

QUALITY VOCABULARY

Extracted from: ISO9000:2000
ISO8402:1986
BS4778:Part 1:1987 (superceded)

QUALITY:

The totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs.

Notes:

1. *In a contractual environment, needs are specified, whereas in other environments, implied needs should be identified and defined.*
2. *In many instances, needs can change with time; this implies periodic revision of specifications.*
3. *Needs are usually translated into features and characteristics with specified criteria. Needs may include aspects of usability, safety, availability, reliability, maintainability, economics and environment.*
4. *The term “quality” is not used to express a degree of excellence in a comparative sense nor is it used in a quantitative sense for technical evaluations. In these cases a qualifying adjective shall be used. For example, use can be made of the following terms:*
 - a) *“relative quality” where products or services are ranked on a relative basis in the “degree of excellence” or “comparative” sense;*
 - b) *“quality level” and “quality measure” where precise technical evaluations are carried out in a “quantitative sense”.*
5. *Product or service quality is influenced by many stages of interactive activities, such as design, production or service operation and maintenance.*
6. *The economic achievement of satisfactory quality involves all stages of the quality loop (quality spiral) as a whole. The contributions to quality of the various stages within the quality loop (quality spiral) are sometimes identified separately for emphasis. Two examples: “quality attributable to design”, “quality attributable to implementation”.*
7. *In some reference sources, quality is referred to as “fitness for use” or “fitness for purpose” or “customer satisfaction” or “conformance to the requirements”. Since these represent only certain facets of quality, fuller explanations are usually required that eventually lead to the concept defined above.*

GRADE:

An indicator of category or rank related to features or characteristics that cover different sets of needs for products or services intended for the same functional use.

Notes:

1. *Grade reflects a planned difference in requirements or, if not planned, a recognised difference. The emphasis is on the functional use/cost relationship*
2. *A high grade article can be of inadequate quality as far as satisfying needs and vice versa, e.g. a luxurious hotel with poor service or a small guest-house with excellent service.*
3. *Where grade is denoted numerically, it is common for the highest grade to be 1 and the lower grades to be 2, 3, 4, etc. Where grade is denoted by a points score, for example by a number of stars, the lowest grade usually has the fewest points or stars.*

QUALITY LOOP; QUALITY SPIRAL:

Conceptual model of interacting activities that influence the quality of a product or service in the various stages ranging from the identification of needs to the assessment of whether these needs have been satisfied.

QUALITY POLICY:

The overall quality intentions and direction of an organisation as regards quality, as formally expressed by top management.

Note:

The quality policy forms one element of the corporate policy and is authorised by top management.

QUALITY MANAGEMENT:

That aspect of the overall management function that determines and implements the quality policy.

Notes:

1. *The attainment of desired quality requires the commitment and participation of all members of the organisation whereas the responsibility for quality management belongs to top management.*
2. *Quality management includes strategic planning, allocation of resources and other systematic activities for quality such as quality planning, operations and evaluations.*

QUALITY ASSURANCE:

All those planned and systematic actions necessary to provide adequate confidence that a product or service will satisfy given requirements for quality.

Notes:

1. *Unless given requirements fully reflect the needs of the user, quality assurance will not be complete.*
2. *For effectiveness, quality assurance usually requires a continuing evaluation of factors that affect the adequacy of the design or specification for intended applications as well as verifications and audits of production, installation and inspection operations. Providing confidence may involve producing evidence.*
3. *Within an organisation, quality assurance serves as a management tool. In contractual situations, quality assurance also serves to provide confidence in the supplier.*

QUALITY CONTROL:

The operational techniques and activities that are used to fulfil requirements for quality.

Notes:

1. *In order to avoid confusion, care should be taken to include a modifying term when referring to a sub-set of quality control such as “manufacturing quality control”, or when referring to a broader concept, such as “company-wide quality control”.*
2. *Quality control involves operational techniques and activities aimed both at monitoring a process and at eliminating causes of unsatisfactory performance at relevant stages of the quality loop (quality spiral) in order to result in economic effectiveness.*

QUALITY SYSTEM:

The organisational structure, responsibilities, procedures, processes and resources for implementing quality management.

Notes:

1. *The quality system should only be as comprehensive as needed to meet the quality objectives.*
2. *For contractual, mandatory and assessment purposes, demonstration of the implementation of identified elements in the system may be required.*

QUALITY PLAN:

A document setting out the specific quality practices, resources and sequence of activities relevant to a particular product, service, contract or project.

QUALITY AUDIT:

A systematic and independent examination to determine whether quality activities and related results comply with planned arrangements and whether these arrangements are implemented effectively and are suitable to achieve objectives.

Notes:

- 1. The quality audit typically applies, but is not limited, to a quality system or elements thereof, to processes, to products, or to services. Such audits are often called “quality system audit”, “process quality audit”, “product quality audit”, “service quality audit”.*
- 2. Quality audits are carried out by staff not having direct responsibility in the areas being audited but, preferably, working in co-operation with the relevant personnel.*
- 3. One purpose of a quality audit is to evaluate the need for improvement or corrective action. An audit should not be confused with “surveillance” or “inspection” activities performed for the sole purpose of process control or product acceptance*
- 4. Quality audits can be conducted for internal or external purposes.*

QUALITY SURVEILLANCE:

The continuing monitoring and verification of the status of procedures, methods, conditions, processes, products and services, and analysis of records in relation to stated references to ensure that specified requirements for quality are being met.

Notes:

- 1. Quality surveillance may be carried out by or on behalf of the customer to ensure that the contractual requirements are being met.*
- 2. Surveillance may have to take into account factors which can result in deterioration or degradation with time.*

QUALITY SYSTEM REVIEW:

A formal evaluation by top management of the status and adequacy of the quality system in relation to quality policy and new objectives resulting from changing circumstances.

CONFIGURATION:

The complete technical description required to make, test, accept, install, operate, maintain and logistically support an item.

DESIGN REVIEW:

A documented, comprehensive and systematic examination of a design to evaluate its capability to fulfil the requirements for quality, identify problems, if any, and propose the development of solutions.

Note:

A design review can be conducted at any stage of the design process, but should be conducted in any case at the completion of this process.

INSPECTION:

Activities such as measuring, examining, testing, gauging one or more characteristics of a product or service and comparing these with specified requirements to determine conformity.

TRACEABILITY:

The ability to trace the history, application or location of an item or activity, or similar items or activities, by means of recorded identification.

Notes:

1. *The term “traceability” may have one of three main meanings:*
 - a) *in a distribution sense, it relates to a product or service;*
 - b) *in a calibration sense, it relates measuring equipment to national or international standards, primary standards or basic physical constants or properties;*
 - c) *in a data collection sense, it relates calculations and data generated throughout the quality loop to a product or service.*
2. *Traceability requirements should be specified for some stated period of history or to some point of origin.*

CONCESSION WAIVER:

Written authorisation to use or release a quantity of material, components or stores already produced but which do not conform to the specified requirements.

Note:

Concessions (waivers) should be limited quantities or periods, and for specified uses.

PRODUCTION PERMIT; DEVIATION PERMIT:

Written authorisation, prior to production or before provision of a service, to depart from specified requirements for a specified quantity or for a specified time.

RELIABILITY:

The ability of an item to perform a required function under stated conditions for a stated period of time.

The term “reliability” is also used as reliability characteristic denoting a probability of success or a success ratio.

Note:

This definition is taken from IEC Publication 271; any update of this term in IEC Publication 271 will be considered as a replacement for this definition.

PRODUCT LIABILITY; SERVICE LIABILITY:

A generic term used to describe the onus on a producer or others to make restitution for loss related to personal injury, property damage or other harm caused by a product or service

Note:

The limits on liability may vary from country to country according to national legislation.

NON-CONFORMITY:

The non-fulfilment of specified requirements.

Notes:

- 1. The definition covers the departure or absence of one or more quality characteristics or quality system elements from specified requirements.*
- 2. The basic difference between “non-conformity” and “defect” is that specified requirements may differ from the requirements for the intended use. (See Note 1, “DEFECT”, below).*

DEFECT:

The non-fulfilment of intended usage requirements.

Notes:

- 1. The definition covers the departure or absence of one or more quality characteristics from intended usage requirements.*
- 2. See Note 2., “NON-CONFORMITY”, above.*

SPECIFICATION:

The document that prescribes the requirements with which the product or service has to conform.

Note:

A specification should refer to or include drawings, patterns or other relevant documents and should also indicate the means and the criteria whereby conformity can be checked.

VERIFICATION:

The method used to ensure the quality of purchased materials, items or components or of in process products at appropriate points in the process. When performed on completed product verification augments inspections and tests made during production.

Verification for software is defined as the process of evaluating the products of a given phase to ensure correctness and consistency with respect to the products and standards provided as input to that phase.

VALIDATION:

The process of evaluating a product to ensure compliance with specified requirements.

VALIDATION: (for software):

The process of evaluating software to ensure compliance with specified requirements.