AS 10303.46—1998
ISO 10303-46:1994

Australian Standard™

Industrial automation systems and integration—Product data representation and exchange

Part 46: Integrated generic resources: Visual presentation

This Australian Standard was prepared by Committee IT/6, Information Technology for Industrial Automation and Integration. It was approved on behalf of the Council of Standards Australia on 16 June 1998 and published on 5 September 1998.

The following interests are represented on Committee IT/6:

Association of Consulting Engineers Australia

Australian Air Transport Association

Australian Chamber of Manufactures

Australian Electrical and Electronic Manufacturers Association

Australian Foundry Institute

Australian Information Industry Association

Australian Institute of Steel Construction

Australian Robot Association

Bureau of Steel Manufacturers of Australia

CSIRO Centre for Planning and Design

CSIRO Manufacturing Science and Technology

Department of Defence, Australia

Department of Industry, Science and Tourism, Australia

Federal Chamber of Automotive Industries

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New South Wales TAFE Commission

New Zealand Chambers of Commerce and Industry

New Zealand Defence Force

New Zealand Heavy Engineering Research

New Zealand Institute of Architects

New Zealand Manufacturers' Federation

Royal Australian Institute of Architects

Royal Melbourne Institute of Technology

University of Auckland (New Zealand)

University of Melbourne

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee IT/6, Information Technology for Industrial Automation and Integration. The Standard is the result of a consensus among the representatives on the Joint Committee that it be produced as an Australian Standard. It is identical with and has been reproduced from ISO 10303-46:1994, *Industrial automation systems and integration—Product data representation and exchange*, Part 46: *Integrated generic resources: Visual representation*.

The objective of this Standard is to provide users of integrated automation systems with the integrated resources for the visualization of displayable product information. This information is combined with product data such that a receiving system can construct one or several pictures of the product information suitable for human perception.

This Standard is Part 46 of AS 10303, *Industrial automation systems and integration—Product data representation and exchange*, which is published in Parts as follows:

Part 1: Overview and fundamental principles
Part 11: Description methods: The EXPRESS language reference manual
Part 21: Implementation methods: Clear text encoding of the exchange structure
Part 31: Conformance testing methodology and framework: General concepts
Part 41: Integrated generic resources: Fundamentals of product description and support
Part 42: Integrated generic resources: Geometric and topological representation
Part 43: Integrated generic resources: Representation structures
Part 44: Integrated generic resources: Product structure configuration
Part 46: Integrated generic resources: Visual presentation (this Standard)
Part 101: Integrated application resources: Draughting
Part 201: Application protocol: Explicit draughting
Part 203: Application protocol: Configuration controlled design

The terms ‘normative’ and ‘informative’ have been used in this Standard to define the application of the annex to which they apply. A ‘normative’ annex is an integral part of a Standard, whereas an ‘informative’ annex is only for information and guidance.

Annex C, which is in the form of computer-interpretable listings, and Annex A are supplied on a diskette, which is part of this Standard.

As this Standard is reproduced from an international Standard, the following applies:

(a) Its number does not appear on each page of text and its identity is shown only on the cover and title page.

(b) In the source text ‘this International Standard’ should read ‘this Australian Standard’.

(c) A full point substitutes for a comma when referring to a decimal marker.

References to International Standards should be replaced by references to equivalent Australian or Australian/New Zealand Standards, as follows:

Reference to International Standard or other publication		*Australian or Joint Australian/New Zealand Standard*	
ISO		AS	
10303	Industrial automation systems and integration—Product data representation and exchange	10303	Industrial automation systems and integration—Product data representation and exchange
10303-1	Part 1: Overview and fundamental principles	10303.1	Part 1: Overview and fundamental principles
10303-11	Part 11: Description methods: The EXPRESS language reference manual	10303.11	Part 11: Description methods: The EXPRESS language reference manual

ISO	AS
10303-41 Part 41: Integrated generic resources: Fundamentals of product description and support	10303.41 Part 41: Integrated generic resources: Fundamentals of product description and support
10303-42 Part 42: Integrated generic resources: Geometric and topological representation	10303.42 Part 42: Integrated generic resources: Geometric and topological representation
10303-43 Part 43: Integrated generic resources: Representation structures	10303.43 Part 43: Integrated generic resources: Representation structures
ISO/IEC	
8824 Information technology—Open Systems Interconnection—Abstract Syntax Notation One (ASN.1)	
8824-1 Part 1: Specification of basic notation	—

CONTENTS

Page

Page

Page

Page

Page

Page

Page

Page

Annexes

Figures

Page

Page

Tables

NOTES

AUSTRALIAN STANDARD

Industrial automation systems and integration — Product data representation and exchange — Part 46 : Integrated generic resources: Visual presentation

1 scope

This part of ISO 10303 specifies the integrated resources for the visualization of displayable product information . Presentation data as provided in this part are combined with product data and are exchanged together between systems with the aim that the receiving system can construct one or several pictures of the product information suitable for human perception.

This part specifies the generic resources required to describe the desired visual appearance of product information in its picture. The actual generation of the picture from the product infornmation and its presentation data is left to the receiving system. The actual depiction may deviate from this target because of limitations in the capabilities of graphics systems.

Product information can be visualized in two ways, either by realistic, life–like images according to the rules of projective geometry and light propagation and reflection, or by symbolic presentations that conform with draughting standards and conventions. This part supports both types of presentations. The two types of visualization processes require different kinds of graphical transformations and these may be combined in the same picture.

The following are within the scope of this part of ISO 10303:

- Association between product data defined by other parts of ISO 10303 and presentation data;
- Support of graphics functionality in compliance with current ISO graphics standards;
- Definition of presentation style attributes for realistic and symbolic visualizations of geometric and non–geometric displayable elements in the product information;
- Control of approximation tolerances for geometric presentation elements;
- Methods for defining the appearance of characters and symbols in fonts;
- Support of externally defined character fonts and symbols;
- Image control by a layer mechanism;
- Nesting of presentation areas.

The following are outside the scope of this part of ISO 10303: