

BAFO CC LTD

QUALITY ASSURANCE MANUAL

2013

**QUALITY ASSURANCE SYSTEM
FOR CONTRACTING**

This quality assurance system is based on SFS-ISO 9002 standard, published by the Finnish Standards Association.

1. LIABILITY OF THE MANAGEMENT

This quality assurance system drawn up on the initiative of the management of Bafo cc Ltd is aimed at being observed in all significant contracts of the company.

The extent to which the system will be observed is to be decided on the initial meeting of a building site.

1.1 QUALITY POLICY

The aim of the quality policy of Bafo cc Ltd is to gain Client's confidence towards the company as a contractor. Our endeavour is that the Client considers us as a partner who is listening to their opinions and there is mutual confidence on which the cooperation is based.

This means that we:

- Offer to the Client true quality in conformity with the contract
- Plan our work performance accurately
- Execute and complete our work in agreed schedule
- Provide the Client, if required, with reports and prognoses on proceeding of the project
- Express our opinion on non-relevant plans
- Perform our work in a way that every object of construction performed by us can be demonstrated as a reference object when needed
- Cooperate with all the parties of the project in an optimal way

To ensure all procedures mentioned above, our personnel is trained with the focus on perpetual improvement of the conditions of fulfilling our promises.

1.2 ORGANIZATION

1.2.1 LIABILITIES AND AUTHORIZATIONS

Management of the company

The President of the company is liable for this quality assurance system to be observed:

- When making a tender to evaluate and critically scrutinize the resources of personnel, condition and adaptability of the equipment of the company
- To ascertain the ability of the organization of performing the works according to the given quality standards

Project Manager

Project Manager is liable for providing and maintaining of the working conditions of the site according to quality criteria of the contract.

As requirements for each site to be noted:

1. To recruit a site organisation with competent site managers and foremen in sufficient number according to the nature and quality criteria of the works.
2. To control initial phase planning of performance of the works and procuring of resources for the works according to principles of the quality assurance system stated in the article 2.
3. To assure the ability of subcontractors and sub-suppliers to perform the quality of the works as stated in contract as well as full understanding of the given quality criteria.
4. To keep in contact with the Client in case of potential quality problems arising due to delay, lack or ambiguities in delivery, caused by actions of the Client or a third party, hired by Client (designer, side-contractor, supplier etc.)
5. To provide all parties with sufficient information in order to enable the fulfilment of the quality assurance on the site.

Site Manager

Site Manager is liable for execution of the works in compliance with the documentation of the contract and the respective quality criteria defined in the contract.

Liability includes:

1. General planning of the works in accordance with the principles of the article 2 of the quality system including all the plans necessary for efficient execution of the works of the object. The plans are to be agreed with the Project Manager on the initial meeting.
2. Checking of production plans and informing the relevant parties on non-compliances with quality standards.
3. More detailed planning according to proceeding of the works, leadership of planning of the subordinate foremen.
4. Avoidance of non-compliances with quality standards through analysing of the planning, permanent guidance and control of the personnel of the company as well as that of subcontractors.
5. Anticipating of potential quality problems, their stating and registration in the daily log of works.
6. Initiative of reporting of and taking measures of remedy due to quality problems.

Liabilities and authorizations of the Site Manager presume immediate measures to be taken, with the exception of rare cases of large-scale significance where his liability presumes immediate reporting on problems to his superior.

Foremen

Foremen are responsible for execution of works in accordance with the contractual documents and respective quality criteria.

Liabilities of foremen include:

- weekly planning of proceeding of the works
- liquidation of non-compliances with quality standards by comparison of plans, constant guidance and superintendence of the personnel as well as that of subcontractors
- anticipating of potential quality problems, their statement, registration and reporting to the superiors.

This concerns quality problems of the final product as well as quality problems of functional nature.

Foremen are responsible for immediate measures to report on and remedy the quality problems discovered. On so called "one man sites" the tasks of the foremen are to be taken over by the Site Manager.

1.2.2 RESOURCES FOR VERIFICATION

It is the obligation of the Project Manager to control on the site the fulfilment of the quality system specified in the article 2 to the extent agreed in the contract.

Functionality of the quality system is subject to annual audit by an external specialist and the results are to be registered in a written report.

The training of foremen is focused on quality assurance management and the directions on performance of the works, which constitutes an object of constant study.

1.3 CONTROL PERFORMED BY THE MANAGEMENT

Functionality of the quality system is object to regular verifications by the company management including visits of the sites. During these surveys the functionality and the results of the implemented quality system is to be estimated.

2. QUALITY SYSTEM

This quality assurance system includes a quality folder of the site with following directions on quality assurance, on measures to be taken and on documentation required:

1. To ascertain the planning of production
2. General planning of the site
3. More detailed planning of the site
4. Procurements and subcontracts
5. Co-operation of crews
6. General supervision of the site
7. Special supervision of the site
8. Documentation on supervision
9. Norms and standards to be observed
10. Auxiliary means of work planning
11. Accident prevention

3. CONTROL OF CONTRACT DOCUMENTATION

For each object of tender Project Manager is responsible for checking the estimation documentation as to its imperfections and ambiguities, which are to be listed and presented in negotiations.

Tender documentation of the company is to be presented sufficiently expressly. Estimator is responsible for the correspondence of tender documentation with bid.

President is responsible for appointing a competent management for each object of tender. Project Manager and Site Manager should be named in the stage of tender.

Project Manager is to participate in tendering process.

Estimator is to register all related documentation with the rest of the tender documentation.

4. FOLLOWING OF DOCUMENTATION

4.1 APPROVAL AND CIRCULATION OF DOCUMENTATION

Conditions for efficient operation methods are to be agreed with Client in initial negotiations of the site in order to assure the quality of the works.

In these negotiations is to be reached an agreement on methods to assure efficient planning of the works and a reasonable schedule of purchasing of materials and selection of subcontractors.

1. Schedule of supply of drawings:
Supply of drawings based on general work schedule is to be agreed with the Client and the designer at the initial stage of the site. This also includes a procedure of following of supplied drawings and of measures in case of delays. Schedule of

drawings is subject to definition on the process of execution of the works in order to correspond actual situation on the site. A so called principle of permanent adjusting of planning is to be observed.

2. Procedure of comparative checking of drawings in order to avoid drawings with defects being let into circulation on the site.
3. A responsible for coordination of planning is to be named in order to avoid the necessity of the coordination work to be done on the site.
4. Procedure to be agreed concerning recording of facts and their availability later when needed.
5. Procedure to be agreed concerning additional and alteration works, in order to avoid situations where these works are being noted unsystematically and left on the responsibility of the foremen.

4.2 CHANGES / MODIFICATIONS OF DOCUMENTATION

Liabilities for making modifications in plans and drawings are to be expressly agreed in order to make clear on the site how to act in such situations. Particular attention is to be attained to situations requiring fast decision making.

Also to be clarified is the documentation of modifications, relevancy of oral instructions, facsimile messages etc.

Site Manager is to keep a list of plans and drawings where the number and the version of a drawing arriving to the site is to be registered.

A procedure to be agreed concerns disposal of out-of-date plans, for which the Site Manager on behalf of the contractor is responsible.

5. PURCHASING

5.1 GENERAL

The documentation and the bids for tender for subcontracting and purchasing materials have to be made as unambiguous as possible to exclude misunderstandings.

5.2 EVALUATION OF MANUFACTURERS OF CONSTRUCTION MATERIALS

Prior to making decisions on subcontracts and purchases of materials, suppliers as well as products are to be evaluated as to quality and capability of supply. Later on priority will be given to suppliers having passed the evaluation. When necessary, methods of evaluation like demonstration of skills, references etc. will be used in order to obtain assurance on satisfaction with quality. Results of the evaluation are to be registered and kept available for the needs of purchasing.

5.3 INFORMATION FOR PURCHASING OF MATERIALS

In order to assure the quality of a product or a service is relevant and corresponding to the contract, the following is to be observed:

1. To draw up the bids and other purchasing documents as expressly and unambiguously as possible to avoid misinterpretations.
2. Requirements concerning technical and functional qualities of products to be presented as stated by the designer.
3. Possible ambiguities in documentation are to be corrected and made precise prior to entering into a contract.
4. In case of documentation consisting of alternatives, Engineer is to be informed thereupon, before making final decision.
5. In case of a doubt that a product corresponding to the designs will cause a problem later, the Client is to be informed thereupon.

This does not, however, decrease the liabilities under the contract of the Client and his consultants for drawing up documents.

5.4 TO ASCERTAIN THE QUALITY OF A PURCHASED PRODUCT

If deemed necessary in the initial meeting, the quality of the purchased products is to be ascertained still in the process of manufacture at the supplier. This, however, does not release the supplier of liability of the quality of the delivery, and does not obstruct the rejection of the delivery later on if deemed necessary on the site.

6. PRODUCTS SUPPLIED BY CLIENT

Materials supplied by the Client are to be handled and sheltered in such a way that no harm and damage will be caused to them. In case defects in their qualities or other properties will be detected, the Client is to be reported immediately thereupon.

As to aforesaid, the obligations of the contractor are defined in the documentation of the contract. Deviations are to be registered in the daily log of works.

7. POSSIBILITY OF IDENTIFICATION AND TRACING OF PRODUCTS

As agreed with the Client, there is to be a possibility to identify the origin of the materials and sub-deliveries on the site during the whole performance of the works. In case this identification is not a common practise and is deemed to cause supplementary costs, it will not to be executed without compensation of extra costs by the Client.

In case a tracing possibility is a requirement of the contract, products are to be expressly numerated in plans, drawings, purchasing documents and production.

8. SUPERVISION OF THE CONSTRUCTION PROCESS

8.1 GENERAL

Site Manager is to supervise that planning of all the phases of the works is performed in advance and each phase of the works is executed in relevant conditions. Sufficient time is to be consumed for the supervision of the works.

In order to ascertain the above mentioned, the site has to be provided with:

- directives on execution of the works and instructions on installation, if their absence is to have a negative impact on quality
- equipment and instruments appropriate for execution of the works, relevant work conditions; instructions on work methods and prescriptions on quality to be available for the site management
- constant observation on and management of materials being used as well as sub-deliveries during all the phases of execution of the works
- quality criteria of the works is to be specified expressly in written (specifications of the works, checking lists etc.)

8.2 SPECIAL PROCESSES

In case of phases of works, the quality of which in conformity with the contract is not possible to ascertain afterwards, their performance is to be supervised with particular attention.

Objects to such special supervision are to be defined with the Engineer of the Client prior to commencement of performance of the works. Supervision during performance of the works is to be conducted according to the instructions of the article 2 of the quality folder.

9. INSPECTION AND TESTING

9.1 ACCEPTANCE INSPECTION AND TESTING

Site Manager is obliged to ascertain that all materials supplied to the site are checked prior to use.

In case testing of quality is a requirement of the contract, testing is to be made well in advance in order to provide time for measures to be taken if needed. A test can also be agreed to be made under special control. All documentation in regard of attesting of the quality is to be registered and kept in the quality folder of the site (quality folder, article 2).

In case of an urgent need on the site of a material and insufficiency of time to ascertain its quality, this material is to be marked so that it can be identified later on.

During such a procedure instructions agreed with the Client have to be observed.

9.2 CONTINUOUS SUPERVISION AND TESTING

Continuous supervision over execution of the works is to be performed on the site in order to make sure the works are being performed correctly. The site management liable for this control takes care every employee is well informed on quality requirements and aiming to perform a personal control over his/her proper work.

Supervision may be tightened up in cases of execution of more complicated phases of the works by including them into the works specified as requiring special supervision as stated in article 2.

Documentation concerning supervision is to be registered in the quality folder of the site.

9.3 FINAL INSPECTION AND TESTING

After performance of a work included into the works specified as requiring special supervision, it is to be checked and its conformity with the contract stated.

The time of checking has to be informed well in advance to provide a possibility of participation for the Engineer of the site.

A performance defect is to be remedied immediately. Final inspection certificate signed on this inspection is to be registered in the quality folder on the site.

In case a testing is required by the final inspection, results are to be registered in the quality folder on the site.

9.4 CERTIFICATES OF INSPECTION AND TESTING

All certificates stating that the works conform to the requirements under the contract, are to be saved as long as the Contractor is liable for the structures.

10. INSTRUMENTS OF INSPECTION, MEASURING AND TESTING

Measuring and testing instruments have to be maintained and stored accordingly to prescriptions of the manufacturer of the instruments.

Precision of measurement performed in different circumstances is to be informed to the persons operating with the results of the measurements.

Instruments are to be calibrated when necessary by a qualified company.

All inspection, measuring and testing instruments are to be sufficiently precise for each kind of work. Documentation related with precision characteristics are to be saved in folder of equipment on the site.

Every calibration has to be registered by a specialist performing the calibration.

Detailed prescriptions on use and storage of measuring instruments are to be given to the employees. The instruments are to be accompanied by prescriptions.

11. MARKINGS AFTER TESTING AND INSPECTION

Passing of inspection and testing is to be marked expressly on products or drawings so that a difference between them and unchecked products can be made.

Person responsible for inspectional measuring is to confirm the results of the measurements with his/her signature.

12. CONTROL OF PRODUCTS NOT CONFORMING TO THE CONTRACT

On use of a product not conforming to the contract is to be agreed expressly with the Client. Depreciation or other procedure is to be defined in written.

Products not conforming to the contract can be required to be remedied by the Client, can be approved with a depreciation, their purpose of use can be modified, or they can be rejected.

Materials and structures not conforming to the contract are to be marked expressly.

13. MEASURES OF REMEDY

In order to avoid nonconformities in quality preventive measures are to be planned well in advance on the site.

In case nonconformities in quality occur, main attention is to be focused on clearing up the reasons in order to avoid such nonconformities in future.

Attention is to be attained to the following:

- whether nonconformity is due to
 - defected material (claim)
 - instructions on operational methods
- whether supervision should be intensified
- whether more preventive measures should be taken in order to diminish the risk of defects in quality
- whether there should be supplementary control from the side of the Project Manager and the management

Measures to be taken to remedy the situation are to be checked and registered.

14. HANDLING, STORING, PACKAGING, DELIVERY

14.1 GENERAL

Care must be taken that by guidance to work methods each employee is acquainted with methods of handling and protecting of materials and completed structures on the site. It is the obligation of the management to make sure that neither subcontractors nor other persons visiting the site will cause damage or harm by their acts.

14.2 HANDLING

Employees are to be expressly instructed on methods of handling of materials and products, which also is to be subject to supervision.

14.3 STORAGE

Every employee is to be informed on the location of safe and relevant stores and store areas, where harm and damage to materials can be avoided. If necessary, instructions on use of stores will be given to the employees in written.

Storing of the materials as well as orderly state on the site is to be managed by updating the site plan.

A completed structure or product is to be protected with care against all kind of damage and harm.

15. QUALITY FILES

Documentation concerning quality assurance is to be saved as long as the contractor's liability for quality and functionality of the works extends.

Documentation and reports included in the quality system are to be saved no less than five years in conditions, appropriate for providing information when needed.

This archive is to be kept together with other documentation concerning the work.

16. INTERNAL AUDITS OF QUALITY

An annual audit is to be performed in the company by an independent auditor in order to check the functionality of the quality system of the company, whereupon a certificate is to be drawn up.

Results of the audit are to be reported to the management of the company in order to elaborate further measures in regard of development of the system.

17. TRAINING

Regular training, including issues of quality, is to be provided to the personnel in order to guarantee its competence and qualification. The needs of training are to be defined on the basis of the quality audit.

18. STATISTICAL METHODS

Functionality of the sites as to their economy and scheduling is to be continuously followed.

A statistics is to be drawn up on costs of quality and a final meeting to be held concerning completed works, where costs are to be compared with the mean of the other works, and the causes of defects in quality to be identified.

The feedback is to be registered in the directions of the quality file.

SITE SURVAY

1. PHASE OF DESIGNS AND PLANS

Schedule of drawings completed _____

Follow up of drawings, plans _____

Decisions taken in the initial negotiations fulfilled _____

2. PLANNING OF WORKS

Decisions taken in the initial negotiations fulfilled _____

General planning updated _____

3. MORE DETAILED PLANNING

Weekly planning _____

Planning of phases _____

4. PROCUREMENTS AND SUB CONTRACTING

Schedule of procurements _____

Schedule of subcontracting _____

Follow up _____

5. CO-OPERATION WITH CREWS

Execution of specified works _____

Orderly state of the site _____

6. NORMAL SUPERVISION OF THE SITE

Use of the daily log of works _____

7. SPECIAL SUPERVISION OF THE SITE

Planning of specified works _____

Supervision on execution of specified works _____

8. DOCUMENTATION OF SUPERVISION

File of supervision _____

9. RECORDS, DAILY LOG OF WORKS ON THE SITE

Correspondence with performance of works

10. AUXILIARY MEANS OF SUPERVISION

List of organization of works to be drawn up

11. PROTECTION AGAINST ACCIDENTS ON THE SITE

Protection plan

Inspections of protection practises

12. OTHER OBSERVATIONS

Date:

Surveyed by:
