CIRFS

FACTS ABOUT

SUSTAINABILITY OF MAN-MADE FIBRES (#MMF)

- Oil-based feedstock used in European production of MMF amounts to **less than 0.1 % of world oil production**
- Many MMF are produced from **renewable natural resources** such as trees
- Use of **recycled materials** as a raw material source for **MMF** is large and growing, including factory waste, PET plastic bottles, fishing nets, carpets, and other types of post-consumer waste from textiles and other sectors
- A small but growing proportion of **MMF** production is based on innovative raw material sources such as **corn** or **vegetable oil**, and may move to **biomass** in future



- Production facilities occupy **little land** and use **very little water** compared with alternative natural fibres requiring large quantities for irrigation and processing - no fertilizers and pesticides
- A large proportion of man-made fibres is **dyed or delustered during the production process**, avoiding the need for water and energy-intensive dyeing at a later stage
- **Desirable characteristics** such as flame retardancy, anti-microbial and anti-odour properties can be **permanently built in** during production and inherently embedded in the fibre, avoiding the use of resource-intensive processing at a later stage and emissions to the environment from textile article treatments, and introducing less dermal contact of surface-applied substances

FACTS ABOUT MMF

RECYCLABLE

BIODEGRADABLE

DURABLE

LIGHT IN WEIGHT

REDUCING CO2 EMISSIONS

REDUCING WATER USE

REDUCING ENERGY CONSUMPTION

VERSATILE

INDISPENSABLE





- Certain types of **MMF** are **biodegradable**
- Concentration on production efficiency and quality by European **MMF** manufacturers is very high, resulting in a **great reduction of waste** during processing
- **MMF** are **easy to recycle** through mechanical recycling, chemical recycling and glycolisis
- If necessary, textile waste which cannot be recycled (including post-consumer waste) can be efficiently incinerated with **electricity and heat recovery**, because of the high calorific value of **MMF**



- Most **MMF** can be processed at **lower temperatures** than alternative materials, with large energy savings
- All European **MMF** producers respect strict European, national and local limits on **water and air emissions**, on **employee exposure levels** and on **chemical safety** (under **REACH**) – European regulations are among the strictest in the world
- All European MMF producers have invested heavily to **cut their energy consumption**, thereby **considerably reducing carbon emissions**



- **MMF** are **durable**, and can be developed for even higher durability at an acceptable cost, giving longer product life to apparel and household textiles, and a wide variety of technical uses
- **MMF** are **light in weight** and can be efficiently packed, allowing savings on resource use and transport costs
- **MMF** can be laundered at **low temperatures**, with large energy savings
- **Ultra-high strength MMF** such as carbon fibres can replace other much heavier materials such as steel
- **MMF** reinforcement of **composites** allows dramatic weight savings in aircraft, cars, trains, wind turbines, and containers



- **MMF** play an essential role in **geotextiles** for flood prevention, land slides and civil engineering projects
- **MMF** in **agrotextiles** help to protect food crops from adverse weather conditions, increasing yields and reducing food spoilage
- **MMF** are necessary in **filtration** to remove pollutants from air and water emissions
- **MMF** in **medical textiles** can accelerate the healing process (wounding, fixation) and are used in hygiene in a wide area of medical environments

CONTACT

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