

A training programme designed to support the growing demand for industrial sewing skills



### Lesson 5.1 What are Quality Standards?

Quality Standards depict the level of acceptance of a product. This is called the Acceptance Quality Level (AQL) and takes into consideration the design, materials, workmanship,

processes, and product finish. The AQL is usually defined by the manufacturing company themselves, it may vary across different products and is often developed in agreement with customers. When developing the AQL the company will consider the design, specifications, manufacturing processes, and end use.

Standards may also be established by authorities, such as health and safety regulators, the British Standards Institute (BSI) or International Standards Organisations (ISO) 1. These standards are usually used by larger companies and aim to achieve overall quality in relation to workplace rules, guidelines, parameters, processes, services, equipment, and workmanship

The AQL we will focus on in this module are the ones you work to as a production sewing machinist when making a product. They are usually documented in product specifications or Standard Operating Procedures (SOPs), they may be communicated by providing a sample or via verbal instructions.

Whatever way the AQL are communicated in your company they are intended to control work and help you achieve quality requirements Whether you work as a production sewing machinist in fashion, home textiles, medical textiles or in another area of the sewn product industry you will work to specifications specific the product you make. However, it is useful to understand and recognise the general quality standard related to the market you make for. In general, quality standards, range



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from basic to high, depending on the target market and the product price point. (Basic being acceptance of low quality e.g., poor finish, cheap fabrics and high being expensive cloth and hand finished) For example, in the fashion industry there are approximate seven types of market all of which sell at different price points and work to a different quality manufacturing standard. The following table demonstrates the different requirements in relation to each type of market.



**Haute Couture**: Bespoke garments which have been constructed by hand, made from high quality, expensive fabric. Items are sewn with extreme attention to detail and finished by skilled experienced sewers. Prices are in the thousands and Haute Couture includes fashion houses such as Chanel, Christian Dior, Versace, and Valentino.

**Luxury Brands**: This includes high quality designer brands; items are still priced in their thousands. Luxury items are produced rather than hand-made; however, they are not mass-produced. Luxury brands include Louis Vuitton, Hermes, Gucci, Prada, and Burberry.

**Bridge Brands:** Offer a range of classic pieces which focus on giving the highest quality possible within an affordable price bracket. Production methods are high level, typical entry price is £50.00, and prices increase depending on different designs/items. Bridge Brands include names like Reiss, Whistles, Jaeger, Ted Baker

**Diffusion Lines**: Created by luxury labels as a more budget friendly, secondary line. Diffusion is produced in bulk, but is still not mass produced, the entry price for products can be anything between  $\pounds 40 - \pounds 400$  depending on the type of item, well known diffusion lines include RED by Valentino, DKNY by Donna Karen, CK by Calvin Klein

**High Street:** This includes reasonably priced items that can be found nationwide in most towns and cities. The products are mass produced so cost be bought down as much as possible. However, manufacturers still maintain a good AQL and produce for High St retailers such as Marks & Spencer's, John Lewis, and Debenhams

**Fast Fashion**: Manufacturers who produce for brand names like Topshop, Zara, and H&M, with quick turnover work to a reduced AQL to get new trends to the market as quickly and as cheaply as possible. Typically, a fast fashion brand is known for their ability to develop a new product and have it the stores within just two weeks.



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#### 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. Make sure you click 'to continue' this will allow you to take the next challenge
- You can repeat the challenges as many times as you need to.
- The table at the end of each lesson indicates the challenges you have completed.

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



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### Knowledge Challenge 5.1

- 1. What is 'Acceptable Quality Level'
  - The level of quality you need to work to
  - A set of guidelines only
  - Quality levels that do not need to be met

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- 2. Is it more important, to get the job done quickly or to meet acceptable quality levels?
  - To meet acceptable quality levels
  - To get the job done quickly
  - To get the job done quickly whilst meeting the company's acceptable quality levels
- 3. Quality standards usually depend on the target market and the product price point. Number the seven types of market below in order from top quality to basic quality.
  - High Street
  - Fast fashion
  - Economy
  - Bridge Brands
  - Haute Couture
  - Luxury Brands
  - Diffusion Brands



**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 unit, check out the quality standards or acceptable quality levels for one of the products you make or help to make. How are they communicated? If hard copies are printed and circulated to all those involved in the production process, obtain a copy, add it to your folder and highlight the areas that relate to your job role. If there are no written quality standards or acceptable quality levels. Write your own. See a simple example below:

Product: Lycra Leggings Style Number: 123	Acceptable Quality Level
	Side seams: 5 thread overlocked together: Do not trim off more than 3mm
	Inside leg seams: 5 thread overlocked together: Do not trim off more than 3mm
	Crutch seams: 5 thread overlocked together: Do not trim off more than 3mm
	Hem: Cover stitched: 1.5 cm turn, straight and even
	Waistband attach: Fold waist band. ensure a central fold and ensure the band is not twisted.
	<ul> <li>Attach band using a 5 thread overlocker. Do not trim off more than 3mm</li> <li>Ensure the back seam of the band is central</li> </ul>
	Labels: Attach the correct size label into back crutch seam 5cm down from waistline. Attach brand label, on center back waist band, ensure it is sewn on straight, stitched all around, stitching 1mm from the bale edge.
	Note: Do not over stretch fabric. This will cause waving and is not acceptable.



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As mentioned previously, quality standards differ across the industry, depending on the market the product is made for. A high-end fashion brand will have different quality standards to a fast fashion brand. The differences may be in the quality of materials and trimmings or in the processes used to manufacture the item.

See the example below demonstrating how quality standards can differ across high end and fast fashion production. The product will look similar, but the material, trimmings and making up methods will enable cheaper production.



The overall look of the finished item will be similar, but on inspection the basic production shirt will be made from inferior fabric, checks will not match, the colour may run, seams/hems will be weak, cuffs will not adjust, button may break easily, the general finish will be poor, and the item will have a shorter life cycle. It will, however, be cheaper to produce and be more affordable to an end user.



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Watch the video below for an introduction to quality standards. We recommend that you watch this video right through to the end, it covers AQL and the shirt example above but continues across subject areas within the whole lesson. You can refer to it as you progress (reference points are highlighted in each section)



Module 5.1 Quality Standards

### https://vimeo.com/585799104/a5eaf5902e

# How are Acceptance Quality Levels decided and put in place?

When working in production sewing all products (of the same design) must be consistent, this means they must be produced to the same measurements, shape, quality standard and finish. There are different quality control systems and processes that check against the required acceptance quality level used across the industry. Quality Control checks usually take place throughout production and includes checks on fabrics and trimmings, colour fastness, fit, seams and stitching and finish. But it is important **not** to rely on quality control systems. Quality Assurance is the ukft.org

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responsibility of **every** individual within production. There are three key things to be aware of when working to acceptable quality levels:



#### Consistency

Items must be produced uniformly to the same standard throughout the production processes



#### Cost

The objective is to keep costs as low as possible whilst meeting and maintaining quality standards. Errors cost to repair and returns result in lost revenue and possibly lost customers



#### Time

Customers want orders that meet quality standards on time. If deadlines are not met, the value of the product can be decreased, orders can be cancelled, and the company's reputation will be damaged

### **Quality Assurance**



Quality assurance means companies rely on **all** staff to check items across **all** stages of the production process as shown above This means everyone from every part of the production process takes responsibility for delivering quality and checking your own work regularly is vital.

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Depending on the size and output of your company there may be a separate Quality Control (QC) department or person, carrying out some or all the QC processes below:

- In line inspection: Checks made during the assembly of the product.
- **Roaming inspection:** Checkers roam around the line and randomly check pieces.
- **Traffic light inspection system:** Each operator is given a card for measuring their quality performance. Random checks take place, checker marks red or green on the card following rating criteria.
- End of line inspection: 100% check of the finished item.
- Audit of checked pieces: Occasional audits of checked items.

Watch the 5.1 Quality Standards video, times **11.23 to 13.16** for more information on quality control and assurance.



#### Module 5.1 Quality Standards

https://vimeo.com/585799104/a5eaf5902e

ukft.org

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### Knowledge Challenge 5.2

- 1. Who is responsible for the quality of the product being made?
  - The quality assurance staff/department
  - Everybody involved in making the product
  - The supervisors and managers
- 2. There are the three things that need to be considered when assuring quality. They are consistency, cost, and time. Finish the sentence below to explain why consistency need to be considered?

Consistency needs to be considered because...

- All products of the same design must be made to same quality standard
- All products must be similar
- All products can be made to different quality standards
- 3. There are the three things that needs to be considered when assuring quality. They are consistency, cost, and time. Why?

Finish the sentence below to explain why production costs need to be considered?

Production costs need to be considered because...

- Repair and returns are costly and may result in lost revenue
- The product needs to be made as cheaply as possible
- Cost is the more important than quality



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4. There are the three things that needs to be considered when assuring quality. They are consistency, cost, and time. Why? Finish the sentence below to explain why time needs to be considered?

Time needs to be considered because...

- Customers will go elsewhere if they don't get their product on time
- Workers need to get to the breaks on time
- Products have to be made fast regardless of quality
- 5. As a production sewing machinist when should you conduct quality checks?
  - Beginning, during and at the end of production
  - At the end of production
  - Before carrying out the production process



### How are Acceptance Quality Levels communicated?

Quality requirements are communicated in different ways depending on company processes and communication protocol.

In most companies' quality requirements are either written, verbal or a product

sample is shared. As a production machinist the best and most effective way to understand the quality standards and what is required is to receive written specifications accompanied by a sample and supported by verbal instruction.



The documents that usually state the AQL are called product specifications or spec sheets and are often attached to the sample, cut product or batch. By referring to the document and/or sample, sewing machinists and other members of the production team can ensure consistency and quality standards.

Whilst completing this section refer to the 5.1 Quality Standards video, timing 14.15



### **Product Specifications**

A standard specification sheet usually contains the following information:

- Sketch or design of the product: Showing the basic look of the required item
- Style number and size
- Fabric sample
- Measurement chart relating to the product
- Stitch instruction e.g., Stitch type, thread type etc.
- Tolerances e.g., seam allowance, measurements, waste limits
- Quality Standards e.g., flat seams, straight hems, distribution of even gather etc.
- Label Instruction e.g., type and position of label, care label, size label



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Most companies' quality requirements are written and shared with production staff, they may be accompanied by a sample, or they could just be communicated verbally. The documents that usually state the AQL are called product specifications or spec sheets and are often attached to the sample, cut product or batch. By referring to the document and/or sample, sewing machinists and other members of the production team can ensure consistency and quality standards. However, this depends on how your company communicates information. A specification sheet can be a detailed description of the product, the production method and quality requirements or a simple set of instructions.

See specification sheet examples below and additional examples within the 5.1 Quality Standards video.





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### **Example 2**



### **Example 3**





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### **Example 4**



As mentioned, specifications may be accompanied by a sample. The machinist to check and refer to the samples, this is very helpful when making a product for the first time. Some companies may just communicate specifications verbally along with the sample.

Your company may also use a document called a Standard Operation Procedure (SOP) for each product. SOPs are step-by-step instructions compiled to help staff carry out operations. SOPs aim to achieve consistency, efficiency, quality standards and uniformity in the way the job is done. They often include quality requirements and specifications. There is more about SOPs in Section 5.4.



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### Knowledge Challenge 5.3

1. When working in production, what is a sample and how can you use it to help you meet quality standards?

Select two correct descriptions from below:

- A sample is an example of a product that meets quality standards and can be used to refer to (as a guide) when reproducing that item
- A sample is for marketing purpose only and is not useful when producing the product
- A sample is made by a sample machinist and is an example of the way the product should look and be made.
- A sample is a trial product, made when developing the product and it is then disposed of.
- 2. What is the best, most informative, and effective way for a production machinist to receive Quality standards and instruction?
- Written instructions/specifications
- Verbal Instruction/specifications
- Verbal Instruction/specifications
- Written specifications with a sample and supported by verbal instruction
- A sample product
- Verbal instructions with a sample

3. From the list below identify three key pieces of information that are included on a specification sheet.

• Product size

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- Health and safety instructions
- Target times/deadlines
- Product design/sketch
- Company dress code



### Quality - Do your bit!

Quality is the responsibility of the whole workforce. But, as a Production Sewing Machinist, you are responsible for the quality of the items you handle and sew. You must know the AQLs for each product you make, understand the

consequences of sub-standard work, be able to identify faults and know how to deal with them.

Prevention of faults is obviously better than cure. If a fault is found early less time is wasted, costs are saved, and product quality is maintained. Faults are less likely to arise if you know, and work to the AQL and keep within the given tolerances for accuracy and wastage – **aim to get it right first time.** 

To support this section, watch the 5.1 Quality Standards video , timing **13.16** 

Serious faults may not be correctable, leading to waste of resources, time, and materials. Less serious faults still cost time to correct. In some cases, the fault may not be worthwhile correcting, creating a serious threat to meeting production targets and customer expectations.

Quality assurance in practice means that as well as getting it right first time, you need to identity faults and deal with them. This means checking the product at three stages:

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#### **Check quality three times!**



#### Before you start the job

- Check all product components are present and correct i.e. cutting faults, missing pieces etc.
- Check the documentation does the job match the specifications i.e., size, order numbers, colour etc.

Check thread match and ensure you are using the correct needle

• Check machine settings i.e. stitch length, tension etc. Check any previous work done by another machinist

#### During the job

- Ensure you use the right method in the right sequence
- Keep an eye on the stitch i.e. tension, balance
- Report any component/assembly problems i.e. poor fit, fabric issues

#### At the end of the job

Ensure the finished job is correct before moving it on to the next process.

• Report any issues with the finished job.

### Follow the golden rule

THE GOLDEN RULE Do not add quality to a faulty product Do not add poor quality to a perfect product



### Timings

Alongside quality standards, a production sewing machinist must also meet quantity requirements within given time scales. This means you need to be able to complete operations/ jobs in the required time at an acceptable quality level.

How and why timings are in place is covered in the next section of this unit (5.2). But before you go on to the Skills Challenge it is important that you recognise and understand that quality levels need to be met within the given timing.

The timing is usually communicated, along with the quality requirements on the specification sheet or Standards Operating Procedure (SOP).

### Knowledge Challenge 5.4

- 1. What is the main reason why it is important to know, and to work to the acceptable quality standard?
  - To prevent faults and sub-standard work
  - To help with carrying out the process
  - To communicate issue and problems
- 2. How can you help prevent product faults and unnecessary repairs?
  - By checking your own work regularly against AQL
  - By checking work when you receive it, during the production process and at the end of the production process
  - By leaving quality checks to quality control inspectors or higher-level members of staff
- 3. Check out the quality statement below and fill in the gaps. The Golden Rule:

Do not add quality to a faulty product Do not add poor quality to a perfect product



#### 4. Finish the sentence below by choosing the right text

Products need to meet the acceptable quality level...

but faults are acceptable if the product is made within the given timescale

and made with no time constraints.

and made within a given timescale

### **Production Study**

This study will help you put what you have learnt so far, related to quality standards and quantity requirements into action. The study comes in two parts.

#### Study 1

View the SOP below, this document provides the specification and process for making a pair of simple child's shorts. It gives details of the components, measurements, tolerances, assembly sequence and timing.

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Now watch the video 5.1 Production Study 1. It is approximately 11 minutes long and demonstrates the production of the shorts.



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Module 5.1 : Production Study 1

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### https://vimeo.com/580217312/b004964acf

After studying the SOP and the working process in the video think about:

- How the process is being carried out
- What is the machinist doing wrong?
- How can the process be improved?

Make notes on each point. If working in a group, watch the video together and discuss the points above.

Now complete the Knowledge Challenge below:



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### **Knowledge Challenge 5.5**

- 1. From the list below highlight five things that the machinist is doing, that she should **not** be doing.
  - Drinking at the machine
  - Using scissors to cut thread
  - Working with a needle guard on
  - Stretching and walking to collect work
  - Not referring to and following the SOP
  - Sewing neatly to meet quality standards
  - Unbundling and sorting at the machine
  - handling work correctly

2. There is lots of things she can do to improve the way she is working from the list below tick five

- Check SOP/ specifications/instructions/sample regularly
- Ask colleagues to fetch labels, threads or things required to carry out the job
- Set up workstation and machines to ensure no unnecessary movement
- Organise work so it is close to hand
- Use the machines automatic cut off system
- Reset the stitch length
- Fill the spool as she is working
- Change the needle size and type



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Below is a list of the things that the machinists did wrong. Following your review of the process, did you identify any of the points listed?

<ul> <li>No reference to the specifications or instructions</li> </ul>
<ul> <li>Components not checked</li> </ul>
<ul> <li>Machine settings not checked or tested</li> </ul>
<ul> <li>No spool being refilled</li> </ul>
<ul> <li>Drinking at the machine</li> </ul>
$_{\circ}~$ Cluttered machine area (thread and cup)
$_{\odot}$ The machines are set up so walking to the OL is required
<ul> <li>Work is behind the machinist, not to hand so causing</li> </ul>
unnecessary stretching
$_{\odot}~$ Work is being unbundled and sorted at the machine
<ul> <li>The wrong sequence of assembly</li> </ul>
<ul> <li>No top stitching applied</li> </ul>
<ul> <li>Scissors are used to cut threads</li> </ul>
$_{\odot}$ Labels are in the machine draw and need to be cut
<ul> <li>Labels are returned to the draw</li> </ul>
<ul> <li>Hem and top turning depths not checked</li> </ul>
<ul> <li>No reinforcement on side seams at hem</li> </ul>
$\circ$ Finished work left in machine top, not returned to basket for the
next process
<ul> <li>Production time is too long</li> </ul>
e rreduction time is too rong



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### **Production Study 2**

Now watch video 5.1 Production Study 2. This video demonstrates the production of the same pair of shorts but shows changes that can be made to improve quality, working practices and speed up the process.



### Module 5.1 Production Study 2

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### https://vimeo.com/585816462/f284b60251

After studying process used in the video, think about the differences between the workstation, process, and activities in each production study.

- How the process is being carried out
- How has the workstation been changed?
- Is there anything else that can be done to help improve and speed up the process.

Make notes on each point. If working in a group, watch the video together and discuss the points above.

Now complete the Knowledge Challenge below:



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### **Knowledge Challenge 5.6**

- 1. From the list below highlight the **top two** things that the machinist did that ensured **quality** standards were met.
- She checked the Standard Operating Procedure and her work before and during and after production
- She ensured she was working safely with the needle guard on
- She followed the correct sequence of assembly within the Standard Operating Procedure
- She rearranged her workstation
  - From the list below highlight the top **five things** that the machinist did differently in Production Study 2 to ensure **no** time was wasted.
  - Her hair was tied back, and she wore flat shoe to ensure he was working safely
  - Set up machines to ensure no unnecessary movement
  - She organised work so it was close to hand
  - She checked the SOP and sample regularly
  - She used the machines automatic cut off system
  - She organised labels so they are pre-cut and to hand
  - She made sure the machine was clean and the setting correct
  - She filled the spool as she worked
  - She ensured her chair was set at the correct height

# Now go onto Lesson 5.2 and learn about meeting quality standards whilst achieving quantity requirements.