PD ISO/TR 22100-2:2013



BSI Standards Publication

Safety of machinery — Relationship with ISO 12100

Part 2: How ISO 12100 relates to ISO 13849-1

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National foreword

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Partie 2: Relation entre l'ISO 12100 et l'ISO 13849-1

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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.

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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 199, *Safety of machinery*.

ISO/TR 22100 consists of the following parts, under the general title *Safety of machinery — Relationship with ISO 12100*:

— *Part 2: How ISO 12100 relates to ISO 13849-1*

How ISO 12100 relates to type-B and type-C standards and the implementation of ergonomics in safety standards are to form the subjects of future parts 1 and 3.

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Introduction

The use of ISO 12100 and ISO 13849-1 has shown that readers have experienced difficulty in understanding how these two documents work together. This document has been prepared to guide readers in how the standards are to be used to achieve tolerable risk for a machine in general and for the safety-related parts of the control system, in particular.

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TECHNICAL REPORT **ISO/TR 22100-2:2013(E)**

Safety of machinery — Relationship with ISO 12100 —

Part 2: How ISO 12100 relates to ISO 13849-1

1 Scope

This part of ISO/TR 22100 describes the general relationship between ISO 12100 and ISO 13849-1 used to reduce the risk of harm. It focuses on the use of safety-related parts of control systems in relation to risk assessment and the risk reduction process.

NOTE The explanations about the relationship to ISO 12100 given in this document are relevant for ISO 13849-1 but could be applied in a similar manner to IEC 62061.

2 Normative reference

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 12100:2010, *Safety of machinery — General principles for design — Risk assessment and risk reduction*

ISO 13849-1, *Safety of machinery — Safety-related parts of control systems — Part 1: General principles for design*

3 General structure of the system of machinery safety standards

Standards on safety of machinery have the following structure:

— **type-A standards** (basic safety standards) giving basic concepts, principles for design, and general aspects that can be applied to machinery;

— **type-B standards** (generic safety standards) dealing with one safety aspect or one type of safeguard that can be used across a wide range of machinery;

— **type-C standards** (machine safety standards) dealing with detailed safety requirements for a particular machine or group of machines.

As shown in Figure 1, ISO 12100 is the type-A standard specifying the general principles for safety of machinery and applies to all machinery. ISO 13849-1 is a typical type-B standard addressing a particular aspect and can be used across a wide range of machinery.

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