APPLICATION OF BAR-CODE TECHNOLOGY IN A SYSTEM OF PRODUCTION MANAGEMENT: CASE STUDY OF SERBIAN PRODUCER OF WOOD-BASED PANEL FURNITURE

Miljan Kalem, Danica Lečić-Cvetković, Branko Glavonjić

- Introduction;

- Bar-code technology;

- Application of bar-code technology in a system of production management;

- Conclusion;

- ➤ The use of automated machines is one of the precodintions to respond to huge demands;

- ➤ Necessary to apply the technology which will distribute all information that are necessary for performing operations on the machines;

- ➤ One of the most commonly used technologies for distribution and converting of information is the bar-code technology;

- ➤ The main goal of this paper is to present the procedures and principles of the bar-code application;
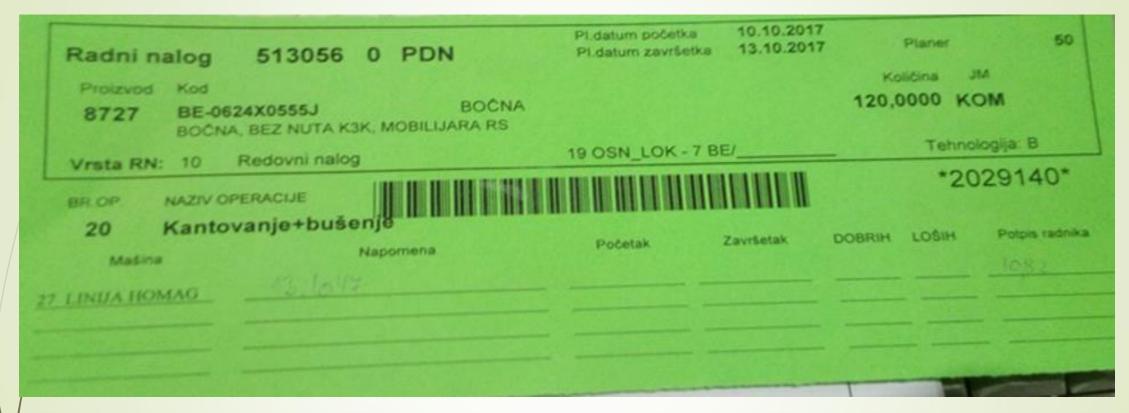
Barcode technology

- The meaningful series of dark lines and light fields between the dark lines represent the bar-code which carry certain information. Using the bar-code reader, the information is read, distributed, stored and processed in the information system in the right form;

- If implemented in the large production systems as a support to ERP systems, it can make a difference in the business process, especially in terms of improving sales process through the improvement of the warehouse process;

- Complete functions of production management, which increase the volume of production, and increase the complexity of production, are conditioned by modern technologies. Using computer and information systems accelerates processing and transfer of large amount of information necessary for decision making;

➡ Production of wood-based panel furniture is relatively simple production process. In most cases, it is consisted of:

1. cutting component elements of the products from the panel;

2. edging the component elements and;

3. making link elements for the component elements;

➡ Panel cutting is made using the three horizontal cutting machines with a capacity approximately as the lines for edging and drilling.

Working order for one of the component elements can be seen in the Figure 1.

- The information system is used for creating the unique internal bar-code, which is used for making operations on the line for edging and drilling of the component elements;

- The process of creating a new bar-code starts with the entry of a new product in the information system;

- Some of the information that is entered in the information system are:

➤ Dimensions of the component elements;

➤ Places where the connecting elements are produced;

➤ The tools used for processing the component elements;

➤ The sides for applying the edging track;

- Based on the mentioned information and the information about the name of the new product and the code of the décor in which the new product will be produced, the information system will create a unique code for every component element, and based on this code, a unique bar-code.

- Information about the product and component elements of the product are entered in the information system using the document named Bill of material.

- This document exists in the platform of the information system database.

- After the bar-code is created for every component element, it is necessary to load the bar-code in the line for edging and drilling;

- In the case the machine does not find the loaded bar-code in its system database, the machine gives an opportunity to enter all the information about this element manually;

- The operator enters information in the machine using:

➢ the documents created in the department for constructive production preparation;

➢ data from the information system database;

➢ working order for this component element;

■ After the information about a certain component element is loaded into the machine one time and the machine again reads the same bar-code, it automatically does necessary adjustments of the parameters for this component element;

➤ Considerably faster;

➤ More precise;

➤ The possibility of data entry errors in this case is reduced to the minimum.

The advantages of applying the bar-code technology in the line for edging and drilling are numerous:

1. shortening the preparatory-finishing time, which is reflected in the increase of productivity

2. automation of the process for controlling the performance of operations

3. elimination of the stocks between machines in production, since they enable harmonization of machines capacities

- Beside this internal bar-code, there is a large number of international bar codes, which are assigned by the EAN (European Article Number);

- The companies, which are members of this organization, have a unique number all over the world for all products from their production range;

- The companies a members of this organization have many conveniences which provide beter business results;

- Implementation of EAN would provide more efficient business operation to this company reflected in the acceleration of the raw material reception process;

Conclusion

- The application of the bar-code technology has a great advantage and it has positive influence at the company's business results;

- A highly productive and flexible production process;
- Connecting the information system and all of the information related to a particular product with the machines involved in the production process;
- Eliminates manual entry of data related to the object of production;
- Significantly shortens the production preparatory-finishing time;
- Reduces opportunity for errors;
- Eliminates a great quantity of paper documentation and needs less storage space;

- All these have direct influence on the increase of productivity and better business results.

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