

# Product Quality - ISO/IEC 25010

Characteristics	Sub-Characteristics	Definition
Functional Suitability	Functional Completeness	degree to which the set of functions covers all the specified tasks and user objectives.
	Functional Correctness	degree to which the functions provides the correct results with the needed degree of precision.
	Functional Appropriateness	degree to which the functions facilitate the accomplishment of specified tasks and objectives.
Performance Efficiency	Time-behavior	degree to which the response and processing times and throughput rates of a product or system, when performing its functions, meet requirements.
	Resource Utilization	degree to which the amounts and types of resources used by a product or system, when performing its functions, meet requirements.
	Capacity	degree to which the maximum limits of the product or system, parameter meet requirements.
Compatibility	Co-existence	degree to which a product can perform its required functions efficiently while sharing a common environment and resources with other products, without detrimental impact on any other product.
	Interoperability	degree to which two or more systems, products or components can exchange information and use the information that has been exchanged.
Usability	Appropriateness recognisability	degree to which users can recognize whether a product or system is appropriate for their needs.
	Learnability	degree to which a product or system enables the user to learn how to use it with effectiveness, efficiency in emergency situations.
	Operability	degree to which a product or system is easy to operate, control and appropriate to use.
	User error protection	degree to which a product or system protects users against making errors.
	User interface aesthetics	degree to which a user interface enables pleasing and satisfying interaction for the user.
Reliability	Accessibility	degree to which a product or system can be used by people with the widest range of characteristics and capabilities to achieve a specified goal in a specified context of use.
	Maturity	degree to which a system, product or component meets needs for reliability under normal operation.
	Availability	degree to which a product or system is operational and accessible when required for use.
	Fault tolerance	degree to which a system, product or component operates as intended despite the presence of hardware or software faults.
Security	Recoverability	degree to which, in the event of an interruption or a failure, a product or system can recover the data directly affected and re-establish the desired state of the system.
	Confidentiality	degree to which the prototype ensures that data are accessible only to those authorized to have access.
	Integrity	degree to which a system, product or component prevents unauthorized access to, or modification of, computer programs or data.
	Non-repudiation	degree to which actions or events can be proven to have taken place, so that the events or actions cannot be repudiated later.
	Accountability	degree to which the actions of an entity can be traced uniquely to the entity.
Maintainability	Authenticity	degree to which the identity of a subject or resource can be proved to be the one claimed.
	Modularity	degree to which a system or computer program is composed of discrete components such that a change to one component has minimal impact on other components.
	Reusability	degree to which an asset can be used in more than one system, or in building other assets.
	Analyzability	degree of effectiveness and efficiency with which it is possible to assess the impact on a product or system of an intended change to one or more of its parts, or to diagnose a product for deficiencies or causes of failures, or to identify parts to be modified.
	Modifiability	degree to which a product or system can be effectively and efficiently modified without introducing defects or degrading existing product quality.
Portability	Testability	degree of effectiveness and efficiency with which test criteria can be established for a system, product or component and tests can be performed to determine whether those criteria have been met.
	Adaptability	degree to which a product or system can effectively and efficiently be adapted for different or evolving hardware, software or other operational or usage environments.
	Installability	degree of effectiveness and efficiency in which a product or system can be successfully installed and/or uninstalled in a specified environment.
	Replaceability	degree to which a product can replace another specified software product for the same purpose in the same environment.

# Quality in Use - ISO/IEC 25010

Characteristics	Sub-Characteristics	Definition
Effectiveness		accuracy and completeness with which users achieve specified goals
Efficiency		resources expended in relation to the accuracy and completeness with which users achieve goals
Satisfaction	Usefulness	degree to which a user is satisfied with their perceived achievement of pragmatic goals, including the results of use and the consequences of use
	Trust	degree to which a user or other stakeholder has confidence that a product or system will behave as intended
	Pleasure	degree to which a user obtains pleasure from fulfilling their personal needs

	<b>Comfort</b>	degree to which the user is satisfied with physical comfort
<b>Freedom from Risk</b>	<b>Economic Risk Mitigation</b>	degree to which a product or system mitigates the potential risk to financial status, efficient operation, commercial property, reputation or other resources in the intended contexts of use
	<b>Health and Safety Risk Mitigation</b>	degree to which a product or system mitigates the potential risk to people in the intended contexts of use
	<b>Environmental Risk Mitigation</b>	degree to which a product or system mitigates the potential risk to property or the environment in the intended contexts of use
<b>Context Coverage</b>	<b>Context Completeness</b>	degree to which a product or system can be used with effectiveness, efficiency, freedom from risk and satisfaction in all the specified contexts of use
	<b>Flexibility</b>	degree to which a product or system can be used with effectiveness, efficiency, freedom from risk and satisfaction in contexts beyond those initially specified in the requirements