

THE CE MARK AND THE EUROPEAN UNION REQUIREMENTS FOR MACHINERY SAFETY STANDARDS

Summary

The European Union Machinery Safety Directive was approved in 1989. It went into effect on January 1, 1995. Compliance with the European Safety Requirements is the only legal way for machinery to enter the European market since that date. Compliance with the safety directive is evidenced by the CE Mark. If your company is or plans to market machinery in the European market this BMA contains important information that you should know.

BACKGROUND

During the 1970's and 1980's the 12 original members of the European Economic community began the monumental task of harmonizing economic and other standards in order to become a common market without borders. Few Americans paid much attention. The years went by and the documents proliferated. The European Economic Community became the European Community, and with great fanfare the date the process would be completed was announced: EC 92. December 31, 1992.

During this period and after the Eurocrats in Brussels continued to churn out thousands of pages of regulations. They decreed that a carrot was a fruit, that cucumbers were to be straight. And more recently that bananas were to be at least 4 1/2" long and not "too curved," a stipulation they refused to define. However, in spite of all this, barriers were dropped and free movement of goods is taking place.

Amidst all this fanfare, the European Community wrote strict regulations on the safety of machinery that could be imported into what is now called the European Union. The standards as written, were recognized as having the potential to be a serious impediment to sales of American products in Europe, whether they were designed to be or not.

During this period, Americans had no say in all this. The Europeans seemed to be saying "We're doing our thing, and it's none of your business."

But it was and is our business, American machining sales in Europe are vital. To be frozen out by unilaterally imposed machinery safety standards, that American manufacturers had no influence in the crafting of, would be disastrous.

The alarm bells went off and in 1991, several capital goods trade associations joined together to create a vehicle for U.S. companies to become involved in international safety standards for machinery. They recognized that such standards would be crucial to their future worldwide competitiveness, particularly in European Markets.

THE CAPITAL GOODS STANDARDS COALITION

The vehicle they created was the Capital Goods Standards Coalition (CGSC). Members included trade associations, manufacturing companies and individuals with an interest in safety standards for machinery. Specifically, interest was directed to standards developed by the International Organization for Standardization (ISO). The purpose of the Coalition was and is to provide technical advice to the U.S. voting member of the ISO Technical Committee and to be a source of financial support to cover expenses involved in U.S. participation.

Further, the coalition insures that interested organizations and individuals in the U.S. have a voice in the development of international machinery safety standards. Coalition members achieve a voice by providing technical experts to be members of the U.S. Technical Advisory Committee (TAG). In addition, members review draft copies of new standards as they are developed.

Before the existence of the Technical Advisory Community, the U.S. had virtually no influence on the development of European Safety standards. Today there is significant influence: 75% to 90% of U.S. TAG recommendations to ISO are accepted; 50% to 90% are accepted by CEN (For all practical purposes, ISO and CEN standards are the same).

Additionally the CGSC works closely with the U.S. Department of Commerce and is the official organization representing U.S. interests in the international standards-writing arena for machinery safety for all U.S. -made machines.

THE INTERNATIONAL STANDARDS PROCESS

In order to participate in an International Technical Committee (TC), a delegate must be supported by a Technical Advisory Group (TAG) in his or her own country. The TAG must be composed of a cross-section of parties interested in the particular work of the TAG. In addition, there must be a secretariat for the TAG (usually a trade association or technical society) sanctioned by a national body recognized by ISO. In the U.S., the American National Standards Institute (ANSI) is the organization recognized by ISO and is the one that serves on the ISO Technical Committee for the safety of machinery.

In line with this, ISO/TC 199 was formed to write broad safety standards for machinery. It has been agreed that there will be three levels of safety standards. Type A will be general, and related to all machinery in a broad class, such as all power-driven machines. A Type B standard will conform to Type A, but be more focused with respect to details such as safe distances from moving parts. Finally, Type C standards will conform to A and B, but will be narrowly focused on a specific machine type. TC/199 is initially concerned only with Type A and B Standards.

While certification was required for products sold in the European Economic community after December 31, 1992 (EC 92), standards to support certification were not in place for all products at the end of 1992. Subsequently, the EC granted extensions and in the case of machinery, the extension was for three years to January 1, 1996. Additionally the EC contracted with the European committee on Normalization (CEN) to write standards where they were needed, but agreed to approve ISO standards where appropriate. The CEN Committee which parallels the work of ISO/TC 199 is CEN/TC 114.

QUALIFYING FOR THE CE MARK

The Directive for machinery, 89/392/EEC, explains the mandatory Essential Health and Safety Requirements (EHSRs). A manufacturer of machinery can comply with the law by designing and constructing product(s) to specific European safety standards. To become knowledgeable, you need to start with the basic documents.

They are:

- The Machinery Safety Directive (Document #N22R03 - 3/17/95) Becomes the law in each nation and states the Essential Health and Safety Requirements.
- The "Road Map" - Part 1 - A Designer's Guideline for the Use of European Standards Related to the Machinery Directive (Document #N09R06A - 11/8/95) Provides a step-by-step procedure for assuming compliance with the Directive.

- The "Road Map" - Part 2 - List of European Standards Related to Safety of Machinery (Document #14R18C - 3/2/96)
- The "Road Map" - Part 3 - General approach for Placing Machinery on the European Market (Document #N61R09A - 11/7/95). Provides a broad overview of the requirements.

AMT - The Association for Manufacturing Technology is designated by ANSI as the U.S. TAG Administrator. Charles Carlsson, AMT Safety Director, serves as the U.S. TAG Secretary. Copies of the above documents can be ordered from AMT, 7901 Westpark Drive, McLean, VA 22102, (703)893-2900, Fax (703)893-1151.

Once you become familiar with the information in the basic documents, you will be ready to move on to the full Resource Manuals referred to as "The Book."

"The Book" contains detailed specific safety standards that are advisable to use in order to qualify the machinery for certification. It is currently available from AMT for a cost of \$550.

An important electrical standard is EN60204-1:1992. EN60204-1:1992 is not in "The Book." It can be purchased from the standards publishing organizations (ANSI in New York - Tel. #212-642-4900 - CENELEC in Belgium Tel. #011-32-2-519-6871).

After the machinery has been designed and constructed to comply with the safety standards, the manufacturer must prepare a Technical Construction File (TCF). How to do this and what the TCF must contain is explained in the "Road Map" (See document #N22R03 Annex V, page 70, 3(a)).

Once the TCF is completed, a "Declaration of conformity" must be prepared and signed, attesting that the machinery meets EHSRs. Then you may place the CE marking on the machine (For the exact shape of the characters see page 5 of document #N09R06A). On most machinery, self-certification is permitted. However, machinery classified as hazardous, as defined in the Directive, must be tested and certified by a third party testing agency approved by a national body. Conformity is explained in the documents #N22R03 and #N09R06.

Remember that compliance with the European Safety Requirements is the only LEGAL way for machinery to enter the European market starting January 1, 1996.

The Capital Goods Standards coalition (CGSC) invites membership from trade associations, manufacturing companies and individuals with an interest in safety standards for machinery.

For more information on the international standards-writing process and on the benefits and obligations of membership in the Capital Goods Standards Coalition, contact:

Charles A. Carlsson, TAG Secretary/Administrator
The Association For Manufacturing Technology
7901 Westpark Drive
McLean, Virginia 22102
Phone 703-827-5211 Fax 703-893-1151