



## TECHNICAL TEXTILES – CONCLUDING PART

REF: TT/ APR 2022/ WK 4

### OekoTech or Ecological Protection Textiles (Continued)

**Erosion protection material** - Erosion protection materials are used to build structures for wind and water erosion control. The most common structures are blankets, rolls and fences. Erosion protection blankets are usually woven forms made of one or more materials. They are used to cover soil and protect it from wind and water movements.

These products are designed to help solve erosion- and sediment-control problems and to provide long-term stabilization by vegetative cover. These products work with vegetation to form a bio-composite solution to erosion.

Degradable products are used to enhance the establishment of vegetation, such as on a rehabilitated lake shore or alongside a recently construction roadway. These products are used where vegetation alone will provide sufficient site protection once the erosion-control product has degraded.

Non-degradable products provide long-term reinforcement of vegetation. They are used in erosion-control applications where immediate, high-performance erosion protection is required. The materials extend the erosion resistance of soil, rock and other materials by permanently reinforcing the vegetative root structure.

**Landfill waste management** - The major application of Oekotech is in landfill waste management. It includes products used to prevent leakage of hazardous waste in landfills and suitable use of waste. With rapid urbanization, the waste management has become a major issue in India and Oekotech applications provide an effective way of managing the waste in an environment friendly manner.

### Summary

Technical textiles is a fast-growing segment which is used in different sectors. The end use application of technical textiles is widespread. The technical textile market is increasing in every segment, but also demands innovation and testing prior to adopting new products.

Technical textiles are engineered products with a definite functionality. They are manufactured using both natural as well as man-made fibres. While regular fibres like natural fibres and synthetic fibres (polyester, viscose, nylon, and polypropylene) cover maximum percentage of the total fibre used in



technical textiles, specialty fibres constitute the rest. Their characteristics like light weight, durability and thermal stability have led to an increase in the overall demand for such composite materials.

The fibers such as Nomex, Kevlar, Spandex, Twaron are used for their enhanced functional properties such as higher tenacity, excellent insulation, improved thermal resistance etc. The invention of specialty fibres and their introduction in different areas shows the importance of technical textiles.

These products find end-use application across multiple non-conventional textile industries such as healthcare, construction, automobile, aerospace, sports, defence, agriculture and smart textiles.

SMART TEXTILES
Smart textiles represent the next generation of textiles with use in several fashion and furnishing products.
These textiles consist of a textile structure that senses and reacts to different stimuli from its environment.
The development of smart textiles are the result of new type of textile fibers and structure, miniaturization of electronics and wireless wearable technologies.

**References:**

1. <https://www.technicaltextile.net/>
2. <https://ficci.in/>
3. <https://textilevaluechain.in>
4. <https://www.textileworld.com/>

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