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Australian Standard™

Industrial automation systems and integration—Parts library

Part 42: Description methodology: Methodology for structuring part families

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Australian Standard™

Industrial automation systems and integration—Parts library

Part 42: Description methodology: Methodology for structuring part families

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PREFACE

This Standard was prepared by the Standards Australia Committee IT-006, Information Technology for Industrial Automation and Integration.

This Standard is identical with, and has been reproduced from, ISO 13584-42:1998, *Industrial automation systems and integration—Parts library, Part 42: Description methodology: Methodology for structuring part families*.

The objective of this Standard is to provide the principles that shall be used for defining families of parts and properties of parts to fully characterize parts and associated properties.

This Standard is Part 42 of AS ISO 13584, *Industrial automation systems and integration—Parts library*, which is published in parts as follows:

Part 1: Overview and fundamental principles
Part 101: Geometrical view exchange protocol by parametric program
Part 20: Logical resource: Logical model of expressions
Part 24: Logical resource: Logical model of supplier library
Part 26: Logical resource: Information supplier identification
Part 31: Implementation resources: Geometric programming interface
Part 42: Description methodology: Methodology for structuring part families (this Standard)

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ISO		AS/NZS	
8601	Data elements and interchange formats—Information interchange—Representations of dates and times	3802	Data elements and interchange formats—Information interchange—Representations of dates and times
9735	Electronic data interchange for administration, commerce and transport (EDIFACT)—Application level syntax rules	3801	Electronic data interchange for administration, commerce and transport (EDIFACT)—Application level syntax rules
ISO		AS	
31-0	Quantities and units—Part 0: General principles	2900.0	Quantities and units, Part 0: General principles
4217	Codes for the representation of names of currencies and funds	3759	Codes for the representation of names of currencies and funds

12083	Information and documentation—Electronic manuscript preparation and markup	4449	Information and documentation—Electronic manuscript preparation and markup
6093	Information processing—Representation of numerical values in character strings for information interchange	3767	Information processing—Representation of numerical values in character strings for information interchange
8879	Information processing—Text and office systems—Standards Generalized Markup Language (SGML)	3514	Information processing—Text and office systems—Standards Generalized Markup Language (SGML)
10303-1	Industrial automation systems and integration—Product data representation and exchange—Part 1: Overview and fundamental principles	10303.1	Industrial automation systems and integration—Product data representation and exchange, Part 1: Overview and fundamental principles
10303-11	Industrial automation systems and integration—Product data representation and exchange—Part 11: Description methods: The EXPRESS language reference manual	10303.11	Industrial automation systems and integration—Product data representation and exchange, Part 11: Description methods: The EXPRESS language reference manual
10303-21	Industrial automation systems and integration—Product data representation and exchange—Part 21: Implementation methods: Clear text encoding of the exchange structure	10303.21	Industrial automation systems and integration—Product data representation and exchange, Part 21: Implementation methods: Clear text encoding of the exchange structure
10303-41	Industrial automation systems and integration—Product data representation and exchange—Part 41: Fundamentals of product description and support	10303.41	Industrial automation systems and integration—Product data representation and exchange, Part 41: Fundamentals of product description and support
10303-42	Industrial automation systems and integration—Product data representation and exchange—Part 42: Integrated generic resources: Geometric and topological representation	10303.42	Industrial automation systems and integration—Product data representation and exchange, Part 42: Integrated generic resources: Geometric and topological representation

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INTRODUCTION

ISO 13584 is an International Standard for the computer-interpretable representation and exchange of part library data. The objective is to provide a neutral mechanism capable of transferring parts library data, independent of any application that is using a parts library data system. The nature of this description makes it suitable not only for the exchange of files containing parts, but also as a basis for implementing and sharing databases of parts library data.

ISO 13854 is organised as a series of parts, each published separately. The parts of ISO 13854 fall into one of the following series: conceptual descriptions, logical resources, implementation resources, description methodology, conformance testing, view exchange protocol, and standardised content. The series are described in ISO 13584-1. This part of ISO 13584 is a member of the description methodology series.

This part of ISO 13584 provides rules and guidelines for library data suppliers to create hierarchies of families of parts according to a common methodology intended to enable multi-supplier consistency. These rules pertain to the following: the method for grouping parts into families of parts to form a hierarchy; the dictionary elements that describe the families and properties of parts.

This part of ISO 13584 refers as a normative reference to the data model that specifies the exchange of dictionary data. This EXPRESS specification was developed as a common model for ISO 13584 and IEC 61360. It is intended to be published as IEC 61360-2. For convenience this common model is provided in this part of ISO 13584 as an informative annex that duplicates the normative content of IEC 61360-2. This part of ISO 13584 also provides the mapping of the concepts described here onto the common model.

AUSTRALIAN STANDARD

Industrial automation systems and integration — Parts library — Part 42: Description methodology: Methodology for structuring part families

1 Scope

This part of ISO 13584 specifies the principles that shall be used for defining families of parts and properties of parts to fully characterize parts and associated properties.

The rules and guidelines provided in this part of ISO 13584 are mandatory for the standardisation committees responsible for creating standardised identification hierarchies.

The use of these rules by suppliers and users is recommended as a methodology for building their own hierarchies.

The following are within the scope of this part of ISO 13584:

— the rule to group parts into generic families of parts and simple families of parts;

— the rules for the choice of the appropriate properties that shall be associated with the families of parts;

— the attributes that shall be provided by library data suppliers to describe the families and properties of parts.

— the specifications of those attributes in the EXPRESS information model that provide for the exchange of such dictionary data.

NOTE 1 The EXPRESS information model for the exchange of dictionary data is defined in IEC 61360-2.

NOTE 2 The content of this EXPRESS information model is in the informative Annex D of this part of ISO 13584 that duplicates the normative content of IEC 61360-3.

The following are outside the scope of this part of ISO 13584:

— libraries of assembled parts with aggregate structure (Level 3 libraries);

— the description of the parts themselves;

— the descriptions of the functional models that may refer to some family of parts;

— the description of tables, program libraries and documents that may refer to some family of parts;

— the description of the systems intended to manage parts libraries; and

— the EXPRESS resource constructs for references between libraries.

NOTE The EXPRESS resource constructs for tables, programs libraries, documents and for references between libraries are defined in ISO 13584-24.

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