

FEATURES QUALITY ASSESSMENT SAFETY AND FUNCTIONAL PURPOSE OF MACHINES

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Abstract: *The machines are one of the most important pillars in the industrial economy of the European Union. The aim is to reduce the enormous social price paid for accidents at work, by integration of safe design and construction, as well as proper installation and maintenance.*

A harmonized regulatory framework for the design and manufacture of machines is of major economic importance for European industry. At the same time, the safety of machinery makes an important contribution to reducing the social costs of damage to health and accidents at home and workplace.

KEYWORDS: MACHINES, ASSESSMENT, SAFETY, MARK, MACHINERY DIRECTIVE

1. Introduction

Machinery Directive aims to ensure the free movement of machinery in the internal market, while ensuring a high level of health protection and safety of the consumer. [1]

Directive 2006/42/ EC on machinery of the European Parliament and of the Council of 17 May 2006 defines only the essential requirements of general safety and health, supplemented by a number of more specific requirements for certain categories of machinery.

Although no major changes are made, the new Directive introduces a more detailed requirements for ergonomics, measurement of noise and vibration and higher requirements for fixation of the defence barrier. In future fixings of guards will either remain attached to the machine when the defence barrier is removed, or will stay connected with the barrier.

The lack of a transitional period of the directive is not a problem in cases where declarations of conformity are prepared immediately before the machine is placed on the market, but could be problematic for a number of machines which have been kept in storage.

It this condition it must be certified conformity according to the new Directive 2006/42 / EEC.

Another change that affects importers is that now it is required a technical file documentation and a copy of the declaration of conformity to be stored in the European Economic Area, from "authorized representative of the manufacturer." This brings the Machinery Directive in accordance with the directives which have the same requirement.

Producers carry full responsibility for certifying the conformity of their machinery to the provisions of the Directive. For certain types of machinery having a higher risk factor, it is desirable to introduce more stringent certification procedure.

The manufacturer or his authorized representative must ensure an evaluation of the risks for the machinery which intends to send to the market.

For this purpose, he should determine which are the essential requirements for safety that apply to the machine.

The Directive applies to:

- machinery
- interchangeable equipment
- security features
- lifting accessories
- chains, ropes and webbing
- removable mechanical transmission devices of movement
- partly completed machinery

From the scope of the directive are excluded safety components that are intended to be used as spare parts to replace identical components and supplied by the manufacturer of the original machinery, weapons, vehicles, electrical domestic appliances, electric motors and other.

EU Member States shall take all necessary measures to ensure that machinery may be placed on the market and put into service only if

they meet the related provisions of the Directive and does not endanger the health and safety.

Marketing and commissioning.

Before placing on the market or put into service, the manufacturer or his authorized representative shall:

- ensure that it satisfies the essential requirements for safety and health
- to monitor the technical file
- to show the necessary information such as instructions for exploitation
- to apply the appropriate procedures for conformity assessment
- prepare the EU declaration of conformity
- place the CE marking

Annex I adds some new essential health and safety requirements regarding the machinery serving fixed landings. Thus covers the specific risks associated with this type of machinery. [2]

Regarding the procedures of conformity assessment applicable to the elevators on construction sites should be noted that those at risk of falling from a distance higher than three meters are included in Lifting equipment listed in Annex IV, p. 17.

Additional scope of the new Directive is extended to include all lifting equipment whose speed does not exceed 0.15 m / sec. Therefore, low-speed elevators are already subject to the Machinery Directive.

The definition of "elevator" referred to in Art. 1 (2) of the Directive is changed and for elevators instead the term "cabin" is used the term "carrier. This means that the nature of the carrier is not a criterion for application of the Directive on elevators. At the same time, it must be borne in mind that the carrier of elevators subject to Directive 95/16 must be cabin, that is completely closed.

From the scope of the Directive are no longer excepted portable cartridge-operated fixing and other impact machinery designed for industrial or technical purposes.

Presumption of conformity and harmonized standards.

Machinery bearing the mark "EC" and accompanied by a declaration of conformity comply with the Directive.

It is believed that machine produced according to a harmonized standard, complies with the essential requirements for safety and health within the scope of the harmonized standard.

The machine must be designed and constructed according to the results of the risk assessment.

The obligations laid down by the essential requirements for safety and health shall apply only when the corresponding hazard exists for the machine when it is used under the conditions provided by the manufacturer or his authorized representative but also in foreseeable emergencies.

The specified in the particular application essential requirements for safety and health are required. It includes several parts: the first is of general scope and applies to all types of machines. Other parts refer to certain kinds of more specific hazards. During the design of a machine must be taken into account the requirements of the general part and the requirements of one or more of the other parts of the application depending on the results of the risk assessment.

Declaration of Conformity - refers to machinery in the condition they were placed on the market, and excludes components added and / or operations carried out subsequently by the final user.

The obligations created by the Machinery Directive relating to the conformity of machinery and partly completed machinery are at the expense of the manufacturer or his authorized representative.

The procedure for assessment of conformity is mandatory for certain categories of machinery and can choose between several alternative procedures.

One of the main changes in the new directive is the liberalization of procedures for assessing the conformity of machinery. Categories of machinery not listed in Annex IV require internal production control. If the machines listed in Annex IV are designed in accordance with the relevant harmonized standards, the manufacturer has the possibility to certify their compliance and the requirement for storage of technical documentation by a notified body can be eliminated.

The procedure for conformity assessment in this case does not require the intervention of a Notified Body. However, the manufacturer or his authorized representative may seek advice or assistance in conformity assessment. In these cases involved Notified Body can not use and put its identification number to the documentation. For other machines of Annex IV, the manufacturer may apply the EC type-examination by a notified body or a notified body to approve the system of total quality assurance, which covers the design, manufacture, final inspection and testing.

The machine, which ensures safe operation, bear the CE marking. This is the indicator line on the machine with the EU legislation. It is not intended for commercial purposes and is not an indication of origin, because it does not show that the machine is manufactured in the EU.

The CE marking is mandatory and must be placed before placing the machine on the market. When the machines are in the range of several directives, and all of them provides the CE marking it is presumed that they meet the requirements of each of those directives.

The marking shall be affixed only by the manufacturer or his authorized representative. So he takes responsibility for the conformity of the machine with the European legislation. The sign is applied so that it is visible, legible and indelible.

There is a greater number of foreign manufacturers that have made significant investments to ensure that their products are in full

compliance with European directives and their CE marking begins to gain more confidence than their European competitors. These manufacturers, including many Japanese companies have found that with great success they can use this commercial advantage.

Except in cases where the manufacturer is able to operate in strict accordance with the European standard, which is specifically written for the type of his machine, he is obliged to prepare technical file. This is the only legal basis on which the manufacturer can claim for compliance with the European directives for the application of the CE marking. Even if the manufacturer has a European standard that is specifically written for the type of his machine, which is very rare, he can only claim compliance with the Machinery Directive. It is still necessary to ensure that the standard fully meets all the requirements of the European Directive.

As manufacturers bring final justice, they must be very sure that all standards applied are appropriate and are used as intended. In addition, producers must prepare a document that explains why they meet the standard.

2 Conclusion:

Consumers are beginning to learn more about how to become acquainted with the machines and determine whether they comply with the European directives. By improving their knowledge they are becoming increasingly critical to manufacturers who do not comply with European standards, and take positive steps to correct this.

It is generally accepted that the industry resists the introduction of the European directives and as a result does not want to invest in the CE marking, or access to expert estimates. Unfortunately ,this is not only false economy, but inability to recognize the fact that machines that are in full compliance with European Directives are much more salable. CE marking does not need to be a heavy burden and can become a commercial advantage.

3 References

- [1]. Directive 2006/42/ EC
- [2]. www.bds-bg.org