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Certification – Basic Terms and Certification System

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Abstract

This article will introduce you to an interesting discipline such as certification, which

includes the basic concepts and requirements of certification, rules and processes.

Certification bodies that perform certain functions are also designated. And the general

structure of the "Law of Turkmenistan on Certification".

Keywords: Certification, Test, Product, Service, Process, Procedures, Rules.

1. Introduction

Turkmenistan is a Great country that is developing in all branches of science and technology.

We have preserved all the traditions of our ancestors, but at the same time we are developing

in all areas of science and technology and taking huge steps towards progress. All these

achievements and discoveries are carried out under the leadership and enormous support of

our Great and Respected President Serdar Berdimuhamedov.

Throughout 2023, our Dear President Serdar Berdimuhamedov developed and supported both

cultural and scientific discoveries that awaken pride in the hearts of our scientists for the

Turkmen people and for our state. Huge steps have also been made in the development of the

trade and market economy, which means that such a science as "Certification" is also

developing. Let's look at a few basic terms and standardization criteria.

2. Basic rules and concepts of certification

Certification is Latin for "done right." A certificate of conformity is issued only if the product meets all relevant requirements, and it should also be determined how this compliance with quality standards can be demonstrated. First, we should consider the terms that are used in certification.

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First of all, we need to define what is meant by the word "test." Testing is a technical operation that determines several characteristics of the product being tested using an appropriate procedure and according to established rules. Tests are carried out in testing laboratories, which can be either technical or legal bodies. After systematic tests carried out in laboratories, the product receives a "conformity assessment" or "quality assessment", which proves that the product meets all regulatory requirements. The most accurate "quality assessment" is obtained when specific characteristics of a given product are identified and considered.

Also, in assessing the quality of a product, a "third party" also acts, which can give the most accurate test results, and the results in general. A third party is an independent party, which may be an independent person or body that is independent of either the supplier (first party) or the buyer (second party). There is also special supervision, verification and ensuring compliance of product quality. Confirmation of compliance of a product (process, service) with established requirements, in which evidence of the quality of the product (process, service) is provided, is called ensuring compliance. After all possible tests have been carried out, repeated assessment checks are carried out - this process is called compliance supervision. The procedure in which a product (process, service) receives full quality

confirmation, and gives confidence that the product (process, service) meets the specified requirements, is called compliance assurance.

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This procedure is applied in the following cases: when the supplier declares the conformity of the quality of the product, which is accepted in writing as a guarantee, i.e. a statement that can be printed in a catalog, in an instruction manual, in an invoice or in any other document that relates to a given product (it can also be a label or tag).

Certification is a procedure by which a third party provides written assurance that a product, process, or service meets specified requirements.

The term "supplier's statement of conformity" means that the supplier (manufacturer), on his own responsibility, declares that his product meets the requirements of a specific regulatory document. According to the ISO (International Organization for Standardization) / IEC (International Economic Commission) Guide, this is proof of the conscious responsibility of the manufacturer and the willingness of the consumer to make a thoughtful and specific order.

The manufacturer's statement, which is also called a declaration statement, contains the following information: the address of the manufacturer submitting the declaration statement, product designation and additional information about it; name, number and date of publication of the standard referred to by the manufacturer; an indication of the manufacturer's personal responsibility for the contents of the application, etc. The information provided must be based on test results. Reference to a standard does not imply

approval of the product by the organization that has adopted that standard. The manufacturer has no right to use marks of conformity with standards.

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Confirmation of compliance through certification requires the mandatory participation of a third party. Such confirmation of conformity is independent, providing a guarantee of compliance with specified requirements, carried out according to the rules of a certain procedure. Certification is considered the main reliable way to prove the compliance of a product (process, service) with specified requirements.

Procedures, rules, tests and other activities that can be considered as components of the certification process (activity) itself may vary depending on a number of factors. Among them are legislation relating to standardization, quality and certification itself; features of the certification object, which in turn determines the choice of test method, etc.

In other words, proof of compliance is made using one or another certification system.

According to this document, ISO/IEC is a system that carries out certification according to its own rules regarding both procedure and management.

The certification system represents:

- a central body that manages the certification system, which supervises the overall activities and can delegate the right to certification to other certification bodies;
- rules and procedures for certification;
- regulatory documents, the compliance of which is carried out by certification;
 certification schemes and procedures;
- inspection control procedure.

Certification systems can be implemented at national, regional and international levels. A certification system may also be involved in proving the conformity of a certain type of product (process, service), the so-called homogeneous product, the certification system of which in its practice applies standards, rules and procedures that relate specifically to this product. A general certification system may also include several certification systems for homogeneous products with their own bodies and other components.

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Our country has the "Law of Turkmenistan on Certification", which consists of 5 chapters and 25 articles (Data from the Mejlis of Turkmenistan, 2013, No. 4, Art. 89). Based on this law, you can note the basic concepts, goals and principles of certification, determine the powers of certain government bodies in the implementation of a unified state policy in the field of certification within the competence of each body, become familiar with the work performed in the certification process, and also learn about the main the rights and responsibilities of product manufacturers, developers, performers, sellers and shippers, understand the essence of the work of expert auditors, and most importantly, about liability for violation of this law.

Once, again we would like to express our gratitude to our esteemed Leader of our country, Serdar Berdimuhamedov, for the attention and support he provides to the development of science, technology, as well as to the young generation of Turkmen scientists in developing the high achievements of our people.

3. Conclusion

Certification is a guarantee of high-quality products that are safe for human health and life, and certification also increases the level at which products become more competitive to reach

the international level. This is why it is so important to study all the rules, procedures and certification processes.

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REFERENCES

- [1]. Шишмарев, В.Ю. Метрология, стандартизация, сертификация и техническое регулирование: Учебник / В.Ю. Шишмарев. М.: Academia, 2017. 496 с.
- [2]. Шишмарев, В.Ю. Метрология, стандартизация и сертификация: Учебник / В.Ю. Шишмарев. Рн/Д: Феникс, 2019. 64 с.
- [3]. Шишмарев, В.Ю. Метрология, стандартизация и сертификация: учебник / В.Ю. Шишмарев. РнД: Феникс, 2019. 429 с.
- [4]. Хрусталева, З.А. Метрология, стандартизация и сертификация. практикум (для спо) / З.А. Хрусталева. М.: КноРус, 2019. 448 с.
- [5]. Пухаренко, Ю.В. Метрология, стандартизация и сертификация. Интернеттестирование базовых знаний: Учебное пособие / Ю.В. Пухаренко, В.А. Норин. СПб.: Лань, 2019. 308 с.
- [6]. "Certification". International Organization for Standardization. Archived from the original on Feb 27, 2024.
- [7]. "Certification". International Organization for Standardization. Archived from the original on Feb 27, 2024.
- [8]. https://en.wikipedia.org/wiki/Certification
- [9]. https://dictionary.cambridge.org/dictionary/english/certification
- [10]. https://www.iso.org/certification.html