



# SPECIALITY TEXTILES FOR NONWOVENS

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## Speciality Textiles:

Speciality Textiles are those textiles that can be made from natural fibers such as wool and any animal furs and from synthetic fibers such as polyurethane, nylon, rayon, polyester, biocomponent, polyvinyl chloride, polyamide and many more like glass fiber, carbon fiber and other special fibers.



**NONWOVEN FABRICS:** Non woven fabrics are made in two ways

**FELTED FABRICS:** They are made by compressin and matting short stable fibres together and then shrinking the fabric to make the fibres lock together.

Felted fabrics are made up of wool and other animal furs which generally produces highest quality and softest fabrics with good durability.wool is ideal because it has natural scale which helps fibres to get interlock with each other.

Synthetic fibres cannot felt themselves directly,they can only be felted if combined with wool which can improve quality of a product depending on its use.typical combinations includes nylon and wool or polyester or wool.



**BONDED FABRICS:** Bonded fabrics are made from three main methods.

- **DRYLAID:** A web of fibers is laid in a drum and then heat is injected to lock the fibers together.
- **WETLAID:** A web of fibers is mixed with a solvent which helps in softening of those fibers and then a glue like substance is released which further helps in bonding the fibers together and then that web is placed to dry.
- **DIRECT SPUN:** The fibers are spun onto a belt and glues are sprayed on them which are then pressed to bond. If fibers are thermoplastic which means they will change their shape during heating so for such fibers glues are not required.



# BONDED AND FELTED FABRICS APPLICATION:

BONDED FABRIC APPLICATIONS: Disposable products such as

- Medical masks
- Table linen
- Dress making
- Used for stiffening and strengthening of fabrics

FELTED FABRIC APPLICATIONS:

- Hats
- Jackets
- Snooker table covers
- Pouches
- Gloves
- Surgical gowns
- Isolation gowns
- Hand wipes
- Grocery bags



# **NONWOVEN MEDICAL TEXTILES:** Speciality Textiles includes medical textiles

The non woven medical textiles includes a vast range of applications:

- **Bandages:** light support bandages,orthopedic bandages,compression bandages and simple bandages.
- **DISPOSABLE SURGICAL TEXTILES:** Includes surgical gowns,masks,bedsheets,caps,blank ets,protective clothing,drapes and anti allergic gloves.

## **FIBERS USED TO MAKE MEDICAL TEXTILES:**

- ◆ COTTON
- ◆ POLYESTER
- ◆ VISCOSE GLASS FIBER
- ◆ POLYAMIDE
- ◆ POLYPROYLENE
- ◆ WOOD FLUFF



## HUGE SCOPE OF NONWOVENS IN

**MEDICAL TEXTILES:** NonWovens have some following properties due to which they are famous in medical field:

- ❑ NonWovens can be sterilise easily.
- ❑ Porosity
- ❑ Thinkness
- ❑ Weight of fabric
- ❑ Less Expensive

For example surgical mask are made from nonwoven fabrics from plastics and polyproplene to filter and protect

# MEDICAL APPLICATIONS





**FIBERGLASS FABRIC:** Fiberglass fabric also comes under speciality textile:

- NonWoven fiberglass fabrics are made up very fine glass fibres which are uniformly distributed with a flat surface.
- They are durable and soft, they can also be made to perform a variety of functions like absorbency, flame retardency, thermal insulation and are strong and lightweight fabrics and have amazing tear strength.
- One of the most common uses of nonwoven fiberglass is in roofing industry. its actually made to mask the cracks on the walls and it strengthens the surface, giving it the mechanical strenght and further preventing it from cracks.
- Fiberglassfire fabric with silicon coating increases the thermal insulation, is fireproof and have oil resistance quality so they are also used in aerospace.

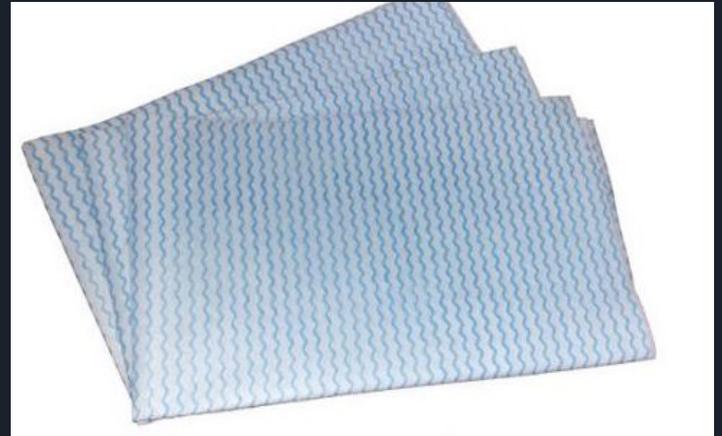
# FIBER GLASS TAPES





**VINYL AND POLYESTER:** Polyester and vinyl come under speciality fibers so they are used to make speciality fabrics.

- **NON WOVEN MARINE COVERS:** So vinyl and polyester composite fabric is used to make boat and marine covers. As They are lightweight, water resistant, can be clean easily and mildew resistant as well. vinyl can be coated with some environmental friendly chemicals which provide UV ray protection and dust resistance quality.
- Nonwoven polyester fabric is also used to make cleaning wipes.
- vinyl is also used to make non woven wallpapers which have good durability and tear resistance, they are light weight and can be remove easily from wall.



**Non woven polyester cleaning wipes, nonwoven boat cover and vinyl non woven wall papers.**



## FELT FABRICS:

Felt fabrics are non woven that can be made from wool and synthetic fibers such as polyester .It is made with the combination of heat,pressure and many chemicals to create dence fabric with fuzzy surface. CRAFT Felted nonwoven fabrice are made up of **polyester** is used to make stuff toys and childern costumes.





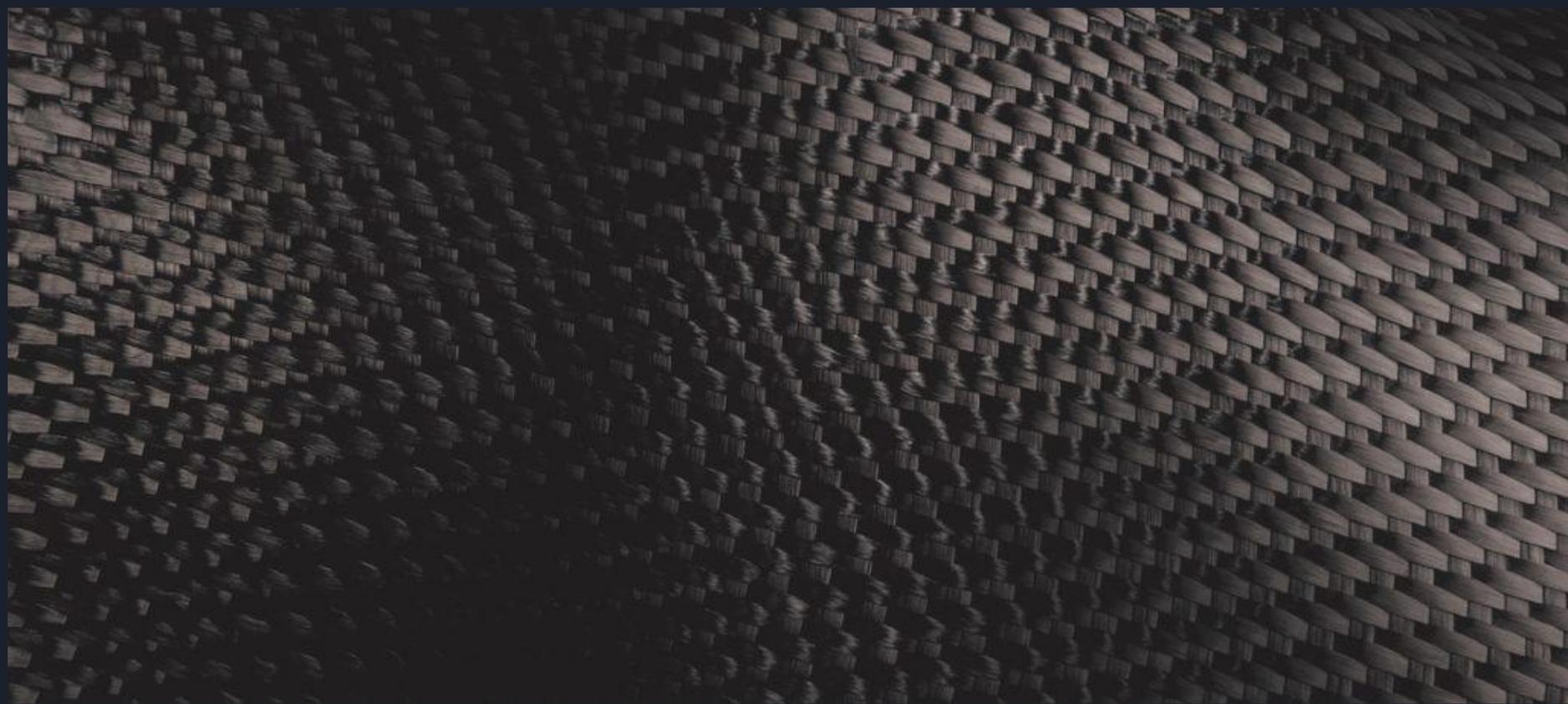
**CRAFT FELTED CHILDREN MASK AND TOYS**



## CARBON FIBERS:

Carbon Fiber is made up of carbon atoms bonded together to form a long chain. Carbon fiber is not used on its own but mixed with a resin (like plastic) as fiber reinforced materials. Carbon fibers are light weight fibers, they have high tensile strength, high chemical resistance.

**REINFORCED NONWOVENS FOR FILTRATION:** Due to carbon fibers good chemical resistance quality and high temperature strength enables the use of carbon fiber textiles in **filtration applications.**



Carbon textile used in filtration purposes



**BIOCOMPONENT FIBERS:** Biocomponent fiber is a speciality fiber used to make non wovens.

Biocomponent fibers are made from two different polymers of different chemical and physical properties extruded from the same spinneret with both polymers within the same filament.

### **APPLICATION IN NONWOVENS:**

- Used to make personal care products like diapers, wet wipes and feminine products.
- Due to its light weight and good strength it is used in automotive industry including seat belts, seat covers, floor mats and carpets.

# carpets



**THANK YOU!**

