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## **Welding and allied processes — Health and safety — Wordless precautionary labels for equipment and consumables used in arc welding and cutting**

*Soudage et techniques connexes — Hygiène et sécurité — Étiquettes de prévention muettes pour les produits de soudage à l'arc et de coupage*



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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 17846 was prepared by Technical Committee ISO/TC 44, *Welding and allied processes*, Subcommittee SC 9, *Health and safety*.

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## Introduction

This International Standard is intended to provide a basis of common understanding within the welding and cutting industry regarding precautionary labels for arc welding and plasma arc cutting products. To this end, this publication provides requirements and guidelines for precautionary labels in order to promote uniformity of manufacturers' labelling practices so that the intended message is more easily recognised and understood by the user. In welding and cutting, as in most industrial occupations, exposure to certain hazards occurs. Users must be alert to these hazards using their experience, training, education, and common sense. Precautionary labels are not intended for the training of users, but rather as a means to quickly remind them of the basic product hazards each time the product is used.

This International Standard covers the use of wordless (symbols-only) precautionary labels as a labelling method for arc welding and plasma arc cutting products. Precautionary labels, based on recognised hazard and safety symbols, have been developed in recognition of an increasingly diverse international audience of users. It cannot be assumed that this audience can read the language used on a label. Symbols are becoming more commonplace in everyday life, from computers to road signs to children's toys. Precautionary labels avoid the need to be able to read the words on the label. Language and literacy thus become non-factors in communication.

To validate the wordless precautionary labels shown in Annex A, a questionnaire was distributed worldwide to approximately 10 000 experienced and inexperienced welders, as well as to other individuals and organizations with an interest in arc welding and cutting products. Nearly all symbols achieved comprehension rates in the 95 % to 100 % range. Where comprehension rates were lower, the symbols were appropriately modified and the revised symbols were resurveyed and validated. More information on the methodology can be found in the EW 6 standard published by the (U.S.-based) National Electrical Manufacturers Association ([www.nema.org](http://www.nema.org)).

NOTE The term "precautionary label" is equivalent to "product safety label" in ISO 3864-2. Other equivalences are so noted elsewhere in this International Standard.