First edition
2014-09-01

Industrial furnace and associated processing equipment — Safety —

Part 4: Protective systems

Fours industriels et équipements associés — Sécurité —

Partie 4: Systèmes de protection

Reference number
ISO 13577-4:2014(E)

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

Contents

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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 244, *Industrial furnaces and associated processing equipment*.

ISO 13577 consists of the following parts, under the general title *Industrial furnaces and associated processing equipment — Safety*:

— *Part 1: General requirements*

— *Part 2: Combustion and fuel handling systems*

— *Part 3: Generation and use of protective and reactive atmosphere gases*

— *Part 4: Protective systems*

The following part is under preparation:

— *Part 11: Requirements for arc furnaces*

Introduction

This part of ISO 13577 was developed to specify the requirements of a protective system, which is a safety-related electrical control system (SRECS) of industrial furnaces and associated processing equipment (TPE).

Mandatory safety-related control functions of TPE are specified in ISO 13577-1, ISO 13577-2, and ISO 13577-3.

It is intended that in designing the protective system of TPE, manufacturers of TPE choose from the four methods provided in this part of ISO 13577.

This part of ISO 13577 is to be used together with the other parts of ISO 13577. Since ISO 13577 is a type-C standard of ISO 12100, TPE are required to be designed in accordance with the principles of ISO 12100. However, there are cases in which a risk assessment according to IEC 61511 (all parts) is more suitable for the design of a TPE protective system.

This document is a type-C standard as stated in ISO 12100.

The machinery concerned and the extent to which hazards, hazardous situations, or hazardous events are covered are indicated in the scope of this part of ISO 13577.

When requirements of this type-C standard are different from those which are stated in type-A or -B standards, the requirements of this type-C standard take precedence over the requirements of the other standards for machines that have been designed and built according to the requirements of this type-C standard.

IEC 61511 (all parts) provides the option of a low-demand rate on the protective system. IEC 62061 or ISO 13849-1 always assume high-demand applications.

Therefore, this part of ISO 13577 permits extended risk assessment for SRECS in which risk assessment based on IEC 61511 (all parts) can be chosen as an alternative.