

Lesson 6.1 Fabric Types

All fabrics are manufactured from natural, artificial raw-materials or a mix of both. They can be categorised as below:

Natural fabrics created from the fibres of animal coats, the cocoons of silkworms, plants seeds, leaves and stems. They are breathable soft, strong, and durable.

Synthetic or man-made fabrics are made from fibres which are either non- organic materials or organic materials combined with chemicals. They have numerous properties depending on their end use. Some are lightweight and ultra- sheer while others are moisture repellent and fast drying.

Industrial fabrics are usually made from synthetic man-made fibres like fiberglass, carbon, and aramid fibres. They come in a wide variety of widths and weights. These fabrics are particularly made to meet a specific application and are primarily used for filtration, marine and recreational products, insulation, electronics, construction, and protective garments.

For a tutorial on fabric types watch the following video:



<https://vimeo.com/586197149/7bab088744>

Fabric Construction

All fabrics are made from fibres that are twisted together to make yarn. The yarn is then knitted, woven, or moulded together to make fabric. The basic construction and structure of woven, knitted, and non-woven materials are as follows:

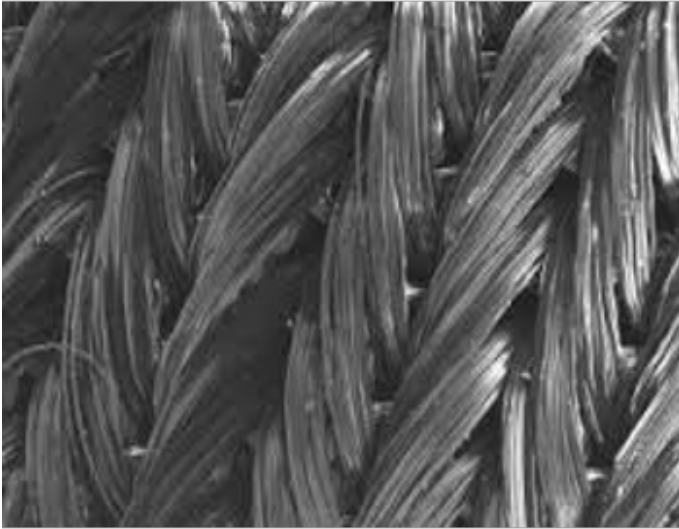
Woven fabric



Woven fabrics are made using the weaving process, this means there are two sets of straight yarns which cross and interlace with each other. The lengthwise yarns are known as warp yarns and width wise yarns are known as weft. The main characteristic of woven fabric is that they are strong and ridged. They fray easily when cut, they don't stretch much and the closer the weave the stronger the cloth, types of woven cloth include:

- Plain cotton
- Polycotton
- Canvas
- Satin
- Twill fabrics such as denim

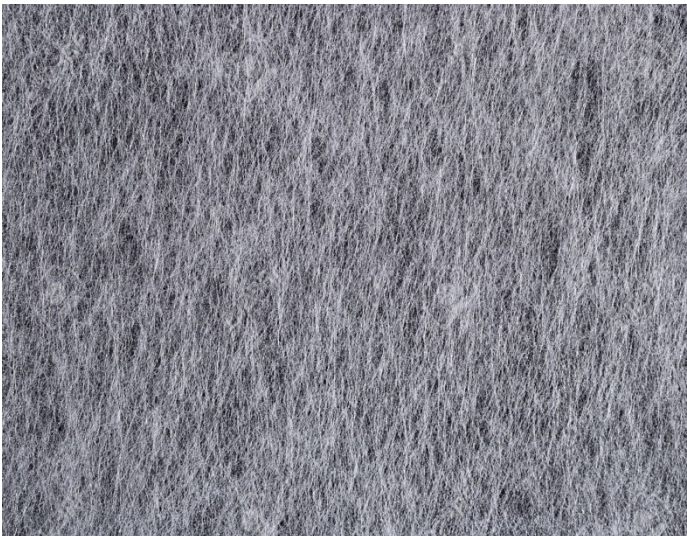
Knitted fabric



Knitted fabrics are created by interlocking loops of yarn until a secure looped structure is achieved. This is the knitting process. The main characteristics of knitted fabrics are that they are stretchy, flexible and can unravel or ladder easily, types of knitted cloth include:

- Jersey
- Fleece
- Velour
- Lycra

Non-woven fabric



Non-woven fabrics are made of fibre held together by fusing or a bonding agent. Nothing is processed on looms or knitting machines. The main characteristic of non-woven fabric is that they are often brittle and weak, can be easily torn and they break rather than stretch. Types of woven fabric include:

- Interfacing
- Felt
- Wadding



GROUNDWORK: Completing this groundwork is an option, but it is recommended. Completion will help you to better understand your role, your company, and internal processes and procedures. For those undertaking an apprenticeship

these activities will help you gather information relevant to the End Point Assessment.

Note: For those learners, who are independent and not yet working as an employed production sewing machinist, alternative recommendations are included.


To complete the groundwork for this lesson, collect nine small samples of different fabric:



- Three non-woven
- Three woven
- Three knitted

Create a table, on an A4 sheet, with four columns like the one below.

Attach each piece of fabric, one after the other in the first column. In the column next to the sample, list the name of the fabric type, in the third column list the fabrics characteristics, and in the fourth column suggest a product that it could be used for.

See the example below:

FABRIC	FABRIC TYPE	CHARACTORISTICS	WHAT CAN IT BE USED FOR
	woven Natural Fabric	Cotton Drill is quite stiff (softens when washed), it is durable and it strong	Heavier weights are used for Jeans etc Lighter weights for bedding etc

	<p>Synthetic woven</p>	<p>Synthetic Velvet has a soft pile, it drapes well and is luxurious</p>	<p>Synthetic velvet can be used for clothing, (heavier weight cotton velvet is used for curtains and furniture)</p>
	<p>Industrial Non-woven</p>	<p>Waterproof reflective fabric is stiff and functional, once sewn it cannot be unpicked without leaving holes</p>	<p>Waterproof reflective fabric is used for PPE garments</p>

Here is the first knowledge challenge of the course.

These are short self- assessments designed to help you remember the lesson content and aid your learning.

- Each challenge contains one or more questions. They can be single or multiple choice, fill in the blanks or sorting questions.
- You need to complete each challenge correctly before you can go onto the next one.
- You can repeat the challenges as many times as you need to.

You need to complete each challenge correctly to be awarded your UKFT certification.

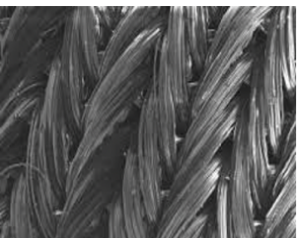
Knowledge Challenge 6.1



1. From the list below, what two raw materials could be used to make natural fabric?

- Fibre glass
- Animal fur
- Chemicals
- Plant leaves

2. From the list below, what two raw materials could be used to make synthetic fabric?

- Heat resistant fibres
 - Animal skins
 - Chemicals
 - Plant seeds
3. Which raw material is non-organic and can be combined with chemicals to form fabric?
- Natural fabrics/materials
 - Synthetic or man-made fabrics/materials
4. Yarn can be constructed (brought together) in three ways to make fabric. Select the three ways from the list below.
- Glued
 - Knitted
 - Taped
 - Moulded
 - Woven
 - Knotted
5. Draw a link to link the correct image to the fabric description

	<p>Non-woven fabric made of fibre held together by fusing or a bonding agent. Not processed on looms or knitting machines.</p>
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	<p>Woven fabric created using the weaving process, two sets of straight yarns cross and interlace with each other. The lengthwise yarns are known as warp yarns and width wise yarns are known as weft.</p>
	<p>Knitted fabrics created via the knitting process, by interlocking loops of yarn until a secure looped structure is achieved.</p>

6. From the list below identify two characteristics of knitted fabric

- Rigid and stiff
- Ladders and unravels easily
- Stretchy
- Brittle and weak

7. From the list below identify two characteristics of woven fabric]

- Stretchy and flexible
- Weak and brittle
- Strong and rigid
- Frays when cut

8. From the list below identify two characteristics of non-woven fabric

- Weak and brittle
- Strong and rigid
- Stretchy and flexible
- No stretch

9. Identify two woven fabrics from the list below:

Fabric	Fabric Type
Jersey	Woven
Plain cotton, polycotton or canvas	
Felt	Non-woven
Twill fabrics such as denim	
Lycra	Knitted
Interfacing	

10. Identify two non- woven fabrics from the list below:

Fabric	Fabric Type
Jersey	Woven
Plain cotton, polycotton or canvas	
Felt	Non-woven
Twill fabrics such as denim	
Lycra	Knitted
Interfacing	

11. Identify two knitted fabrics from the list below:

Fabric	Fabric Type
Jersey	Woven
Plain cotton, polycotton or canvas	
Felt	Non-woven
Twill fabrics such as denim	
Lycra	Knitted
Interfacing	

The next lesson is about the variety of different fabric available, what they are used for and how to handle them when sewing.