INSTYTUT TECHNIKI BUDOWLANEJ
CERTIFICATION DEPARTMENT
ul. FILTROWA 1, 00-611 WARSZAWA
tel.: +48 22 57 96 167, +48 22 57 96 168, fax: +48 22 57 96 295
e-mai: certyfikacja@itb.pl, www.itb.pl

GUIDELINES FOR CONSTRUCTION PRODUCT MANUFACTURERS
on
FACTORY PRODUCTION CONTROL (FPC)

These guidelines are particularly intended to assist manufacturers seeking to obtain from the Certification Department of the Building Research Institute European and national certificates of constancy of performance, conformity of factory production control and voluntary certificates.

The objective of the implementation of a factory production control system is to ensure stability of production and conformity of product performance properties with those declared by the manufacturer.

A definition of **FPC - the permanent internal control of production exercised by the manufacturer, in which all the elements, requirements and provisions adopted by the manufacturer should be documented in a systematic manner in the form of written policies and procedures; this production control system documentation should ensure a common understanding of quality assurance and enable the achievement of the required product characteristics and the effective operation of the production control system.**

These guidelines may be used as criteria for FPC assessment in certification processes conducted by ITB Certification Department, if the reference documents do not specify requirements concerning FPC or define them in too general way.

1. Description of a factory production control system

The FPC system should be described in documentation adapted to the complexity of the manufacturing process. Supervision of the documentation should ensure the availability of current documents for authorized persons.

1.1. FPC documentation

FPC documentation should be adapted to:
- degree of complexity of the manufacturing process,
- size of the manufacturing facility,
scope of intra-operational tests as well as finished product tests

It is recommended that FPC documentation, as a minimum, should describe aspects relating to:
a) personnel,
b) subcontracted work (use of subcontractors),
c) production equipment,
d) production process,
e) inspection and test equipment,
f) requirements for raw materials and finished products,
g) carrying out inspections and tests as well as using the results thereof,
h) handling of non-conforming products and claims,
i) carrying out corrective actions,
j) storage and transport of products.

FPC documentation should be supplemented by:
- technical documentation,
- technical specifications (product standards, test standards, technical assessments etc.),
- legal regulations.

2. Personnel

2.1. Organisational structure and use of subcontractors

The manufacturer shall specify the organisational structure (e.g. in the form of an organisation chart). He shall also specify which area of activity related to the manufacture of the product is carried out by subcontractors (including e.g. conducting of tests, supervision of production and control and measurement equipment, transport).
Where a manufacturer subcontracts any process that affects the performance of the product, he shall ensure that these processes are supervised. The manner of carrying out such supervision shall be specified in the FPC documentation.

2.2. Personnel competencies

The manufacturer shall specify the competence requirements for personnel in key positions. The competence of personnel shall be documented.

2.3. Responsibility and authority

The manufacturer shall appoint persons responsible for:

a) control of the FPC system (e.g. an FPC representative),
b) establishing necessary procedures,
c) defining requirements for raw materials and materials to be used in production and the finished products,
d) releasing raw materials and materials for use in production,
e) supervision of production machinery and equipment,
f) control of production, including possible stoppage of the production process,
g) conducting conformity assessment of the product at various stages of the manufacturing process,
h) control of inspection and measurement equipment,
i) control of non-conforming products,
j) control of the marking and protection of the products,
k) identification of the causes of non-conformities, determining corrective actions and assessing their effectiveness,
l) analysis of complaints,
m) issue of the declaration of performance,
n) implement all other activities within the framework of the FPC and allocate them appropriate powers.

3. Control of production machinery and equipment

The manufacturer shall ensure the maintenance, inspection and repair of machinery and equipment and supervise its implementation (e.g. schedule). It should also specify the method of inspection of machines and equipment after repair or overhaul. Records should be created from the conducted activities.

4. Product realization

4.1. Production set-up

4.1.1. Requirements for the product

The Manufacturer should:

a) specify requirements applicable to the product depending on its intended use,
b) identify requirements for the product arising from the legislation.

4.1.2. Purchasing

The Manufacturer should:

a) establish and document the requirements for raw materials and components,
b) require suppliers to provide documents proving the quality of deliveries,
c) check the conformity of deliveries with the orders (documents, possible inspections and tests),
d) carry out the selection and evaluation of suppliers,
e) establish procedures and principles to release purchased raw materials and components to production.

4.2 Control of production

The Manufacturer shall provide:

a) documents demonstrating the characteristics of the product at the various stages of manufacture are available,
b) availability of the necessary procedures/instructions at workplaces,
c) availability and use of proper inspection and measurement equipment,
d) conducting inspections and tests,
e) keeping records of inspections and tests,
f) establishing how to deal with non-conforming products.

4.2.1 Identification and traceability

Individual products and parts thereof should be traceable. The manufacturer should ensure product traceability i.e. the ability to trace the production history of a product.
The Manufacturer or their representative are obliged to keep **records** for individual products or product batches, including relevant details of production and product properties. Based on these records it should be possible to access all relevant information such as the production date, raw materials used, materials and products used, product batch, product type, intended use, manner of affixing a construction mark or a CE mark etc.

4.2.2 Inspections and tests

Regardless of type tests conducted before placing a product on the market, the manufacturer should carry out inspections and/or tests:

a) of deliveries (of raw materials and components),
b) during the production process (intra-operational inspections and tests),
c) of the finished products.

4.2.2.1 Elements of inspections and tests

The manufacturer shall at least specify:
a) the requirements for to raw materials and components, semi-finished and the finished product,
b) criteria of assessment of inspection and tests results (including the limits of acceptance of test results),
c) type, scope and methods of inspections and tests,
d) procedures for carrying out inspections and tests (including procedures for inspecting documents attesting the conformity of deliveries with the requirements),
e) the method of taking samples for inspections and tests,
f) type of sampling records,
g) type of records relating to inspections and tests,
h) rules on release: of incoming deliveries to production, of semi-finished products to subsequent production stages and of finished products into warehouse,
i) batch size.

The Manufacturer shall have appropriate technical competencies to carry out inspections and tests or should use the services of laboratories capable of providing reliable test results.

4.2.2.2. Inspection and test plan

The manufacturer should conduct inspections and tests based on a documented plan. The test plan should take into consideration the requirements of reference documents and should specify as a minimum:

a) properties to be tested,
b) testing procedures,
c) identification of the testing laboratory ,
d) the frequency of tests.

4.2.2.3. Inspection and test records

Records of inspections and tests should include:

a) name of the item tested,
b) delivery or production date,
c) data identifying the sample tested (such as sampling date, size of the sample, place of sampling, personnel responsible for sampling),
d) Inspection and test date,
e) the test methods used,
f) results of inspections and tests,
g) assessment of compliance of the results with the established requirements.

4.3 Supervision of inspection and testing equipment

The manufacturer should:
a) establish and document a procedure to ensure that the inspection and testing equipment indicates reliable values; measuring equipment used to carry out tests should be calibrated and shall ensure measurement traceability to the national standard,
b) specify which devices will be necessary to carry out individual measurements (with appropriate accuracy levels),
c) draw up an **inventory of equipment as well as a schedule of checks and calibrations of measuring equipment necessary for the assessment of declared properties**. The schedule shall specify the minimum frequency of checks and calibrations as well as the date of the next check,

d) identify **persons responsible for** control of the equipment and assign appropriate powers to them,
e) execute control of the equipment used for inspections and tests, irrespective of whether it is owned by the manufacturer or by a third party.

Measuring instruments shall have operating and check/calibration manuals.
Personnel should have access to such manuals and these should be comprehensible for them**.** The equipment should only be used for the intended purpose and in accordance with the operating manuals.
Checks/calibrations of measuring instruments should be performed according a prescribed procedures and the results should be recorded.

4.4 Control of non-conforming products

The manufacturer shall ensure that non- conforming products are isolated and properly labelled to avoid their unintended use. If a non- conforming product is identified, the manufacturer shall take immediate action, whereby:

a) eliminate the non-compliance found,
b) reclassify the product for other uses; or
c) prevent the use of that product.

After elimination of the non-conformity, the manufacturer shall repeat the inspection or testing of the product to demonstrate compliance with requirements.

4.5 Product marking

Finished construction products should be marked in accordance with the requirements of reference documents and applicable legal regulations.

4.6 Product protection - storage, packaging and transport

The manufacturer shall specify how to handle the finished product.
The conditions for receiving the finished product into the warehouse should be clearly defined and **appropriate records** should be created from the process of receiving the product and its release. The manufacturer should ensure appropriate environmental conditions for storage and transport of the product and monitor them, if necessary.

5 Complaints

The manufacturer should specify and **document** how to deal with complaints, both from customers of its own products and from the manufacturer to suppliers of raw materials and components used in production.

The Manufacturer is obliged to:

a) keep and archive **records relating to complaints,**
b) take action in respect of each complaint submitted,,
c) carry out periodical assessment of claims including the analysis of the causes of non-conformities, analysis of effectiveness of corrective actions taken and of reasonableness of the decisions made,
d) use their own claims to periodically assess suppliers and subcontractors,
e) implement proper preventive actions and to document them.

6 Corrective actions

In the event a non-conformity occurs, the Manufacturer should take action to eliminate the causes of the non-conformity in order to prevent its recurrence. The Manufacturer should establish a procedure in the case corrective actions are carries out. These actions should include:

a) review of non-conformities,
b) analysis of the causes of a given non-conformity,
c) to determine the course of action,
d) assessment of the effectiveness of the actions taken.

Records should be kept of these activities.