



**STATISTICAL OFFICE OF
MONTENEGRO**

METHODOLOGICAL GUIDELINES

**CONSTRUCTION WORKS AND CONSUMPTION MATERIALS - BUSINESS
COMPANIES**

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Podgorica, June 2024. godine

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Legal basis

The legal basis for the implementation of the survey on construction works is the Law on Official Statistics and Official Statistical System of Montenegro ("Official Gazette of Montenegro", No. 18/12 and 47/19) and Annual plan of statistical surveys.

METHODOLOGICAL GUIDELINES

The aim of statistical survey

The aim of survey on construction works and consumption materials by business companies is to collect the data necessary for the calculation of the value index of finalised construction works, number and floor area of finished and unfinished dwellings, as well as the consumption and value of construction materials.

Sources and methods of data collection

The source of data for the compiling of survey is enterprises which are registered in sector F according to the classification NACE Rev.2 and enterprise (KAU) whose local units perform the construction works.

Method of data collection is reporting method.

The data for enterprise are collected through annual survey on construction works and consumption materials by business companies (GRAĐ-11).

The data collected by these surveys present the results of work performed by enterprises and individuals in Montenegro.

Reporting units received the questionnaire and instruction from the competent statistical services.

Observation units

Observation unit for survey on construction works are:

- enterprises with 5 and more employees which are registered in sector F – construction (area 41, 42, 43) according to the classification NACE Rev.2 and
- enterprises (KAU) which are not registered in sector F, but whose local units perform the construction works.

Coverage of survey

The survey on construction works and consumption materials included reporting units with 5 and more employees who are involved in construction, regardless of ownership, association form and of the origin of capital as well as reporting units (KAU) whose business units engaged in construction works.

The survey on construction works shall include:

- preparatory work involving demolition and dismantling of buildings and other structures, land clearing, excavation of foundations and other earthworks;
- works to raise the building and construction of other facilities;

- installation and finishing work on buildings;
- renting of construction machinery and equipment for construction or demolition of buildings, with the operator.

The survey on construction works should exclude:

- the cost of purchasing the land;
- costs and hours of work achieved in engineering, surveying of land, supervision and control of the project, because these activities according to the Classification, do not fall in construction;
- value-added tax (VAT).

The sample frame was formed on the basis of the data from Statistical Business Register, which includes all active business entities from the area of construction as well as KAU with secondary activity in the construction sector.

Reference area: The whole territory of Montenegro.

Sample: Stratified sample.

Sampling and methods of used estimation:

Initial weight W , $W = 1/f$, where is $f = nh/Nh$ (nh – sample size in a certain class of reporting units, Nh – total number of reporting units in that class obtained from database). Depending on the results obtained from the fields, initial weight is adjusted for non-response rate.

Criteria for stratification:

Reporting units are stratified by the group of employees and classified into three classes:

Class 1: 5-49 employees,

Class 2: 50-249 employees,

Class 3: 250 and more employees.

The sample includes all reporting units from the class 2 and 3, while reporting units from class 1 is selected by random sample.

Definitions of main indicators

Construction structure are structures connected with the ground (underground, aboveground construction and hydraulic engineering), for carrying out construction works, and are made of construction materials and components. Soil preparation, seeding or planting and others, which are used for agricultural purposes, does not fall within the construction works.

Buildings are permanent structures with a roof and external walls, constructed as a stand-alone utility units that protect from weather and other external influences and are intended for dwelling, performing a certain activity or for placing and keeping of animals, goods, equipment used in various industrial activities and services etc. Buildings are also constructions covered with roof but without (all) walls, for example, eaves, as well as partly or completely below the surface, for example shelters, underground garages, shops and other business premises in underground passages and the like.

Residential buildings are buildings in which 50% or more of useful floor area is used for housing.

Non-residential buildings are constructions without dwelling area is less than 50% of the total floor area is intended for residential use. If at least half of the total floor area is used for housing, buildings are residential.

A *dwelling* is any residential construction unit intended for habitation, consisting of one or more rooms with ancillary rooms (kitchen, hallway, bathroom, closet, etc.) Or without them, and has one or more separate entrances directly from the hallway with staircase from the yard or the street.

Floor area (m²) is a useful floor area of the dwelling, measured inside the walls of the dwelling and presents the sum of areas of all rooms, kitchens, bathrooms, toilets and other utility rooms in the dwelling. It excludes the area of the basement and attic, which are not regulated as an dwelling or part of it, then the surface garage, boiler room, pantry, etc. as well as staircases and other common areas in multi-dwelling buildings. If you are given information on dwellings in family homes, in the usable area of the dwelling is not included in the surface of the basement, attic, stairways or corridors that connect the two dwellings (unless you connect the same room dwelling), as well as surface garage, boiler room and storage room. Sizes upgraded parts of the building (in horizontal or vertical direction) are displayed in units of measure only if they obtained such building new dwellings or commercial premises as new housing units for any purpose.

Other buildings are all constructions that are not buildings: railways, roads, bridges, highways, airport runs, pools etc.

Finished construction is every building in which they completed all planned construction, craft and installation works, so that it can be used for the purposes for which it was intended.

Value of construction work is shown at current prices and it comprises all construction material built and work spent regardless of whether such work and materials are paid or not. Data on the value of finalised construction works related to works performed in the reporting year on finished and unfinished buildings. The value of work performed by contractors - a legal person, is given on the basis of annual compilations, while the value of the work performed by individuals is given on the basis of the statement of the owner.

New building involves construction of a new building at the site where before no structure or she existed, but was removed. Construction of new buildings and rebuilding (from the ground) buildings that are due to natural disasters, war and the like completely destroyed or were so damaged that they had to completely demolish. New construction of a road or railway line is considered to be completely built in the lower or upper machine that cuts through entirely new route, or with partial use of the old route, whereby completely changed.

Upgrading involves construction of new parts of the building (in horizontal or vertical sense) to the existing building. These are construction works that receive new usable units beside the existing buildings or existing buildings, for example brand new house or office, or example extension of existing roads, water, sewer and other pipelines or communication lines, and the

like. Here does not include the extension of existing buildings, for example upgrading of certain rooms or premises, extension of roads or other extensions which usually increases the capacity of existing buildings.

Restoring old, ruined, abandoned buildings construction work which involves at least one dwelling or other premises in the building completely reconstructed using the relevant parts of existing structures, preserved external facades of buildings and so on, although the interior attic and wall partitions completely demolished (eg. due to the age of the building, natural disasters, war).

Adaptation of non-residential space in new housing implies a change of purpose non-residential to residential. These are construction works that existing space in the building (e.g. attic or basement that had not been arranged for housing, garage space in which she performed a manufacturing or service industry) change the purpose or it is converted into one or more dwellings.

Under other adaptations space in buildings include the construction works that existing space in the building (eg. House, attic or basement that had not been done for commercial purposes, garages, etc.) Altering the purpose or becoming a commercial or copies of works which existing commercial adjusted for other business purposes.

Improvement of existing buildings are construction works which substantially improves the value in use of the building (e.g. capacity) and extends its duration. Such works include: expansion of building, remodeling, refurbishment and modernization, as well as replacement of essential parts of dilapidated buildings.

Expansion involves building construction works that expand the existing building, for example. upgrade room or utility room in existing homes or business premises, expansion of roads for greater bandwidth, the replacement of existing pipelines and power lines with those who have the capacity and the like.

Modifications, refurbishment and modernization involves construction works which substantially improves the quality, function, capacity and duration of the existing building. Here, therefore, include works that affect the technical features essential for the building, such as rehabilitation, modernization works due to changes in the technological process of production and so on. This group of works belonging to the introduction of pipeline installations, central heating, air-conditioning, elevators and other installations in the buildings they had not been for these installations.

Replacing worn-essential parts of buildings involves the construction work which completely replaces worn-out or damaged due to various disasters are essential parts of the building, such as complete roof structure, stairways, elevators, windows and the like. or complete replacement of old electrical, plumbing and other installations, replacement of worn stripes on the entire route or part of the route, changing part of the road or around the time a new layer of asphalt, etc.

Regular maintenance and repairs represents construction works performed periodically in order to maintain the building in usable condition.

The average number of workers on construction sites include all workers by a reporting unit hired to work on construction sites, regardless of qualification, type of employment (employment contract, service contract or any other type of contract, and written or oral agreements, workers hired through operating agency or loaned by other companies) and duration of work at the construction site. If the (small) companies performing work on the job site with the direct involvement of the owner or manager of the company, family members, etc. it is necessary to include them in this group of workers.

The total number of hours worked generated at construction sites is calculated by adding up the data on the actual number of hours for all months in the reporting year. Include actually realized classes of employees, and to classes during regular working hours, overtime, night work, work on Sundays and public holidays, regardless of whether they are paid or not.

Building size of the building include information on the size of the building. For new buildings and restoration of collapsed buildings on the size of the data are given for the entire building, and for the expansion and changes in the allocation provide data on the size of the part of the building that builds or modifies purpose.

Gross building area (m²) is the sum of the area of all floors of the building covered exterior walls, including the thickness of external walls. Include the floors where the floor beneath the surface of medium elevation of the surrounding terrain and the ground floor and all the floors above the ground surface including stairs, elevators, hallways, entrances, passages, etc., but excluding the balcony.

Gross capacity building (m³) is the sum of the volumes of all roofed parts of the building, including outer walls. It is calculated by dividing the gross building area of the corresponding parts of the building multiplied by the height of these parts. Home angle height of buildings (or parts of buildings) is calculated from the surface of the basement floor or second lowest floors in the building up of medium height roof structure, ie the building with a flat roof or terrace, which is the ceiling of the top floor, takes the angle of the lower surface of the flat roof or terrace.

The above definition of the unit of measurement are general statistical standards for the presentation of the building size recommended by European statistics and UN / Economic Commission for Europe.

Purpose of the building can be:

Exclusively residential building is a building that is entirely intended for housing and there is no room for any activities, but may have garages and other common areas that are intended for the needs of the occupiers.

Mostly residential building is a building in which over 50% of usable area occupied dwellings and rooms that serve beneficiaries (garage tenants, utility room), a useful space allocated for the activity is less than 50%. If it is true 50% of the area intended for residential use and 50% of the office space, the building is also classified in this group.

Mostly non-residential building is a building in which the major area of over 50%, occupy the premises for carrying out one or more activities, ie. residential area occupies less than 50% of usable building.

Only non-residential building as a whole is intended to perform certain activities or in its composition does not have rooms intended for housing.

Building with dwellings exclusively for the family vacation house or other building in which all dwellings constructed home. As a rule, the investor or buyer of these dwellings is a private person who uses them for its own purposes.

System construction can be:

The traditional system of construction is characterized by the application of traditional (classical) building materials such as brick, stone, concrete, etc. traditional (artisanal) way, and to only use basic prefabs ("assembly" and other carriers, lintels, etc.).

Under semi mounting system involves the construction under which less than 50% of the building running from construction of prefabricated elements that are installed most often dry process with minimum wet process.

Under mounting system means a building in which 50% or more structures derived from pre-manufactured construction of prefabricated elements on the construction site products previously manufactured prefabricated building elements that appear most frequently implanted dry method.

Size floors in the building corresponds the number of floors above and below ground.

The ground floor of the first floor of the building above the basement and the basement or above the middle elevations of the surrounding terrain (if the building has no basement) which are constructed residential or commercial premises.

The *basement* is a space in the building which is located under the below middle elevations of the surrounding land and as such belongs to the floors below ground.

Attics are typically not counted in the floors, however, if in the area built dwelling or office space then appears as the next floor above the top floor of the building.

The building is equipped with *central heating* installations if the central heating installations planned or built into the entire building or part of a building. The delivery method of heat can be:

- Remote, if the heat is supplied from the public (local) power plants;
- Heating in the building (or housing) if the rooms in the building heated by heat supplied from a common boiler room in the building (which can heat a building or several of them) or provided for heating individual dwellings or commercial premises.
- No, if not in one of the buildings are planned or built-in installation of central heating.

The usable area of office space in buildings is the usable surface area of business premises in the building, regardless of whether they are in exclusively or predominantly non-residential building or in a predominantly residential building. Under the business premises shall mean

the room in which it is performed to manufacture goods or provide different services (restaurants, shops, personal services), office premises for any purpose, including government and banks, medical offices, facilities that provide scientific, educational or cultural activity and so on. The usable area of the business premises of the floor area measured within the walls of these rooms. It excludes the area of the basement and attic, which are not regulated as office space, then the garage area that is not used for work, boiler room, pantry and stairs.

The average number of workers on construction sites includes all workers hired by the reporting unit to work on construction sites regardless of qualification, type of employment relationship (employment contract, work contract or any other type of contract and written or oral agreement, hired workers through employment agencies or borrowed through other companies) and the length of work on the construction site. If in (small) companies, work on the construction site is performed with the direct participation of the owner or manager of the company, family members, etc. it is necessary to include them in this group of workers.

The total number of hours worked on construction sites is calculated by adding up data on actual hours worked for all months in the reporting year. The hours worked by workers are included in regular working hours, overtime work, night work, and work on Sundays and public holidays, regardless of whether they are paid or not.

The amount of installed or used material is expressed in the units of measure shown in the table itself. If a unit of measure in the table differs from the unit of measure with which these materials are kept in the bookkeeping, a recalculation should be made based on the norms that are usually established in practice.

The value of the installed or used material is stated in actual prices based on the invoice. If the company records the purchased and used material in plan prices, it is obliged to express it in actual prices. The cost of external transport is also included in the value of the material.

Construction companies that do not perform other activities, except construction, report the consumed energy and fuel for the entire company, and if they also have non-construction units, they should report (estimate) only the part related to the construction activity.

Non-construction companies should report data only on electricity and fuel for construction units.

If the reporting unit does not have accurate data on fuel and electricity consumed by work units that perform different activities, the data on consumption for the construction activity should be estimated.

Harmonization with EU regulations and recommendations

The survey on construction works are harmonized with the Classification of activities NACE Rev.2 and Classification of Types of Construction – CC 1997.

Confidentiality

Data obtained from reporting units represent an official secret and used only for statistical purposes and cannot be published or made available to any user. The results of the survey

are published at the aggregated level and the privacy of the individual data is completely ensured.

Organisation of survey

In accordance with the Plan and Program of Statistical Surveys, the organization of the survey refers to preparation of questionnaires and instructions to the reporting units, collection, processing and dissemination of data.

Dissemination

Data on construction works are published according to Statistical Release Calendar in Annualy release on construction works and Statistical Yearbook on web site of Statistical Office of Montenegro.

Revision of data

Statistical Office has adopted the revision policy and it is available on the web site <http://www.monstat.org/userfiles/file/o%20nama/2017/Revision%20policy.pdf>.

This survey uses regular revisions. Large and unplanned audits are only used in the specific cases defined by the revision policy.