AS 10303.207—2000
ISO 10303-207:1999

Australian Standard™

Industrial automation systems and integration—Product data representation and exchange

Part 207: Application protocol: Sheet metal die planning and design

Standards Australia

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 2000 and published on 27 September 2000.

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Part 207: Application protocol: Sheet metal die planning and design

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PREFACE

This Standard was prepared by the Standards Australia Committee IT/6, Information Technology for Industrial Automation and Integration. It is identical with, and has been reproduced from, ISO 10303-207:1999, *Industrial automation systems and integration—Product data representation and exchange,* Part 207: *Application protocol: Sheet metal die planning and design.*

The objective of this Standard is to provide, for designers of computer-interpretable representation and exchange of product data, a specification for an application protocol for the exchange of sheet metal part design, part manufacture, and tool design information between contractors and suppliers.

This Standard is Part 207 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 12: Description methods: The EXPRESS-I 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
Part 47: Integrated generic resource: Shape variation tolerances
Part 101: Integrated application resources: Draughting
Part 105: Integrated application resource: Kinematics
Part 201: Application protocol: Explicit draughting
Part 202: Application protocol: Associative draughting
Part 203: Application protocol: Configuration controlled design
Part 207: Application protocol: Sheet metal die planning and design (this Standard)

The term ‘normative’ has been used in this Standard to define the application of the annex to which it applies. A ‘normative’ annex is an integral part of a 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 part of ISO 10303’ should read ‘this Australian Standard’.

(c) A full point should be substituted 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 Australian/New Zealand Standard*	
ISO		AS	
31	Quantities and units (all parts)	—	
1000	SI units and recommendations for the use of their multiples and of certain other units	1000	The international system of units (SI) and its application
		AS/NZS	
8601	Data elements and interchange formats—Information interchange—Representation of dates and times	3802	Data elements and interchange formats—Information interchange—Representation of dates and times

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
10303-21	Part 21: Implementation methods: Clear text encoding of the exchange structure	10303.21	Part 21: Implementation methods: Clear text encoding of the exchange structure
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Introduction

ISO 10303 is an International Standard for the computer-interpretable representation and exchange of product data. The objective is to provide a neutral mechanism capable of describing product data throughout the life cycle of a product, independent from any particular system. The nature of this description makes it suitable not only for neutral file exchange, but also as a basis for implementing and sharing product databases and archiving.

This International Standard is organized as a series of parts, each published separately. The parts of ISO 10303 fall into one of the following series: description methods, integrated resources, application interpreted constructs, application protocols, abstract test suites, implementation methods, and conformance testing. The series are described in ISO 10303-1. This part of ISO 10303 is a member of the application protocol series.

This part of ISO 10303 specifies an application protocol (AP) for the exchange of sheet metal part design, part manufacture, and tool design information between contractors and suppliers. This exchange may be within enterprises, as when one department of an enterprise acts as a contractor, exchanging data with another department that acts as a supplier. This exchange may also be between enterprises, as when one enterprise, the contractor, exchanges information with another enterprise, the supplier. This AP satisfies an industrial need to exchange information to enable a contractor to manufacture a die tool used in the production of a sheet metal part. The information includes any combination of the following:

— Exchange of necessary information, such as sheet metal part geometry and configuration data, part tolerances, and part materials, from a contractor to a supplier to enable the supplier to produce a plan for manufacturing that sheet metal part;

— Exchange of necessary information, such as sheet metal part geometry and configuration data, part tolerances, and part materials, from a contractor to a supplier to enable the supplier to produce the design of a sheet metal die set (see figure 1);

— Exchange from a supplier to a contractor of a plan for the manufacture of a sheet metal part, possibly including press and process data, and plant constraint information;

— Exchange from a supplier to a contractor of the design of a sheet metal die, including die geometry and presentation data, die material data, die component configuration, and inter-relationships among the die component representations.

More information on the sheet metal forming process is included in annex L.

This application protocol defines the context, scope, and information requirements for sheet metal die planning and design, and specifies the integrated resources necessary to satisfy these requirements.