What Is Quality Control?

Quality control (QC) is a process through which a business seeks to ensure that product quality is maintained or improved. Quality control requires the company to create an environment in which both management and employees strive for perfection. This is done by training personnel, creating [benchmarks](https://www.investopedia.com/terms/b/benchmark.asp) for product quality, and testing products to check for [statistically significant](https://www.investopedia.com/terms/s/statistically_significant.asp) variations.

A significant aspect of quality control is the establishment of well-defined controls. These controls help standardize both production and reactions to quality issues. Limiting room for error by specifying which production activities are to be completed by which personnel reduces the chance that employees will be involved in tasks for which they do not have adequate training.

**Quality Control**

KEY TAKEAWAYS

* Quality control (QC) is a process through which a business seeks to ensure that product quality is maintained or improved.
* Quality control involves testing units and determining if they are within the specifications for the final product.
* The quality control used in a business is highly dependent on the product or industry, and several techniques exist for measuring quality.
* The food industry uses quality control methods to ensure customers do not get sick from their products.
* Quality control creates safe measures that can be implemented to make sure deficient or damaged products do not end up with customers.

Understanding Quality Control

Quality control involves testing units and determining if they are within the specifications for the final product. The purpose of the testing is to determine any needs for corrective actions in the manufacturing process. Good quality control helps companies meet consumer demands for better products.

Quality testing involves each step of the manufacturing process. Employees often begin with the testing of [raw materials](https://www.investopedia.com/terms/r/rawmaterials.asp), pull samples from along the manufacturing line, and test the finished product. Testing at the various stages of manufacturing helps identify where a production problem is occurring and the remedial steps it requires to prevent it in the future.

The quality control used in a business is highly dependent on the product or industry. In food and drug manufacturing, quality control includes ensuring the product does not make a consumer sick, so the company performs chemical and microbiological testing of samples from the production line. Because the appearance of prepared food affects consumer perception, the manufacturers may prepare the product according to its package directions for visual inspection.

In automobile manufacturing, quality control focuses on how parts fit together and interact and ensure engines operate smoothly and efficiently. In electronics, testing might involve using meters that measure the flow of electricity.

Quality Control Methods

There are several methods of measuring the performance of quality control. A [quality control chart](https://www.investopedia.com/terms/q/quality-control-chart.asp) is a graphic that depicts whether sampled products or processes are meeting their intended specifications—and, if not, the degree by which they vary from those specifications. When each chart analyzes a specific attribute of the product, it is called a univariate chart. When a chart measures variances in several product attributes, it is called a multivariate chart.

X-Bar Chart

Randomly selected products are tested for the given attribute or attributes the chart is tracking. A common form of a quality control chart is the X-Bar Chart, where the y-axis on the chart tracks the degree to which the variance of the tested attribute is acceptable. The x-axis tracks the samples tested. Analyzing the pattern of variance depicted by a quality control chart can help determine if defects are occurring randomly or systematically.

Taguchi Method

The [Taguchi Method](https://www.investopedia.com/terms/t/taguchi-method-of-quality-control.asp)of quality control is another approach that emphasizes the roles of research and development, product design, and product development in reducing the occurrence of defects and failures in products. The Taguchi Method considers design to be more important than the manufacturing process in quality control and tries to eliminate variances in production before they can occur.

100% Inspection Method

This 100% inspection method is a quality control process that involves looking at and assessing all parts of a product. This type of quality control is done to rule out flaws in products. This method is often used to evaluate valuable metals and produce. When conducting the 100% inspection method calls for data about the manufacturing process and software to analyze inventory.

The challenge for using this method is that looking at every single item that makes up a product is expensive, and it could destabilize or render the product unusable. For example, if you use this method to examine organic strawberries, you would risk the delicate berries being bruised or mushed, rendering them unsellable to customers.

Quality control methods help standardize both production and reactions to quality issues in various industries from food production to automobile manufacturing.

The Role of Quality Control Inspectors

Quality control inspectors protect the consumer from defective products and the company from damage to its reputation due to inferior manufacturing processes. If the testing process reveals issues with the product, the inspector can fix the problem himself, return the product for repairs, or tag the product for rejection. When issues arise, the inspector notifies supervisors and works with them to correct the problem.

The Benefits of Quality Control

Implementing quality control procedures ensures you are selling the best products to your customers. In addition, practicing quality control has a positive impact on employee conduct. Quality control can inspire employees to create high-quality goods leading to greater customer satisfaction.

Quality control protocols may help you lower your inspection costs and use your resources in a more cost-effective manner, too.

Example of Quality Control

In 1986, Motorola, Inc. created a quality control methodology called [Six Sigma](https://www.investopedia.com/terms/s/six-sigma.asp), which uses data-driven review to keep defects to a minimum. The process focused on cycle-time improvement to reduce defects in its manufacturing of products to no more than 3.4 occurrences per million units.1

This methodology was created to minimize mistakes while documenting all the manufacturing procedures.

Motorola introduced this method because, at the time, they faced fierce competition from similar companies overseas, primarily the success of the Japanese manufacturing market, and complaints by Motorola's customers were high.

After implementing this then-new form of quality control, the company's performance improved dramatically. By the end of the initial five-year period (1986-1991), Motorola had reached its target for improvement in every sector of business.2

The continued use of Six Sigma and [Lean Six Sigma](https://www.investopedia.com/terms/l/lean-six-sigma.asp) (another form) occurs in the 21st century and is used by Microsoft and local governments.3 Six Sigma uses a five-factor approach (DMAIC) to define, measure, analyze, improve, and control to help companies identify and address quality control problems and fix them.4

Quality Control FAQs

What Does Quality Control Mean?

Quality control means how a company measures that its product quality is maintained (if it is good) or improved if need be. Quality control can be done in many ways, from testing products, reviewing manufacturing processes, and creating benchmarks. This is all done to monitor significant variations in a product.

What Are the 4 Types of Quality Control?

There are several methods of quality control. These include an x-bar chart, Six Sigma, 100% inspection mode, and the Taguchi Method.

Why Is Quality Control Important?

Quality control ensures that defective goods do not go out to the public. Companies that have quality control methods in place often have employees who pay close attention to their work.

In food and drug manufacturing, quality control prevents products that make customers sick, and in manufacturing, quality control can ensure that accidents don't happen when people use a product.

What Is an Example of Quality Control?

An aspect of quality control in food production would be overseeing the ingredient specifications, reviewing supplier lists, and ensuring the facility where the food product is made is sanitary.

What Is the Difference Between Quality Assurance and Quality Control?

Quality assurance is about how a process is performed or how a product is made. For example, if milk is labeled non-fat, the factory would have a method to ensure the type of milk in the carton is reflected by the label on the package. Quality control focuses on quality management and how the overall quality of the products overseen by the company.

The Bottom Line

Having quality control in place within a business can only help ensure product quality and the overall success of a business. The environment of quality control influences employees' attitudes about the workplace and creates a sense of ownership in the products and company as a whole. Quality control can be done in various ways, from training personnel to creating data-driven tools to test products and set standards. Quality control methods help create a safe work environment and product safety that benefits customers and the company alike.

### Objectives of quality control:

**Following are the important objectives of quality control:**

1. To establish the desired quality standards which are acceptable to the customers?

2. To discover flaws or variations in the raw materials and the manufacturing processes in order to ensure smooth and uninterrupted production.

3. To evaluate the methods and processes of production and suggest further improvements in their functioning.

4. To study and determine the extent of quality deviation in a product during the manufacturing process.

5. To analyse in detail the causes responsible for such deviation.

6. To undertake such steps which are helpful in achieving the desired quality of the product.

# QUALITY ASSURANCE & QUALITY CONTROL

[Quality Glossary Definition: Quality assurance/quality control (QA/QC)](https://asq.org/quality-resources/quality-glossary/q)

Quality assurance (QA) and quality control (QC) are two terms that are often used interchangeably. Although similar, there are distinct differences between the two concepts. This page will explain the differences between quality control and quality management, and provide definitions and examples of each.

* [Differences between QA and QC](https://asq.org/quality-resources/quality-assurance-vs-control#Differences)
* [Industry perspectives on QA and QC](https://asq.org/quality-resources/quality-assurance-vs-control#Perspectives)
* [History of QA and QC](https://asq.org/quality-resources/quality-assurance-vs-control#History)
* [QA and QC resources](https://asq.org/quality-resources/quality-assurance-vs-control#Resources)

## DIFFERENCES BETWEEN QA AND QC

Quality assurance and quality control are two aspects of quality management. While some quality assurance and quality control activities are interrelated, the two are defined differently. Typically, QA activities and responsibilities cover virtually all of the quality system in one fashion or another, while QC is a subset of the QA activities. Also, elements in the quality system might not be specifically covered by QA/QC activities and responsibilities but may involve QA and QC. Figure 1 shows [ISO 9000](https://asq.org/quality-resources/iso-9000) definitions from [ISO 9000:2015: Quality management systems - Fundamentals and Vocabulary](https://asq.org/quality-press/display-item?item=T1039).

### Quality System, Quality Assurance, and Quality Control RelationshipsQuality Assurance

Quality assurance can be defined as "part of quality management focused on providing confidence that quality requirements will be fulfilled." The confidence provided by quality assurance is twofold—internally to management and externally to customers, government agencies, regulators, certifiers, and third parties. An alternate definition is "all the planned and systematic activities implemented within the quality system that can be demonstrated to provide confidence that a product or service will fulfill requirements for quality."

### Quality Control

Quality control can be defined as "part of quality management focused on fulfilling quality requirements." While quality assurance relates to how a process is performed or how a product is made, quality control is more the inspection aspect of quality management. An alternate definition is "the operational techniques and activities used to fulfill requirements for quality."

## INDUSTRY PERSPECTIVES ON QA AND QC

For some service organizations, the concept of quality control may be foreign because there is no tangible product to inspect and control. The quality assurance function in a service organization may not include quality control of the service but may include quality control of any products involved in providing the service.

A service may include products that are documents (such as a report, contract, or design) or tangible products (such as a rental car or units of blood). It may be necessary to control product quality in a service organization to ensure that the service meets customer requirements.

### QA, QC, and Inspection

[Inspection](https://asq.org/quality-resources/quality-glossary/i) is the process of measuring, examining, and testing to gauge one or more characteristics of a product or service and the comparison of these with specified requirements to determine conformity. Products, processes, and various other results can be inspected to make sure that the object coming off a production line, or the service being provided, is correct and meets specifications.

### Quality Assurance and Audit Functions

[Auditing](https://asq.org/quality-resources/auditing) is part of the quality assurance function. It is important to ensure quality because it is used to compare actual conditions with requirements and to report those results to management.

In The Quality Audit: A Management Evaluation Tool (McGraw-Hill, 1988), Charles Mill wrote that auditing and inspection are not interchangeable: “The auditor may use inspection techniques as an evaluation tool, but the audit should not be involved in carrying out any verification activities leading to the actual acceptance or rejection of a product or service. An audit should be involved with the evaluation of the process and controls covering the production and verification activities.”

Formal management systems have evolved to direct and control organizations. There are [quality management systems (QMSs)](https://asq.org/quality-resources/quality-management-system) as well as [environmental](https://asq.org/quality-resources/environmental-management-system) or other management systems, and each of these systems may be audited.

## HISTORY OF QA AND QC

Quality has been defined as fitness for use, conformance to requirements, and the pursuit of excellence. Even though the concept of quality has existed from early times, the study and definition of quality have been given prominence only in the last century.

### 1920s: Quality Control

Following the Industrial Revolution and the rise of mass production, it became important to better define and control the quality of products. Originally, the goal of quality was to ensure that engineering requirements were met in final products. Later, as manufacturing processes became more complex, quality developed into a discipline for controlling process variation as a means of producing quality products.

### 1950s: Quality Assurance and Auditing

The quality profession expanded to include the quality assurance and quality audit functions. The drivers of independent verification of quality were primarily industries in which public health and safety were paramount.

Quality Assurance in Garments and its Importance in Today's Era

It is important to maintain a level of quality for every industry or business to get increased sales and better name amongst consumers and fellow companies. Especially for the business engaged in export business has to sustain a high level of quality to ensure better business globally. Companies who are into export business hold the prestige of the country, and due to this generally quality control standards for export are set strictly. It becomes mandatory to have good quality control of their products as export houses earn foreign exchange for the country. In the garment industry quality control is practiced right from the initial stage of sourcing raw materials to the stage of final finished garment. In this industry, product quality is calculated in terms of quality and standard of fibres, fabric construction, yarn, surface designs, color fastness and the final finished garment products. The quality expectations for export are related to the type of customer segments and the retail outlets.

There are a number of factors on which quality fitness of garment industry is based such as - performance, durability, reliability, visual and perceived quality of the garment. The national regulatory quality certification and international quality programmes like ISO 9000 series lay down the broad quality parameters based on which companies maintain the export quality in the garment and apparel industry. Quality needs to be defined in terms of a particular frame work of cost. Here some of main fabric properties that are taken into consideration for garment manufacturing for export basis:

* Overall look of the garment.
* Right formation of the garment.
* Feel and fall of the garment.
* Physical properties.
* Colour fastness of the garment.
* Finishing properties
* Final produced garments presentation.

**Sourcing of Fabrics**

There are certain problems that could be faced by garment manufacturers when sourcing for certain fabrics. Therefore, prevention should be taken for it beforehand to minimize the problems. The apparel exporters source cotton fabrics mainly from powerlooms, mills and handloom sectors. Each of these sectors presents their own unique set of problems to the garment exporters. Some set of problems like missing ends and picks, color variation, unreliable supplies and irregular weaves might be present while sourcing cotton from the handloom sectors. But the handloom sector is significant source of heavier cotton. Broken ends and reed marks, difference in width, thick and thin places and massive variation in costing are the common problems faced in powerloom cotton sourcing. The major problem in mill made fabric sourcing is to meet huge demands from the mills. The orders for fabrics have to be made well in advance and the long time taken for producing the fabric is a matter of concern for apparel exporters. Generally the mills hesitate to take small orders which pose a problem for small scale exporters.

It is not that sourcing problem is only confined to cotton fabrics but other fabrics as well. There are some sorts of problems faced by silk garment exporters, in silk garment industry. Some of the problems that could be faced by silk garment exporters are as follows:

* Shortage of silk yarn imports in the quantities required, as a result delivery is delayed.
* During manufacturing process, silk material is very vulnerable to stains as well as in other processes like stocking, staining results in rejection so a lot of care has to taken during these procedures.
* Roll length of the silk yarn is often insufficient
* Color fastness of dyed silk material is sometimes not satisfactory.
* Chances of warp breakage are also present

**Basic Thumb Rules for Garment Exporters**

For a garment exporter there are many strategies and rules that are required to be followed to achieve good business. The product quality, fabric quality, delivery, packaging, price, and presentation are some of the many aspects that need to be taken care of in garment export business. Listed below are some rules that are advisable for garment exporters:

* The exporters have to take care of quality, excuses are not entertained in international market for negligence for low quality garments, new or existing exporters for both it is mandatory to use design, technology and quality as major upgradation tools.
* Besides the good quality of the garment, the pricing, packaging, delivery, etc has to be also taken care of.
* The apparel displayed in the catalogue should match with the final apparel delivered.
* It is essential to perform as per the promises given to the buyer, or else it creates very bad impression and results in loss of business and reputation.
* Quality reassurance is required at every point in international market.
* High standard labels on the garment and proper documentation are also important aspects as these things also create good impression.
* On time delivery of garments is as essential as its quality.
* If your competitor has the better quality of garment in same pricing, it is better to also enhance your garment quality.
* Garment exporters have to carefully frame out the quality standards before entering into international market, or else if anything goes wrong it could harm the organization.
* The apparel quality should match the samples shown during taking the orders.
* After quality assurance is done, the garment exporters should know to negotiate a premium price.

Quality is a multi-dimensional aspect. Based on the many aspects of quality, the garment exporters are supposed to work:

* Quality of the production.
* Quality of the design of the garment.
* Purchasing functions' quality should also be maintained.
* Quality of final inspection should be superior.
* Quality of the sales has to be also maintained.
* Quality of marketing of the final product is also important as the quality of the garment itself.

There are certain quality related problems in garment manufacturing that should not be overlooked:

**Sewing defects** - Like open seams, wrong stitching techniques used, same colour garment, but usage of different colour threads on the garment, miss out of stitches in between, creasing of the garment, erroneous thread tension and raw edges are some sewing defects that could occur so should be taken care of.

**Color effects** - Colour defects that could occur are - difference of the colour of final produced garment to the sample shown, accessories used are of wrong colour combination and mismatching of dye amongst the pieces.

**Sizing defects** - Wrong gradation of sizes, difference in measurement of a garment part from other, for example- sleeves of 'XL' size but body of 'L' size. Such defects do not occur has to be seen too.

**Garment defects** - During manufacturing process defects could occur like - faulty zippers, irregular hemming, loose buttons, raw edges, improper button holes, uneven parts, inappropriate trimming, and difference in fabric colours.

**Testing Protocols**

Testing protocols are the summaries of applicable requirements that cover all facets of performance, evaluating labelled claims as well as safety and quality. Due to ever increasing fashion trend, construction, different fibre, style, colour and finish dominate the apparel world to cater to the requirements of various categories of customers. But no single universal characterisation protocol is available in the garment trade to cover the entire product range. Testing protocol changes depending on the fibre and fabric type, weight, style, finish, accessories used, accessories used country of export, and above all intended end use of the product.

It is also vital to bear in mind that all standards and regulations encapsulated in the protocol have one or both of the following aims: safety and quality. While quality is related more towards general consumer satisfaction, safety is an important concern as product not meeting regulations can jeopardize the health of the purchaser. Thus, characterisation of apparels that are earmarked for export is essential to satisfy both the regulation and performance requirement.

Any deviation in production with respect to the product specification and quality as per the required minimum performance standard goes against the interest of consumers, the ultimate end users whose expectations are always been regarded as vital in commercial decision-making process of an apparel retailer. Due to the above consequences, the brand image gets affected owing to poor presentation and performance of an apparel product under question.

**Conclusion**

Ultimately, quality is a question of customer satisfaction. Superior quality increases the value of a product or service, builds up good reputation for the apparel exporter and establishes brand name, which in turn results into high sales, foreign exchange for the country and customer satisfaction. The perceived quality of a garment is the result of a number of aspects which together help achieve the desired level of satisfaction for the customer. Hence quality control in terms of apparel, pre-sales service, delivery, post-sales service, pricing, etc are essential for any garment exporter.

Global business in Garment sector is dependent on quality characterisation because major buyers want to ensure about the quality of the merchandise prior to the delivery to the consumers. In this sector quality control is practiced right from the initial stage of sourcing raw material to the final stage of finished garment. The final product quality is assured in terms of fibres, yarns, fabric construction, colour fastness, durability surface design, garment construction, and final finished item.

In today's competitive business of apparel export, characterisation of quality is an important and indispensable aspect. Global standards in apparel are technology driven, benchmarked by the major buyers and ultimately product oriented. Tolerance in the degree of product proficiency cannot be ignored since too slack standards may allow excessively inferior merchandise to pass through, whilst, standard that are too rigid and may result in acceptable merchandise being unnecessarily rejected. Thus, quality evaluation of garments as per international standards norms is essential for export.

**ESTABLISHING MERCHANDISING STANDARDS**

Merchandising department is the star of the department among all the working departments in the Export concern, because Merchandising is the only department having maximum control over the departments and total responsible for Profit and loss of the company.

After LPG (Liberalization, Privatization & Globalization) the business gets more important and now merchandising is on its hot seats. So, it is necessary to understand the day to day happenings of the star department.

***Merchandise-***means goods bought and sold; and trading of goods.

***Merchandising-***is an activity of selling and promoting the goods.

***a. What does a Merchandiser do?***

Merchandiser is a person who interacts with the buyer and seller, and also puts efforts into proper relation between buying offices/ buying agents/ agency and seller/ exporter in terms of executing an order.

***b. Merchandiser in garment industries:***

In the field of marketing and services, Merchandiser is at a position of utmost importance, He is the person who co-ordinates with various departments for a uniform business.

***Objects of Merchandising***

Merchandising denotes all the planned activities to execute and dispatch the merchandise on time, taking into consideration of the 4 Rs to replenish the customer.

* ***Right Quantity***: To dispatch right quantity of product what buyer ordered.
* ***Right Quality***: It should be with right quality as accepted both parties.
* ***Right Cost***: Everybody wants more from what they are paid.
* ***Right Time***: No one wants to wait idle even in a Restaurant. Keeping delivery schedule is mandatory.

***Qualities of Merchandiser***

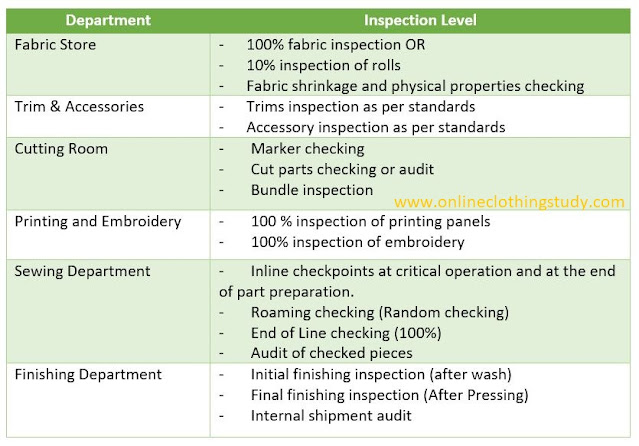
1. ***Communication Skill:*** The communication is very much important to promote the business activity. The merchandiser should remember that communication must be lurid and should having face to face conversation with the buyer.
2. ***Planning Capability:*** Merchandiser should be capable of planning, based on the planning the order is to be followed. If the planning is not done properly it will directly affect the delivery time of the order.
3. ***Decision making:*** For a Merchandiser, decision making power is most important. He should think about the decision to be taken and to act in a right way.
4. ***Loyalty:*** Loyalty is an essential character of human beings. Especially for the business people like merchandiser it is a must.
5. ***Knowledge about the field:*** Merchandiser should have adequate knowledge about the garments, Computer knowledge, and technical knowledge to communicate with different people in the business is a must.
6. ***Co-ordinate & Co-operate:*** Merchandiser is the person who is actually co-ordinate with the number of departments. To Co-ordinate with different people in the industry he should be co- operative.
7. ***Monitoring ability:*** Merchandiser should monitor to expedite the orders.
8. ***Other qualities:*** Education, Experience, Situational Management, Ability to Evaluate, Dedication, Knowledge of expediting procedures.

***Function of Merchandisers***

* Developing new samples, execute sample orders
* Costing
* Programming
* Raw materials / Accessories arrangement
* Production scheduling (or) route card drafting
* Approval of various Process, Pattern and size set
* Pre production follow up
* Meet Inspection Agencies
* Production controlling
* Identifying shortages and make arrangement for the shortages
* Following quality assurance procedures, quality control procedures
* Monitoring the in-house, sub-contractors and junior activities
* Buyer communication
* Communication with sub-contractors, processing units & other 3rd parties
* Proper reporting
* Highlighting to the management
* Record maintenance
* Developing samples
* Placement of orders to suppliers
* Taking measures for consistent production
* Taking preventive action to maintain the targeted performance in all areas of activities
* Attending meeting with superiors and furnishing the required details about merchandising

**Quality checkpoints in a garment factory**

In a garment factory, department wise quality checkpoints have been explained in the following.



**1. Fabric Store:**

In the fabric store fabric is being checked before issuing it to the cutting department. In general, not all the fabric rolls are checked. Usually, 10% of fabrics are checked for good fabric suppliers. For power loom fabric and printed fabric 100% checking is done. Fabrics are checked on a flat table, flat table with lightbox, or on a fabric checking machine. 4 point system for fabric inspection is used to measure the quality level of the incoming fabric.

**2. Trims & Accessory:**

Trims quality is also very important for having a quality garment. Trims inspection is done randomly against the given standards, like color matching. But for trims and accessories quantity checking is essential.

**3. Cutting Room:**

It is said that cutting is the heart of production. If cutting is done well then the chances of occurring defects in the following processes come down. In the cutting room, checkpoints are –

i) marker checking, ii) cut part audit, and iii) bundle checking.

**4. Printing Checking:**

Printing is not a compulsory process. If printing is done in fabric form then printing is being checked in the fabric store. For knits garment, maximum printing is done in cut panels. So before issuing cuttings to the sewing department, each panel is being checked properly. Defects that are found here is print placement, color matching, misprint, or print overlapping or shade variation.

**5. Embroidery checking:**

Like printing embroidery also is not a compulsory process. If there is embroidery work in the garment panels then 100% inspection is done before issuing to sewing.

**6. Sewing Department:**Checkpoints in the sewing departments are as follows.

* **Inline inspection:** In the assembly line generally check pints are kept for the critical operations. In these checkpoints, 100% checking is done for partially stitched garments and defect-free pieces are forwarded to the next process. This type of checking is used for the high-value garment.
* **Roaming inspection:**In this case, checkers roam around the line and randomly check pieces at each operation.
* [**Traffic light inspection system:**](http://www.onlineclothingstudy.com/2012/01/traffic-light-system-for-quality.html) Some garment manufacturers use this inspection system. In this system, each operator is given a card for measuring their quality performance. The quality checker goes to the operator and does a random check for few pieces and according to the inspection result, the checker marked red or green on the card following rating criteria.
* **End of line inspection or table checking:**A checker checks a completely stitched garment at the end of the line. 100% checking is done here,
* **Audit of the checked pieces:** some manufacturers follow this audit procedure but it is a very essential checkpoint to assure that only 100% of the inspected garment is sent to finishing from the sewing department. And all defective pieces are repaired before sending it to the finishing section.

**7. Finishing Department:**

Checkpoints in the finishing department consist of the followings

* **Initial finishing inspection:** checking done prior to pressing of the garment at the finishing room is known as initial finishing.
* **Final finishing Inspection:** After pressing, garments are again checked and passed to the folding section for tagging and packing.
* **Internal audit:** After garments are packed up to a certain quantity, the quality control team, do an audit of packed garments. This process is carried out to ensure that before handing over shipment to buyer QC

If the completed work is being checked at each process and defective pieces are corrected before handing to the next process then at the end of production there is very little chance to have a defective at the final inspection stage.

**Why Do Big Garment Brands Need Quality Inspection Procedures?**

The big clothing brands that are recognized worldwide for consistent quality have endured for years because of the strict garment quality inspection procedures they carry out on the production line, before their clothing is shipped to suppliers and hung on store shelves.

The best practice for garment quality inspection procedures is to have impartial third-party quality control inspectors carry out surveys on the factory floor during and after the production process, before the garments are shipped out to their destination markets.

Garment quality inspection procedures are a preventative measure to spot defects and issues that compromise quality, which could ultimately be detrimental to the brand, and mitigate the risk of costly product recalls and customer complaints.

The secret to successful garment quality control procedure is to arm the quality control inspectors with clear specifications of your requirements. The QC inspectors use checklists specifying acceptable standards or tolerance of any defects required by you the supplier. The more detailed these checklists, the more effective QC inspectors can be in ensuring the high standards of your brand are maintained.

**What are the Necessary Garment Inspection Steps?**

Here are five fundamental steps which QC inspectors should take during their garment inspection procedure:

**1. Measuring Garment Dimensions**

Ensuring that the dimensions of garments comply with their specified sizes is especially important when a part or all of the garment manufacturing process is done by hand, which can result in large margins of error compared to the precision of machined cutting and sewing.

Nevertheless, no matter how precise the manufacturing process, there will always be discrepancies in dimensions. If these are not spotted before the garments leave the factory, you risk customer complaints or entire batches being recalled, and ultimately a demise in brand loyalty.

**Specifying tolerances for garment dimensions**

QC inspectors and your supplier should be well informed of acceptable tolerances for garment dimensions, which determine an acceptable margin of error for any defects or discrepancies found to ‘pass’ or ‘fail’ garments.

Tolerances for acceptable margins of error can vary for different parts of the garment, depending on their significance to the entire garment. For example, a sleeve being too long or short by ⅛ inch may be an acceptable margin of error and still pass, but ½ an inch difference would be marked as a fail.

The acceptable tolerances for margins of error should be clearly specified on the QC inspectors’ checklist.

**2. Physical tests of buttons, zippers and other accessories**

A zip that comes off after little use could indicate that the manufacturer is using inferior accessories, or a button coming loose could identify weak stitching.

These are defects which QC inspectors should look for with physical testing methods such as ‘pull tests’ and ‘fatigue tests’ on garment accessories such as zippers, snaps, ribbons and elastic. The tests are performed on a designated number of garments in each batch.

**Pull test**

Predominantly used to test zippers, a QC inspector uses a gauge to pull the accessory with a predetermined amount of force for 10 seconds.

**Fatigue test**

This test determines whether the accessory will last as long as intended under normal use by the consumer. A typical test on a snaps or buttons would be to repeatedly button and unbutton the accessory 50 times and check for any damage to the garment after testing.

**Stretch test**

Testing elastic bands and straps for proper elasticity and to check whether the elastic or stitching stands up to being pulled or stretched. Stretch tests only need to be carried out on a small selection of finished garments.

**3. Fabric Density & Composition Tests**

Testing the density or thickness of fabrics used in garment production determines whether the fabric meets the correct quality standards. A fabric that’s too thin or not dense enough could mean your manufacturer isn’t using fabric of the quality you have specified to ensure the garment has a significant lifetime under normal wearing and washing.

There are three fabric density and composition tests which QC inspectors can carry out on site:

**Fabric GSM check**

QC inspectors use an electronic balance to measure the grams per square meter (GSM) of a sample of the fabric and compare that measurement with the customer’s specifications.

**Stitches per inch (SPI) check**

QC inspectors simply count the number of stitches in a square inch of sample garments. The higher the SPI, the more durable the fabric and the less likely it will stretch or fall apart during normal wear and washing.

**Material composition check**

Verifying the composition of fabrics used in garment production is important due to the legal requirements of correctly labeling garments, as well as ensuring that the manufacturer is not using inferior materials. If for example a garment label states that the garment is 100% wool or leather, this must be verified by qualified QC inspectors. If subsequent inspections by authorities reveal that the fabric is not as labeled, you could face fines and other penalties.

An experienced QC inspector can judge the composition of fabrics from a hands-on inspection carried out at the factory. However, most garment importers demand third-party lab tests with proper equipment and controls to ensure transparency.

**4. Label Verification**

As mentioned above, correct labeling is essential for complying with garment labeling requirements for destination markets in Europe and the US. Incorrect or missing labeling could mean fines for the importer as well as having the product rejected by Customs.

The US Textile Fiber Products Identification Act stipulates that garment labels must include the following information:

* Fiber content of the garment
* Country of origin
* Identity of manufacturer / importer / distributor
* Care instructions for washing and ironing

There are specific labeling requirements for wool, leather and fur garments, as well as for footwear, for which the materials used in each part of the footwear item must be specified.

**5. Packaging inspection**

One of the final on-site inspections for garments before shipping from the factory is to ensure the packaging is suitable for the garments so they’ll reach their destination in good condition.

Inadequate storage and packaging can lead to damage from moisture and soiling. One way manufacturers may attempt to mitigate moisture damage is to include a desiccant sachets but there are strict regulations governing the chemicals used in these moisture-absorbing packets.

Testing for DMF is a chemical test which should be carried out in a lab. Silica gels are a safe desiccant sachet ingredient. However, some manufacturers may use Dimethyl Fumarate (DMF) instead, which is banned in most developed destination markets due to its high toxicity and the allergic reactions consumers can suffer from contaminated garments.

Packaging must also comply with destination market regulations such as clear labeling informing the consumer what the product is, what it’s made from and where it came from, among other requirements which may be stipulated by consumer protection laws in different countries.

**Quality control checklist**

Garment quality control checklist- Ensure 100% PP meetings, Inline and final inspections are done for all styles. Better manage the PO’s and the Inspection quality level. Educate the supplier on the new procedure of both quality and service level to our customers. This Quality Assurance Manual is prepared to ensure proper communication of the Quality System at different levels. At the time of making new styles I give my support to avoid complicated sewing and introducing  simpler methods so that productivity also can be increased when it comes to the bulk production ,always keep a closer monitoring control quality level by doing day to day inspection …

**Product Quality**

The Quality Assurance Manual covers all garments manufacturing processes ad different quality control techniques used to ensure quality of the products.

* Maintaining the  up- to-date Quality Systems
* Monitoring the quality systems in all departments
* The enterprise is initiating to activate Toyota systems
* [Compliance Matrix And Checklist for RMG Factory](https://autogarment.com/compliance-matrix/)

**QA Folder:**

Detailed review of QA folder before PP meeting for US and all initial markets fo 100% Integrity. Other than this style file (separate for each style) QA department has hold of following files:

* Spreading audit file.
* Cutting audit file.
* Stitching in – line audit file.
* Finishing audit file (including finishing analysis report)
* Embroidery / outside job work audit file (including job work analysis report)
* Washing menu file.
* Inspection requisition file (this includes the requirements given by production department time to time for final inspection).

**Pre Production Meeting at factory**

Before starting bulk production, a few pieces of garments are made in actual production conditions and system using actual fabrics. Investigations are made during making of the garment by the Q.A in assistance with the R&D team. The various aspects to be looked upon during trials are as follows:

* Fabric quality, like grain line, silt line, G.S.M, elasticity, whiteness, shrinkage etc.
* Recommended processing / finishing of fabric.
* Machines recommended for production of the garments.
* Attachments, guides to be used in sewing machines.
* Construction problems and preventive action to be taken.
* Embroidery recommendation and design problems.
* Washing standard.
* Recommend garments finishing system.
* Report of the above is made and sent to various concerned departments.
* Having PP meeting for all styles to ensure to understand garment quality control checklist level of each customer.
* Pilot sample review.
* Review Fabric and accessories to ensure 100% conformity and non-counterfeit issues.
* For each and every style QA holds separate file, which contains following papers:
* Specifications sheet and drawings (to be provided by PPC)
* Accessories details (to be provided by PPC)
* PO list (to be provided by PPC)
* R&D Report (to be provided by R&D Department)
* Complete needle work review
* Complete assembling and operation review.
* Capacity and adequate machinery availability review
* Product safety review.

**Inline / Pre Final Inspection at factory**

* Process verification for product and process integrity.
* Ensure 100% inline / Pre final inspection across all retail markets  to ensure finished goods are in good quality.
* All pre production commitments need to be checked for consistency and implementation.
* The correlation percentage of work performance for PP and Inline should be 100%

**Final Inspection at factory**

* Ensure 100% Final Inspection with at most garment quality control checklist for all the above parameters found/discussed / corrected in PP and inline. Internal /External Customer support

**Product Integrity**

* Ensure product integrity all the time.
* On risk management use the skill to check the counterfeit for kids and infant merchandise.
* Identify the issue in the pre production and bring to the notice of HOD.

**Inspection Report Process**

* Ensure right Inspection process to follow as per set norms.
* Proper report writing with clear messages of expected problem, causes, issue, severity, solution and prevention.

**Lab Test**

* Support to achieve lab test requirements 95% pass rate across all soft line products.
* Scrutinize on time and bulk sample requirements and execution while marinating necessary testing standard such as usability, flammability, and color fastness, rubbing stability to meet customer satisfaction.

**Avoid customer complains**

Pilot is prepared by the sampling department for getting approval from the buying house Q.C to start production. Before showing pilot garments to the buying house Q.C in – house Q.C inspects the same. The general problem in garments construction, measurements and finishing are checked for. In case of regular measurements problem in each garment, patterns are also checked for that. Ensure 0% product quality claims by reviewing previous customer complains reports.

**Support Business strategy**

* Ensure on time accurate feed back on critical issues to managers and to merchandisers.
* Production delays must keep informed to manager and merchant well in advanced.
* The in lines inspections must be fully through with the supplier and ensure all problems are sorted in the inline so that pre final and final inspections can be smooth.

Any issues on quality procedure must be high lighted to manager and Merchant, and early action must take to sort the problem.

**Extra**

* I have complete total modules of selected “Computer Base Learning” training program at Wal-mart Global Procurement.
* I have participated  cultural training modules by team
* Ability to conduct the Technical Evaluation of factory, which is related to the ethical standard Audit. This evaluation will help for the identification of capacity, capability and safety as per the buyer requirement.

**Conclusion**

Every packed shipment is checked for measurement of the garments as per the required standard as per the company policy or as per buyers’ standards (if specified). Refer to the Measurement Audit Report \. When it comes to bulk production, always keep a closed monitoring to control garment quality control checklist level by doing day to day inspections. Visit factories on random basis other than the inline or final inspection to ensure **Garment Qauality Control Checklist** level.

# Quality Control in Packaging

The quality control in packaging article provides you information about vendors' quality control systems, which need to meet the requirement of packing procedures and packing standards.

Wooden cases, crates, skid bases or saddles, bundles, shrink packages and drums are widely used for the packing of industrial goods. Purchasers must provide the packing procedure to the equipment manufacturer and the manufacturer quality control team must take care of the packaging process.

Most of packing procedures are prepared based on the BS 1133-8 requirements. The equipment manufacturer quality control team must carefully check the packing based on the approved procedure.

Equipment manufacturers shall be solely responsible for packing and marking of goods with respect to handling, transport, and storage at the plant site.

Manufacturers shall be fully liable for proper, sufficient and adequate packing, completeness of contents, protection of contents for a storage time of 6 months, and correct preparation of the packing list.

Packing and conservation of goods shall be sufficient to protect them from damage during transit from the point of manufacturing and storage at the job site under conditions that may involve multiple handlings, extended storage, exposure to moisture and the possibility of pilferage.

Quality Control in Packaging always falls in two categories:

The first is the where size of the equipment is different for each order, and the equipment manufacturer needs to deliver drawings and other information to the packing service company for construction.

The second is where equipment is unique in size and not depended on the order. In this case, the manufactures will purchase cases or crates and normally do the packing work with their own workers.

Some important items that are need to be controlled by the equipment manufacturing quality control team as their quality control in packaging are:

* Correct packing style (i.e. case, crate, bundle)
* Making sure for application of new, sound and seasoned lumber
* Correct thickness of sheathing (or outer plate)
* Correct application of bottom cleats and skid runners for easy handling by forklift
* Ensuring the for protection of contents by waterproofing and strong plastic foil
* Ensuring the adequate quantity of moisture absorbent (silica gel)
* Correct application of material for padding or cushioning such as felt, cellophane paper, polyester cuttings and crepe cellulose
* Ensuring proper application of lubricant for equipment machinery parts
* Ensuring the application of two un-annealed steel straps in each of two right angled and opposite directions, or where applicable wood re-enforces.
* Dimensional measurement of cases, crates and other packing style
* Correct assortment of package
* Correct package tag (i.e. PO No., LC No., JOB No.,etc.)
* Correct shipping marks
* Correct cautionary symbols
* Correct weight indication
* Correct outer and inner package number

**Packaging Quality Control Checklist**

When conducting a Container Loading Check, inspectors use a packaging quality control checklist that is comprised of standard internationally recognized criteria and your company’s packaging standards. Here are three critical elements of the checklist:

**1. Product variety and quantity per carton.**

During this step, inspectors verify that the contents of packaging cartons have two things: the correct product(s) in them, and the correct quantity of each product.

Inspectors randomly select cartons and review the stock-keeping-unit (SKU) included in that carton.

Then, they count the number of SKUs to determine if the product counts are correct or incorrect.

This ensures that your shipment contains the correct assortment of products.

**2. Correct packing materials are used.**

Packaging must be durable enough to survive unpredictable weather, storage conditions, and rough handling during shipping. As such, packaging and shipping cartons are usually comprised of three layers, each of which must be inspected.

**Primary packaging.**

This is the packaging that holds the product and is in direct contact with it.

For example, primary packaging for pharmaceuticals is the bottle or strip containing the medication. Other examples include blister packs, clamshell packaging, shrink-wrapping, paperboard, cardboard, and unit dose packs.

**Secondary packaging.**

Packaging that is outside of the primary packaging and is used to protect the primary packaging or group primary packages together is called the secondary packaging.

Examples include cardboard cartons, cardboard boxes, and cardboard or plastic crates.

**Tertiary packaging.**

Tertiary packaging is used to hold groups or stacks of cartons, such as pallets, for shipping.

Companies should take into consideration whether shipments will be in pallet loads or mixed shipments, such as those used with express carriers, and then determine the best packaging material to use.

Tertiary packaging materials might be one or more of the following: corrugated cardboard sheets and boxes, bubble-wrap, industrial shrink-wrap, polyethylene, and aluminum foil.

**3. Barcodes and labeling**

Missing or illegible markings on secondary packaging can cause a myriad of problems, including fines and delays.

Customs inspectors need to know where the products originate from, where they’re going, and whether the contents comply with regional regulations.

If that information isn’t visible on your packaging, customs could hold or reject your shipment.

In addition, they may fine your company based on the value of the merchandise, plus, charge money to recoup any costs incurred for transporting, storing, or disposing of the goods.

The following markings are required on the secondary packaging:

* Purchaser’s name
* Purchase order (PO) number
* Number of items and descriptions
* Carton dimensions and weight
* Number of cartons within each set
* Warning labels and storage instructions (e.g., “fragile,” “this side up”)
* Barcodes

Of these, improper barcodes cause the most shipping delays.

Here are common problems which can be encountered when scanning barcodes:

* Faded or low contrast between the lines and the background
* Barcode is too close to the edge or of the sticker
* Creased or damaged barcode sticker
* Barcode is too large or too small to be scanned
* Barcode sticker is the wrong orientation

The amount of detail required during a CLC, using the packaging quality control checklist, is extensive.

What is a warehouse audit?

A warehouse audit is a broad term that can apply to auditing any part of a warehouse. The types of audits include:

* [Inventory audits](https://www.shipbob.com/blog/inventory-audit/)
* Policies and procedures audits
* OSHA audits
* Shipping and logistics audits
* Accounting audits
* And more

Warehouse audits don’t follow a typical schedule. You definitely don’t need to do them daily or weekly, but they can be done as frequently as monthly or quarterly depending on the size of the warehouse and the current resources you have available.

**Warehouse audit checklist**

Because there are so many ways to audit your warehouse, we have a handy checklist of how to properly run a warehouse audit along with some best practices.

**1. Define needs of the audit**

Every warehouse audit needs to determine what is actually being audited. For example, a public company may focus on inventory valuation for disclosing financial data, while a private company may focus more on the efficiency of warehouse operations.

If you’re running an ecommerce business, your audits will likely focus on making sure the warehouse is running as efficiently as possible — especially if your business is still new, and you’re learning what the best approaches to warehouse management

**2. Count physical inventory**

Make sure you have your inventory system in place for accurate inventory counts that match the quantities in your [inventory solutions](https://www.shipbob.com/ecommerce-inventory/) software. With proper [inventory tracking](https://www.shipbob.com/blog/inventory-tracking/) and inventory forms, you’ll be able to track discrepancies and investigate where the issues are coming from.

**3. Keep an eye on operations**

Observe [order fulfillment](https://www.shipbob.com/blog/order-fulfillment/), warehouse inventory processes, warehouse employees, warehouse quality control, and also [other equipment](https://www.tafs.com/business-loans/equipment-financing-sales/) like forklifts to ensure safety compliance and maximum efficiency. OSHA procedures are no joke and must be taken seriously. You do not want to be hit with OSHA fines or lawsuits from injured employees. Health and safety warehouse processes should come first.

**4. Talk to workers**

The employees involved in the day-to-day operations of the warehouse most likely know where the inefficiencies are more than anyone else. Use this as an opportunity to speak to them, learn what can be improved, which policies aren’t being followed and other useful data about the warehouse. Talk to workers across all areas of the warehouse to get useful feedback about each area.

**5. Analyze inventory data**

Your warehouse is likely using software to manage operations such as a [warehouse management system](https://www.shipbob.com/blog/warehouse-management/). Use this as an opportunity to analyze inventory records to check for fraud, waste, validate transactions, and measure customer satisfaction.

**6. Evaluate audit results**

Once you have the audit data collected, you can identify processes or policies requiring modification within your warehouse space. With the data collected warehouse managers will be able to suggest improvements to increase productivity and efficiency. Work with the analysts on your team to analyze the data and prepare your findings and suggestions for key stakeholders.

**7. Design changes and implement**

Any changes that should be implemented should be written down and discussed with the team. You can take a two-phased approach with this. Phase one can be the analysis phase where your team finds major issues that need to be fixed. Phase two can be the implementation phase where you begin to fix the issues with input from key stakeholders.

**8. Repeat when needed**

Warehouse audits should be done regularly to keep your operations up and running! Depending on the size of your warehouse, audits should occur every few weeks or on a quarterly schedule. Continuous improvement is key and it’s a never-ending process.

**4 benefits of performing a warehouse audit**

While they are time-consuming and sometimes challenging in nature, conducting a warehouse audit offers many advantages for an ecommerce business for both [inbound and outbound logistics processes](https://www.shipbob.com/blog/inbound-and-outbound-logistics/).

**1. Run a more sustainable warehouse**

Audits help you learn where the current gaps are and where to improve. Without efficiency and productivity, the warehouse cannot sustain itself and will cost you even more money.

**2. Gather reliable data**

Data is king. Performing an audit more frequently will reduce inventory discrepancies and provide data needed for strategic decision-making. If you’re doing it manually, you will need to carefully record it. If you’re using a tool or warehouse management system, it will just be a matter of grabbing the most up-to-date numbers.

**3. Reduce costs**

As you conduct the audit, you will find or learn about inefficiencies in the warehouse that are costing you time and money. It can range from moving a few things around to replacing ineffective machines. Once the audit is over, take note of which inefficiencies were logged so you can track how much money you saved by fixing them.

**4. Fix or prevent broken equipment**

Continuous improvement should always be the goal. During the course of your audit, you’ll likely identify equipment that is not working as intended. While some employees might say it’s working “good enough,” equipment failures will cost you more in the long run. During the warehouse audit, take notes of the equipment that need to be fixed or needs preventative [maintenance](https://www.getmaintainx.com/what-is-preventative-maintenance/). Once the audit is done, place work orders so the equipment receives its maintenance or is replaced.

**Importance of Quality Control Check before Shipping**

Quality control is meant to enhance the effectiveness and efficiency of the entire logistics system of a company by performing procedures to detect whether the products are free from defects or not. Those that have defects are returned for fixing to ensure that the customers are shielded from disappointment resulting from defective products.

Here, let us try to break down the reasons **why it is important to do quality control** [before](http://www.asiaqualityfocus.com/blog/check-quality-before-shipment/) a product is shipped.

* The final quality control check performed before shipping is primarily to **ensure accuracy**. This is especially true if the company has a quality control system that is in force in practically every stage of the production and distribution process. However, if that is not the case, there is nothing wrong with also performing a check against product defects prior to shipping.
* It **reduces the costs** associated with shipping errors as well as the expenses that will be shouldered by both the customer and the company when processing any returns due to defective or inaccurately delivered products.
* Ensuring that the products are accurate and of good quality will help ensure that your [**brand**](https://www.cleverism.com/lexicon/branding/)**, company name and reputation will be protected**. Many companies have suffered due to defective merchandise, inaccurate orders, and even delayed shipments.
* Ensuring that the **right products are being delivered**, and that the quality passes the standards will eliminate delays in shipments.
* Dealing with customer complaints takes up a lot of a company’s resources. It’s also tedious for the employees. Damage control is not something that companies would like to deal with constantly, even if they have a fairly strong customer service system in place. The **lesser complaints received from customers** due to defective and subpar products, the better it will be for the morale of the employees of a company.
* Performing quality checks in ALL stages – not just pre-shipment – will help the company in monitoring its products and processes and come up with important decisions that will improve their current system. In a way, it is one way to gather data to **improve efficiency**. Being able to identify problems and shortcomings will enable them to correct these errors and respond accordingly.
* Ensuring quality prior to shipping is a way to establish a good relationship with your market. Consider this: businesses will succeed if they keep their pulse on their market and maintain an awareness of their customers’ needs and preferences. It is tantamount to “putting themselves in the shoes of their customers”. Quality control inspections performed before the product is shipped is the final activity that will be performed, and it represents the buying experience of the customer.
* Quality control adds value to a company’s products. Often, companies that have maintained high-quality control standards and ensure that they are followed to the letter eventually use it as a **justification to raise their prices**.
* In a small way, effective quality control before shipping will help **reduce marketing costs over time**. This is because the buyers will be less likely to find problems in the delivered goods hence they will be more likely to order from the same company the next time they need the same products. However, if the product comes with a problem that justifies a return, the likelihood of the customer making another purchase from the same company is significantly reduced.

Ultimately, performing quality control before shipping a product – and in any other stage of the business process even prior to shipping and distribution – will help in lowering costs and risks of losses, cutting down[lead times](https://www.cleverism.com/lexicon/lead-time/), and facilitating the timely delivery of products to the recipients.

**COMMON TYPES OF QUALITY CHECKS**

The final inspection is performed when all of the products ordered have been produced and around 75% to 80% have already been packed for shipment. The following methods are often seen applied by various companies before their products are shipped out.

1. The check is performed **within the factory** (or the company’s premises) by external inspectors or third party quality control agencies. Often, the inspectors perform random sampling, checking only several samples at random, before handing out their conclusion regarding the quality of the products. This way of randomly inspecting the products is the most commonly used method, making it a standard way of checking quality of products before shipping. It’s effective because it saves time and still has a high chance of identifying any issues present in the batches.
2. **The final inspection** is performed on 100% of the products or on a certain percentage of randomly selected units at a “platform”. The most common practice is for the supplier company or seller to transport the orders to a forwarding warehouse (the “platform”), where the external inspector will perform quality control check. In case the products do not pass, they will have to be transported back to the factory instead of being shipped to customers. This method is ideal for large purchased volumes. However, it is often seen by many companies as impractical because of the costs of having to transport the units from the factory to the platform (and vice versa, in case rework is required).
3. Inspection is performed to 100% of **finished products on a piece by piece manner**. The final check is actually part of the production process, as the last stage. It is important, however, that the inspectors or the persons performing the quality control checks are independent of the company, meaning they are not employees of the company. This will go a long way in ensuring that they give a transparent remark. Alternatively, each inspector or group of inspectors can handle specific batches and their details captured so that any issues that arise after shipping can be traced back to a specific inspector.
4. Quality control check is **done by internal inspectors**, or inspectors that are employees of the company, and have been trained to perform these checks. Normally, they also play an important role in the [internal audit system](https://www.cleverism.com/lexicon/audit/) of the company. This option is found to be cheaper by companies, since having an in-house inspector costs less than paying external inspectors to do the job. However, it’s important to ensure that the inspectors are sufficiently trained to look for all the common trouble points in the products.

**WHAT TO CHECK BEFORE SHIPPING**

What are the specific things or aspects that must be inspected or checked before a product is sent for shipping?

* **Product safety.** There are safety and health standards that must be complied with. Inspectors will focus on whether the products are safe for use or consumption.
* **Compliance with the company’s own specific requirements**, standards set by the industry the business is in, and specific regulations formulated by the government.
* **Quantity.** The number of items packed for shipment must coincide with the number of units ordered by customers.
* **Product specifications.** This entails looking into the function, workmanship, color, size, and other technical specifications of the product.
* **Packing.** Are the orders packed securely and properly? During shipping, it is possible that there could be careless handling by the shipper. Therefore, make sure that the items are packed appropriately, depending on the nature of the product, to minimize the risks of them being damaged while in transit.

**WHO WILL PERFORM QUALITY CONTROL BEFORE SHIPPING**

We have briefly mentioned them earlier in the discussion, but inspectors or personnel tasked to perform quality control do not necessarily have to be employees of the company.

* **In-house inspectors.** These are individuals that are included in the company’s payroll, and have been specifically trained to conduct quality control checks.
* **Free-market quality control companies.** These are privately owned and third-party quality assurance firms or agencies that offer quality control services. They are in the business of performing quality control checks for other businesses. An example is Intertek, which provides “quality and safety services to businesses”, by ensuring that the products meet “quality, health, environmental, safety and social accountability standards”.
* **Freelance quality engineers.** These are independent or individual contractors that offer their quality control services. In some areas, they require certifications in order to be recognized and allowed to provide services as quality engineers.
* **State-owned inspection companies.** These are companies that are fully or partly owned by the state. They are not as numerous as free-market quality control companies, however.

**QUALITY CONTROL PROCEDURES**

Companies should have their own manual of quality control procedures to guide the inspectors. This is true even if the company hires the services of an external inspector. Sure, the external inspector is likely to have his own inspection or quality control system in place, and quality assurance agencies and inspectors use industry standard processes in their inspection. However, having a manual will still be helpful in order for him to know the points to watch out for during the inspection. The manual will contain the quality policy of the company and an overview of the processes and the quality system in place.

The procedures could vary depending on the volume of the products.

* **100% vs. a sample.** The inspector checks ALL the items to be shipped, or only a certain percentage of the whole. Large volumes would normally entail only having a certain sample size inspected.
* **Piece by piece or random selection.** All the items are inspected one by one, or the inspector picks several items at random for checking. Random selection is often used for large volumes of products up for pre-shipment inspection.

The quality control procedures will vary depending on the nature or type of product. There are certain products that require testing while others only require ocular inspection.

Of course, the basic procedures include some, or all, of the following:

* Manual counting of quantity;
* Reconciling product quantity and other quantitative details to files on record (actual vs. what is written on documents such as purchase orders and invoices);
* Product testing, if required;
* Ocular inspection of the packaging and the labeling;
* Checking to ensure that the weight of the product coincides with the weight indicated on the label where applicable.

**QUALITY CONTROL TOOLS**

Documentation is also required whenever quality control checks are performed. This will ensure that records can be kept for future reference. The most commonly used quality control tools include the following:

* **Questionnaires**: One advantage of questionnaires is simplicity and how it can be easily used and understood by many. It’s also flexible and can be used in a wide range of settings.
* **Checklist Worksheets**: Just like questionnaires, this contains items that have to only be checked, depending on the findings of the inspection performed. More often than not, they come with questions answerable by “YES”, “NO”, and “PARTIALLY”.
* **Quality Control Sheet**: This is especially useful when checking products that have a lot of technical specifications, such as food, spare parts, and even fabric. Quality control sheets are ideally concise and put emphasis on specific areas only.

Quality control plays a big role in ensuring that a company’s operations are not crippled by problems in the quality of the products. Without a proper quality control system, it’s very easy to find that the company ends up with lots of returns that will need many man hours to correct. It’s, therefore, easier and relatively cheaper to have a number of quality control points, the most important one being just before shipment.