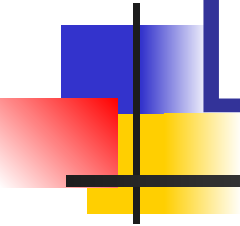
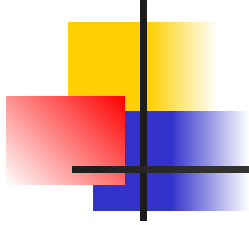


METHODS OF CALCULATION THE LABOR NORMS





- I. Analytical method of calculation the labor norms
- II. Experimentally statistical method of calculation the labor norms
- III. Account of the labor norms implementation



I. ANALYTICAL METHOD

It's the main method of technical normalization, based on the studying and critical analysis of existing sequence of normalized execution techniques, organization and working conditions in the workplace, effective use of equipment in order to identify reserves to reduce labor costs and increase labor productivity.

Here, labor norms are **technically valid**.

The labor norm can be determined either by **direct observation** and **measurement** of the length of elements of the operation, or through **labor standards**.

Analytical method is divided into **analytically researched** and **analytically calculated**.



Analytically researched method

Analysis, design of composition and sequence of individual elements of normalized operation are carried out **by a direct study of the operation in the workplace** using a chronometry.

Firstly, administrative and technical measures should be carried out to **rationalize the organization of labor and production** to reduce the time expenditures.

Machine time is calculated according to the productivity of the equipment and optimal modes of its work.

The amount of **preparatory-final time** and **time of service** are established on the basis of pictures of working time.

Time for rest and personal needs is determined according to the special physiological studies or calculated according to the standards as a percent from an operative time.



These data provide the basis for determining the amount of time for the operation in general.

Advantage: it allows to carry out a research directly in the workplace, to identify and remove defects in the organization of labor, maintenance of workplace, labor conditions.

Disadvantage: high complexity, which limits its scope of application.



Analytically calculated method

Analysis and design of composition and sequence of normalized operations, and determining the time expenditures performed under the **relevant technically valid standards**, as well as according to the formulas of dependence of the time from factors that characterize the amount of work performed under certain organizational and technical conditions.

Allows to reduce the complexity of developing norms as there is no need to study the time required by observations.

However, this method decreases slightly the accuracy of norms for the given workplace because standards are developed for a typical organizational and technical conditions of the work.



II. Experimentally statistical (summary) method

Norms are set generally for the whole operation or work, without separation into elements.

Norms for the operation developed on the basis of experience of the setter, reporting data of actual time expenditures on similar operations in the previous period, without partial analysis, with no design modes, methods and rational organization of labor.

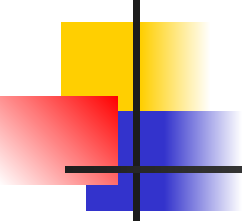
This method **is not scientific**. Labor norms set by this method, fix the actual condition of production, with all gaps, so this method can be used in exceptional cases, if for some reasons you can not apply an analytical method.



III. Account of the labor norms implementation

Account of the labor norms implementation for each employee, section, workshop, for company as a whole is required to perform the following **tasks**:

- to identify employees who successfully perform norms, and those ones who can't handle the established norms and define the reasons of this;
- to identify outdated norms and prepare materials for their revision;
- to analyze the achieved level and the dynamics of labor productivity growth, to assess an intensity of norms for sections, workshops and company as a whole.



In practice, there are individual and by-operational account of labor norms.

- **By-operational account** carried out for each norm separately. It allows to identify outdated and mistaken rules (too low and too high), to determine the result of implemented organizational or technical actions.

It is necessary to perform on actual time worked, excluding intra-shift downtime and time spent during the shift to perform timephased works.

- **Individual account** carried out on the calendar time. It allows to determine a degree of fulfillment the norms of individual workers and groups of workers. Implementation of the established norms is taken into account as a percentage of the norm of production, and the norm of time.