



TECHNICAL TEXTILES – PART IV

REF: TT/ DEC 2021/ WK 1

HomeTech

A technical textile used in home furnishing and interior decoration is called HomeTech or HomeTech textile. HomeTech textiles are mainly used in cushion materials, carpeting, fireproofing, wall coverings, flooring and textile reinforced fittings etc. Hometech textiles also include vacuum cleaner filters, mattress and pillow fiber fillings.

The fibers used in these specific types of materials are characterized by a combination of properties including strength, flexibility, elasticity, softness, durability, heat insulation, low weight, water absorbency/repellence, dyeability and resistance to chemicals.

| KEY PROPERTIES OF FABRIC FOR HOME TEXTILES |
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| Tensile strength |
| Moisture absorption |
| Optical be like reflection / absorption of light and shape of fiber |
| Electrical and thermal characteristics such as fiber ability to dissipate static charge |

HomeTech textiles are made of both natural and synthetic fibers. Hollow fibers with excellent insulating characteristics are widely used in bedding and sleeping bags. The other types of fibers are also being used to replace foams in furniture. Non-woven fibers are used too; they are being used to make various household textile applications because it is breathable and washable. Non-woven fabric is used to make furniture, carpet components, air filtration, and water filtration etc.

Different HomeTech textile materials are:

- a) **Carpet backing cloth** – The underside of a carpet is called the backing. It secures the tufts and gives the carpet additional strength and dimensional stability. Most carpets have a double backing. The primary backing in which the yarn is tufted into and the secondary backing which is the outer material. Primary backing is manufactured mainly from synthetic fabric. Secondary backing is made of both jute and woven polypropylene. Carpet fibers are sewn into a primary backing, and then a secondary backing is fused to the fibers and primary backing with latex. Jute backing has certain limitations such as browning and rotting. Thus, the secondary backings used are majorly woven



polypropylene made of a leno weave of slit film and spun olefin yarns that forms a stretchable secondary backing fabric.

- b) **Stuffed toys** – These are made up of soft knitted fabrics stuffed with filling material. The outer fabric of stuffed toys is made of fur, fleece, polyester felt, acrylic plush fabrics, etc. The skin is stuffed with a variety of materials such as polyester staple Fiberfil, foam, cloth scrap, paper foam or cotton.
- c) **Blinds** - A window blind is a window covering composed of long strips of fabric or rigid material. Blinds are made of variety of materials, based on the aesthetic and functionality required. The desired functional performance include light and glare control, desired outside view, ease in handling and maintenance, acoustic performance, etc.
- d) **HVAC (Heating, Ventilating, and Air Conditioning) filters** - The HVAC systems are used in industries, commercial and residential buildings where humidity and temperature need to be closely regulated. HVAC filters are air filtration products. Filter media used in air filters are nonwoven fabrics laid perpendicular to the air flow to arrest the solid particles. HVAC filters are used in split and window type air conditioners as well as centralized air conditioning.
- e) **Mattresses and Pillows** - Mattresses and pillows are made of a filling material like coir, foam etc. which provides support to the body. Traditional mattresses are thick quilts made up of cotton stuffing. The protective fabric cover which encases the mattress is called ticking. Ticking fabric holds the filling material in place.
- f) **Nonwoven wipes** - Wipes can be woven, knitted or nonwoven. Nonwoven wipes have excellent absorption, softness and moisture retention properties. Wipes are available as dry wipe as well as wet wipe wherein the nonwoven fabric is impregnated with a solution.
- g) **Furniture Fabrics** - Fabrics are mainly used in furniture made for seating purposes. Hair, fiber, flock, foam are used for padding in upholstery whereas woven fabrics, plastics, leather and synthetic leather are used as coverings. Woven fabrics including flock and velvet are the most widely used furnishing fabrics in furniture.

References:

1. <http://www.technotex.gov.in/>
2. <https://www.fibre2fashion.com/>
3. <https://www.hsmemagazine.com/>
4. <http://www.ittaindia.org/>

.....To be continued.....

| UNSCRAMBLE THE JUMBLE WORDS |
|-----------------------------|
| THAEREL |
| RUFTINUER |
| NVELITGNITA |
| LVVEET |

Last week`s Answers: 1) CIRCULAR 2) BAFFLE 3) SHAPE 4) BOTTOM

Wishing you a great week ahead!

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