

STATISTICAL CONTROL OF PRODUCTION PROCESSES, ANALYSIS OF THE MEASUREMENT SYSTEM

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Annotation: this article covers the improvement of the concepts of responsibility and commitment of enterprises producing basalt products in the satisfaction of demand and desire of their consumers and stakeholders, as well as in the achievement of their involvement in the provision of products and services. It is written that the organization and manufacturing enterprises make a strategic decision in applying a Quality Management System that can help improve the results of their activities and provide initiatives with a solid foundation, designed for Sustainable Development. International standards for the production of their products are covered by the application of requirements to determine the possibility of processes and what advantages statistical methods give the organization.

Keywords. ISO 9001, IATF 16949, SPC, technological capabilities (cpk, RpK), international standards, quality, Basalt, thermal insulation building materials, audit, xaqaro certificate, World Trade Organization (WTO) and other.

INTRODUCTION

It follows that the decree of the president of the Republic of Uzbekistan dated February 7, 2017 PF-4947 “on approval of the strategy of action for further development of the Republic of Uzbekistan” separately noted the liberalization and simplification of the economy, diversification of export composition and geography, and set out tasks for conducting negotiations on the entry of Uzbekistan into the WTO as a member state [1]. In particular:

- liberalization of the economy and regulation of the level development of industries;
- regulation of price and establishment of an acceptable tax system;
- maintenance of subsidies in individual sectors and production;
- regulation of the system of standardization and certification of goods;
- increase the attractiveness of foreign investments;
- regulation of the tariff of import and export duty payments.

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Currently, a defect prevention strategy is effective. One effective method used to prevent inconsistency in technological processes is the SPC (Statistical Process Control) process statistical management method, developed in the 1960s by the US (AIAG) automotive industry standardization group and the (ASQC) American Society for quality management automotive division.

In each product quality management system, statistical methods of quality control are considered the most perfect methods. Different from the statistical methods of adjusting technological processes, the state of the process is concluded on the basis of control results.

Judging by the results of the control, it is decided whether to accept a batch of products or not. If, when configuring technological processes, the determination of the unit is adjusted in the range of specified times or statistical methods of the numbered unit of products, or vice versa, it is necessary to combine them in a statistical method based on the selected control when finding the unit of the product.

LITERATURE ANALYSIS AND METHODOLOGY

In 1990, Chrysler, Ford, and General Motors agreed with AIAG, the company's supplier certification and Quality Assessment Team, which developed the SPC method as a guide and began requiring the application to conveyors. The manual has been updated by the standardization group with several additions from 1992 and over the years to this day, IATF 16949:2016 the automotive industry quality management system requires those under paragraphs 9.1.1.2 and 9.1.1.3 of the international standard:

statistical methods (SPC – control cards) according to each process to be defined in the future product quality planning and management plan (APQP / SR);

the key concepts are the ability to handle (variation), stability (stability), the possibility of processes (Cpk, Ppk), and the fact that over – tuning is accessible and accessible to all by Organization.

Discussion

It is necessary to choose quality indicators for the control card. They can be indicators that mainly affect the function of the product, part, node or service. SPC methods must first be introduced to those that help to fix process data, products, services or processes in a unit of time, as well as to ensure quality and stability (stability) affect decisions.

Cpk-ctabil process is smaller than the repeatability index;

$$\frac{(UCL - \bar{X})}{3\hat{\sigma}_{\hat{R}}/d_2} \frac{(X - \bar{LCL})}{3\hat{\sigma}_{\hat{R}}/\bar{d}_2}$$

Ppk-suitability index is smaller than;

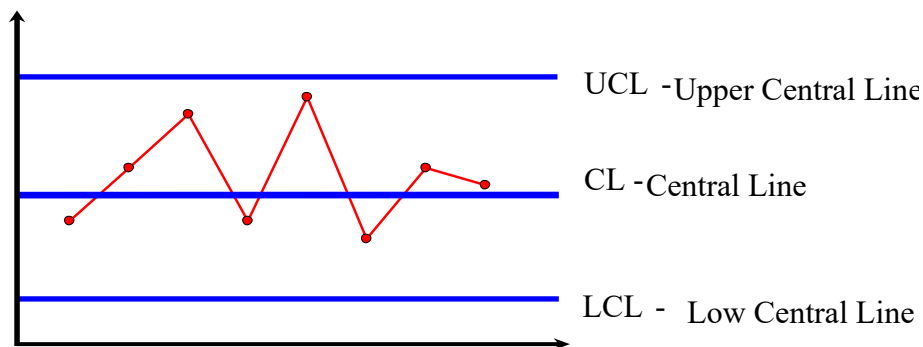
$$\frac{(UCL - \bar{X})}{3\hat{\sigma}_s} \frac{(X - \bar{LCL})}{3\hat{\sigma}_s}$$

C-the number of inconsistencies in the group;

\bar{C} - mean value for all s-groups;

\bar{u} - the number of inconsistencies with respect to the unit of the group;

\bar{u} - It does not have to be a homogeneous volume, the average number of inconsistencies with respect to the unit of selection;



Conclusion

Today, one of the main tasks on the way to becoming a member of the entire joxon Trade Organization WTO (World Trade Organization) is one of the indicators of the introduction of international standards into the enterprise. In this context, SPs expressed the need to use process statistical control (). At present, it is important to improve quality and productivity in the global system of production and delivery of products and to reduce spending in the supply chain.

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