



An easy guide to creating your Factory Production Control system

Guidance notes for joinery manufacturers

lignumassociates.com



A joinery manufacturer's guidance notes for implementing a Factory Production Control (FPC) system

1. ' BWF Joinery Ltd'

BWF Joinery Ltd. is a fictional company, created specifically to show the operations of a small joinery manufacturer and member of the BWF, with a *Factory Production Control System* (FPCS) which will meet the needs of *CE-Marking*.

When reading the FPCS Manual it is important that the reader should feel at home with the situations being described and the products being manufactured. If whilst doing this the reader is also making a mental comparison with how things are done within their own company, then they are already taking the first step towards creating their own manual. Section 3 of these Guidance Notes will explain how to do this in more detail.

The following paragraphs of this section paint a picture of the company; how it is managed, how it operates; its products; its customers.

1.1. Personnel and Management

The company employs twelve people. It is owned and was started by the current General Manager, who is a trained joiner. In addition to general management responsibilities, the GM spends substantial time developing business contacts with customers which provide the bulk of the company's enquiries and orders. Specifically, the General Manager has responsibility for the design and functioning of the FPCS.

There is an Estimator/Buyer, who works closely with the General Manager to prepare quotations and tenders and who is responsible for buying materials and services needed for production.

There is an Administrator and a Clerk, who together deal with all of the accounting routines of sales invoicing, credit control, purchase invoice payment, wages, and the provision of management information to the General Manager.

The Production Foreman is a trained woodworking machinist and is responsible for all manufacturing operations. Working for him there are:-

- One machinist who is responsible for all primary machining operations. The Foreman provides a back-up for machining work, as and when required.
- Four bench joiners who are responsible for secondary machining operations and assembly work.
- An apprentice joiner who works on each job under the supervision of one of the qualified joiners.

- A labourer who looks after incoming material, drives the forklift truck, keeps the machinist supplied with materials, paints, packs and prepares finished product for delivery.

The FPCS Manual for BWF Joinery Ltd. contains an organisation chart to show the above and is included as Process Map 1.

1.2. Site and Facilities

The company is based in a modern industrial unit. There is a general office to accommodate all personnel not involved in production.

Part of the unit is allocated to a Machine Shop with a moulder, a CNC router, cross-cut and band-saw. Timber and other materials are stored in and around this area, but stocks are kept low as most materials can be delivered within a day or two, from local suppliers.

The main area of the unit is the Joiners Shop which has a number of benches, a small press, a wall-saw, mortice, spindle, and other 'job-shop' type machines for secondary operations.

The company does not have specialist treatment or spraying facilities. If timber needs to be preservative treated it is sent out to local specialist companies, usually as components, to be returned for further processing and assembly. Basic painting or finishing is usually done by hand. Again, if more specialist skills and techniques are needed, this work is sub-contracted.

1.3. Products and Customers

The company manufactures 'general joinery products' for construction companies and building contractors.

However, some of these products – firedoors and windows, are manufactured to meet the requirements of British and European standards, which in turn allow CE-Marking of finished products.

The product mix is typically:-

- Doors and doorsets (CE-Marked)
- Windows (CE-Marked)
- Architraves, door-frames and skirtings to match (Not CE-Marked)
- Units, reception desks, counters and similar (Not CE-Marked)

The company works on a 'supply-only' basis and does not undertake any installation of its products on site.

2. Creating your company's FPCS Manual and working towards assessment

You are about to create a production control system to satisfy requirements for CE-marking of products. The tools which are available as part of your *British Woodworking Federation Factory Production Control for CE marking* package comprise:-

- A downloadable template FPCS Manual and supporting documentation which is complete and functionally suitable for a typical joinery manufacturer. This includes the FPC manual itself, Process maps, and the forms and register of forms including FPC inspection guidance notes
- These Guidance Notes, which explain how to change the template manual to reflect the operations, methods and products of your own joinery company.

In addition, your company has available the services of the BWF's partner company, Lignum Associates Ltd. The consultant allocated to support you will have substantial experience in the joinery industry and you can obtain assistance on a half day and full day basis by following this link:

<http://www.bwf.org.uk/total-support-services/factory-production-control>

2.1. The steps in the process

- Download the information from the website onto your own PC
- Read the template FPCS Manual for 'BWF Joinery Ltd.' making notes of how your own company operates *in comparison*.
- Read section 3 of these Guidance Notes to get additional explanation of some of the key points to consider as you are making your comparison.
- Modify the text and the flowcharts in the FPCS Manual to reflect your own company's methods of operation.
- Get your manual checked by the consultant working with you to ensure all of the key points have been covered.
- If your products are such that your production control system needs to have an internal audit programme, begin auditing.

3. Guidance on each section of the FPCS Manual

You will see that the manual is divided into three:-

- The **contents** and a written **overview** of how BWF Joinery Ltd. complies with the requirements of FPCS for CE-Marking. Once written, it is not likely to change and then only if the fundamental nature of the company changes. For example, if new products were introduced, or substantial changes made to the manufacturing process, then the overview may need to be changed accordingly.
- A set of '**process maps**' which portray in more detail how the basic operations of the company are carried out. Firstly, there is an organisation chart. It is then followed by a series of maps to show production control works to ensure product standards are maintained.
- A sample of each the **forms** which are referred to in the process maps.

The following notes will take you through each section, explaining what are the key points and important considerations when developing your own manual.

Contents and overview

Front Page, Contents and Amendment Record

You will need to change this section to refer to your own company; take out the copyright statement at the bottom of the page; the front page identifies the number of the manual and the person holding it and whether it is a 'controlled' or 'uncontrolled' copy. A controlled copy is one which is kept up-to-date.

Note the dates and revision numbers and the Amendment Record. This is how changes are recorded and this is described fully in Section 2.

Section 1 – Control of the FPCS Manual

This section should not need to be changed substantially, other than to ensure that responsibilities are clear. For example, in BWF Joinery Ltd. the General Manager is responsible for maintaining the system. Who will do it in your company ?

If you plan to have more than one copy of the manual in circulation, ensure that the location of these extra copies is recorded in the Master Copy.

As an alternative to hard copies, you may choose to publish the manual on your computer network. If you need help with this, the BWF consultant can show you how to do this.

The extent to which there is 'technical information' may also vary from company to company. Some will hold hard copies and these need to be managed in an organised fashion. Other companies may make more use of on-line sources.

Section 2 – Scope of FPCS

The **scope** of the system needs to be described. That is to say, which of your products are covered by the FPCS. For example, a company making a range of general joinery products **and** also making windows which are subject to CE-marking, could draw up the FPCS manual just to cover 'windows'.

Section 3 – FPCS System

This is the largest section in the manual and needs to be checked through carefully. Think about how your company compares with the statements in the manual and in particular think about 'who' is responsible, 'how' things happen and 'when' they happen. Each of the sub-sections is described below.

Section 3.1. General Requirements

Should be no need to change this other than the statement about who is responsible for defining the system and the products covered by it.

Section 3.2. Documentation Requirements

No need to change this as it is covered elsewhere. However, the table does need to be changed to reflect the documents which you use in your own company, changing also *location, sequence, retention, disposal*, accordingly.

Section 3.3. Responsibility

Decide who in your organisation will be responsible for the successful management of the FPCS. This person, whatever their other duties, is responsible for keeping systems up to date and monitoring how well the system is performing. This includes planning of the internal auditing, if this is required for the range of products manufactured within the scope of the FPCS. The role is not a full-time job except in the very largest of organisations.

Section 3.4. People and Resources

Section 3.4.1. People

This section is about how you keep your staff up to date with any training they need to do their work effectively. The key requirements are that needs are reviewed periodically, that the review and any training plans are recorded and that the effectiveness of any training is evaluated. An example of a Training Record is included in the manual.

Training may involve sending people on courses. However, it is much more likely to be about people training other people internally and thinking about the flexibility of the workforce. It may also include training done on site by suppliers of equipment and machinery.

Section 3.4.2. Resources

This is about how the company ensures there are appropriate resources for the manufacture of the products listed in the '**Scope**'.

It is about the buildings, equipment and services which are used every day. Review the statements in this section and compare with how these decisions are taken in your company.

Section 3.5. Pre-Production

Needs to be only a general, broad, statement of who does what. Check the accuracy of the first statement and keep as simple as possible. The detail is described in Process Maps 2 and 5.

Section 3.6. Purchasing

Needs to be only a general, broad, statement of who does what. The detail is described in Process Map 4.

The most important points to remember regarding purchasing are:

- Only control those suppliers and products which significantly affect your own finished products. It is not necessary to go to great lengths to say where you buy your stationery, office cleaning, etc. Concentrate on timber, sheet materials, ironmongery and other services which might affect your product, such as hired transport.
- When considering how or when to carry out a goods inwards inspection, do not take this to mean every parcel or package has to be opened and checked on receipt. Inspection should be done based upon the supplier's history of performance and according to the Inspection Guidance Notes.

Section 3.7. Production

Sections 3.7.1. through to 3.7.3. set out how BWF Joinery Ltd. deal with the specific matters of:

- Production Control
- Validation of Special Processes
- Identification and Traceability
- Preservation of Product

The statements in these sections should be immediately familiar and be applicable in most small joinery companies. Check each statement in turn and consider how your company deals with these matters.

Your consultant can give you more detailed advice on any particular issue and these will be discussed during your initial consultancy visit.

Section 3.8. Control of Measuring Equipment

It is necessary to ensure that measuring equipment used in the manufacture or the inspection of CE-marked products is maintained so that it is sufficiently accurate for its purpose.

Mostly, this involves calibration of tape measures, checking of vernier gauges, moisture meters and similar.

When looking at how many tape measures there are in use, decide which of them are used actually for measuring or checking, as opposed to an aid to identification.

For example the fork-lift driver may need a tape to *identify* goods received, but is not involved in manufacture or checking. His tape would not need to be calibrated.

Calibrated equipment needs to be identified individually; their method of checking and frequency stated; records need to be kept.

Section 3.9. Control of Non-Conforming Product

Check the statement regarding who does what. Otherwise simply refer to the details shown in Process Map 5.

Section 3.10. Internal Auditing

There should be no need to change the comment on **internal auditing**. The process is covered in Process Map 6 and will be explained in detail by your consultant.

Section 3.11. Factory Production System Review

There should be no need to change the comment on the periodic review. The process will be explained in detail by your consultant.

Process maps

The process maps are where you will need to do the most work in creating your FPCS Manual, as they need to show how your own business operates. The maps are drawn using the **Drawing Tools** facility in Microsoft Word.

The process maps cover the areas of operation that are required to be described by the FPCS and you should, therefore, aim to cover the same ground for your own company.

In each of the sections below, guidance notes are confined to simply stating what are the **key and essential requirements**, which will need to be covered in your own process maps.

Process Map 1 – Organisation Structure

Give sufficient detail that an outsider can quickly see who does what and who is responsible to whom. The chart needs to identify the person who is the person with overall responsibility for the FPCS.

In general, the process maps below will show who carries out each step in the various activities ie. Estimator, Production Foreman, Joiner, so these also need to be changed to suit.

Process Map 2 – Pre-Production

Essential features:

- Need to show clearly how product information is obtained from the customer. Do not rely on verbal messages about key features or requirements. Use the fax or e-mail to confirm, if the customer does not put things in writing.
- Need to show how this is checked internally to ensure all the necessary information has been checked.
- Need to show what happens to the paperwork if the customer changes their mind about what they want ie. changed specification, drawings etc.
- Need to show what information is sent to clients ie. quotes, tenders
- Need to show how complaints are dealt with

Process Map 3 - Production

Essential features:

- Need to show how production is carried out in a 'controlled' manner ie. what documents and information are provided to production staff so that they have a clear understanding of what is required.
- Need to show the sequence of events from start of production to final delivery, highlighting the inspections and checks that take place.
- Need to show what happens to the paperwork if the customer changes their mind about what they want ie. changed specification, drawings etc. How is a job stopped and retrieved from production if that is necessary.
- If identification of products is a significant factor during this process, show how this is done.
- If traceability of products is needed (usually confined to the labelling of firedoors) need to show how the recording is done.

Process Map 4 - Purchasing

Essential features:

- Need to show how your company chooses and monitors the performance of suppliers.
- Focus on suppliers of timber, sheet materials, ironmongery and other products which are built into your own. Consider those services which have an effect on your products ie. transport
- Make sure that you give suppliers an accurate statement of what you are buying. Ensure that a purchase order or a fax is used to do this. If you are sub-contracting some part of manufacturing, make sure there is an adequate description or drawing of the items ordered.
- Explain what inspections you carry out at 'goods inwards'. It does not mean every item received has to be inspected – just those where you have identified there is some benefit (or risk). If your suppliers are consistently supplying you exactly what you have ordered to the correct quality, you will be perfectly justified in having a minimal goods inwards inspection. Conversely, if you have no choice but to buy from a source which is unreliable, you would be expected to be more thorough when goods are received. Whichever is the case, ensure that there is a proper way of recording what has been checked. The supplier delivery note and your own purchase order are the key documents.

Process Map 5 - Non-Conformance, Corrective and Preventive Actions

This explains what your company does when things, occasionally, go wrong. This could be at the goods inwards inspection, an inspection you make at some point in your production process, or as a result of a complaint.

Essential features:

- Segregation of materials or products
- Identification of materials if there is no immediate action
- Recording of corrective and preventive actions on a non-conformance report
- Agreement with customers if you want to change the specification of what you want to deliver to them.
- How the non-conformances are analysed and then used as part of *'improvement'*.

Process Map 6 - Internal Auditing

Internal audits needs to take place ONLY IF YOUR CERTIFICATION BODY REQUIRES THEM, because of the 'Attestation of Conformity' level, which applies to your products.

The process in not complicated, but it does need to be organised and methodically done.

Essential features:

- The auditor needs to be independent of the activities being audited. So, for example, it would not be acceptable for the Buyer to audit the purchasing process.
- There needs to be a plan which ensures all aspects of the system are checked at least once a year.
- You should give more priority and check the key aspects of your system more frequently ie. the enquiries and orders process, the production process, the purchasing process

Although it is not difficult, it is the area of the standard where newcomers are least likely to have had previous experience. Your consultant can give you support and training to get this part of the system up and running.