a result, the use of fibre waste as an inexpensive secondary resource is becoming a bigger factor in terms of efficiency – without affecting the quality of the end product.

### Solution competence from the Number One.

The challenges when recycling fibre waste from production are different to those with post consumer waste from collection systems. With EREMA, the pioneer of plastic recycling systems and the Number One in the global market, you can count on a partner who has many years of tried-and-tested know-how in all fields of fibre recycling.

### Key criteria:

- Size reduction required when processing large-volume input materials such as PP and PA fibre bales or PP tape piles
- Efficient decontamination required for large surfaces which are susceptible to dirt and moisture, especially in the case of hygroscopic materials and contamination through spinning oils
- Ultrafine and efficient filtration
- Minimum viscosity loss through the recycling process
- Extremely easy to operate



### EREMA because:

#### 1. Highly efficient recycling solutions for:

- **Large-volume input materials without additional size reduction**
- **Hygroscopic, moist and contaminated materials** (e.g. through spinning oils)

#### 2. Up to 100 % return to the production process

through optimum processing and sensitive recycling

#### 3. User-friendliness

Smart Start principle for extremely easy operation and maximum user-friendliness with EREMA systems



# Application-oriented.

EREMA solutions for future issues  
in fibre recycling.

## Growing challenges.

The rapidly increasing variety of fibre applications also means a growth in the potential of reusable in-house or post-consumer waste. Worldwide fibre production in 2011, for example, reached a new record figure of 82 million tonnes. As in previous years, the growth factor was the demand for manmade fibres and, in particular, for synthetic fibres which climbed to 48 million tonnes in 2011. Polyester products such as PET filaments and staple fibres account for some three quarters of the demand for synthetic fibres – i.e. 39 million tonnes – followed by PA, PP and PLA fibres.



# INTAREMA®

EREMA's new core technology with 3 groundbreaking benefits



## 1. Counter Current technology

- **Highest process stability through improved material intake** ensures constantly high output over a considerably broader temperature range
- **Higher flexibility** and operational reliability with a variety of materials
- **Increased throughputs** with the same plant size for more productivity



## 2. Smart Start

- **Remarkably easy to operate** thanks to logical, clearly structured and simplified handling and ultramodern, ergonomic touchscreen display
- **Fewer buttons, more user-friendliness** – thanks to high degree of automation including extensive control packages
- **The right recipe for every application** – saved processing parameters can be loaded easily and conveniently from the recipe management system at the push of a button



## 3. ecoSAVE®

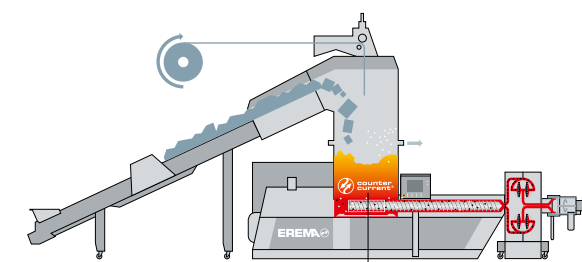
- **Lower specific energy requirements** thanks to a complete package featuring design and process engineering measures including the new direct drive for the extruder screw
- **Lower production costs** through optimised control technology and high-quality, energy-efficient components such as high-performance motors
- Additionally, the practical **energy display** on your operating panel gives you a constant overview of energy consumption at all times, thus enabling you to take specific measures to optimise consumption
- **Reduced CO<sub>2</sub> emissions** – an important contribution to environmental protection



## INTAREMA® T

In-house recycling solution for PP, PE and PLA applications

The compact INTAREMA® T system with short single-screw extruder without degassing is the ideal recycling solution for dry and clean PP and PE production waste which has not been contaminated by spinning oil. For optimum feeding the starting material must be available in dose-ready form or the size reduced accordingly.



The dynamically controlled EREMA preconditioning unit

### Application examples

- Nonwovens
- Tapes
- Filaments and fibres
- Geotextiles
- Raffia
- Dry and clean production waste, free from spinning oils
- Pre-shredded materials or dose-ready materials





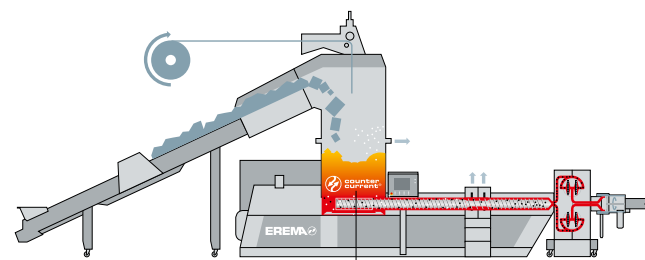
## INTAREMA® TE

### In-house recycling solution for PP, PE, PA, PET and PLA applications

The INTAREMA® TE system additionally features double degassing. This enables the processing of production waste with up to 8 % moisture content and up to 2 % contamination through spinning oils. INTAREMA® TE technology ensures minimal IV loss and is thus ideal for hygroscopic materials such as PET fibre waste.

#### Application examples

- Nonwovens
- Filaments and fibres
- Geotextiles
- Clean production waste with up to 8 % moisture content and up to 2 % contamination through spinning oils
- Pre-shredded materials or dose-ready materials



The dynamically controlled EREMA preconditioning unit



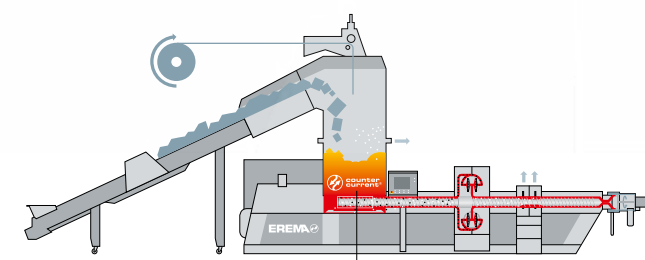
## INTAREMA® TVEplus®

### Recycling solution for PP, PE and PA applications from post consumer waste

The patented extruder system INTAREMA® TVEplus® is designed to handle clean or slightly contaminated and printed PP and PA applications. This is made possible through ultrafine filtration, thorough melt homogenisation and high-performance degassing in a single step.

#### Application examples

- Nonwovens
- Raffia nets
- Carpets
- Fibres
- Clean or slightly contaminated and printed post-consumer waste with up to 10 % moisture content
- Pre-shredded materials or dose-ready materials



The dynamically controlled EREMA preconditioning unit

# COREMA®

In-house upcycling solution for compounding



The modular system innovation COREMA® brings together for the first time all the benefits of recycling and compounding in a single process step. Here the proven, robust EREMA technology is used to turn recycling raw material such as PP nonwoven or PA fibres into a filtered melt which then goes directly to a co-rotating twin-screw compounding extruder. With its excellent mixing and gas removal properties this system component can handle all compounding tasks according to the customer's individual wishes. Besides the dosing of a wide variety of additives, fillers and reinforcing agents (e.g. 80 % CaCO<sub>3</sub>, 70 % talc or 50 % glass fibres) can be admixed in doses that are higher than those previously possible with EREMA recycling systems.

#### Application examples

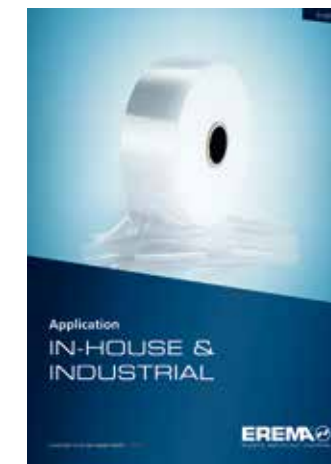
- PP nonwoven production waste with up to 70 % talc for highly filled PP/talc recyclates
- Silicone-coated PA 6.6 fibre or fabric waste from the production of airbags with up to 50 % glass fibres for injection moulding applications
- PP fibres contaminated with spinning oils

# Customised.

The right system for every application.

EREMA's product range offers the right recycling solution for every application scenario. Besides systems for the recycling of fibres, nonwovens, tapes and textile fabrics our range also includes in particular systems for the in-house recycling of production waste and heavily contaminated post consumer waste, food contact compliant bottle recycling plus special materials such as in automotive applications, compounding, bioplastics and WPC.

Additional application brochures available:



In-house & Industrial



Post Consumer



Bottle-to-Bottle  
Food Contact Approved



Inline Applications  
Food Contact Approved

**Headquarters & Production Facilities**

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