

Australian Standard®

**Computer graphics—Initial graphics
exchange specification (IGES) for
digital exchange of product
definition data**

**Part 2: Subset of AS 3643.1—
Two-dimensional drawings for
architectural, engineering and
construction (AEC) industries**

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The following interests are represented on Committee IT/3:

Association for Computer Aided Design (ACADS)
The Association of Consulting Engineers, Australia
Australian Vice Chancellors Committee
Department of Defence
Royal Australian Institute of Architects

Additional interest participating in preparation of Standard:

ACADS Data Exchange Committee

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PREFACE

This Standard was prepared for the Standards Australia Committee on Computer Related Graphics, by the Sydney working group of the ACADS Data Exchange Committee.

In preparing this Standard, the following documents were referred to:

BPS-Centret. *IGES SBF, Draft of a subset specification*. Report No. 13. January 1988.

Bloor, Susan et al. *Computer aided design interchange of data: Guide-lines for the use of the Initial Graphics Exchange Specification (IGES)*. Leeds, UK: The CAD-CAM Data Exchange Technical Centre, 1986.

AS 3883, *Computer graphics—Computer aided design (CAD)*—Guide for structuring computer graphic information.

IGES PDES AVM Committee. *Guide-lines for the specification and validation of IGES application protocols*. Gaithersburg, USA: Center for Building Technology, National Bureau of Standards, Draft version 0.06. July 1988.

ABAC (ACADS-BICAT) Advisory Committee. *CAD data exchange, Preliminary study*. Melbourne: ACADS-BICAT, 1987.

National Economic Development Office. *Guidelines for the use of IGES, Phase 1*. IGES Test, Evaluation and Support Committee. *IGES Recommended Practices Guide, Version 3.0*.

The documents listed above were important in the development of the subset, and many of the concepts have been incorporated in this Standard. The assistance gained from these sources is acknowledged.

Acknowledgement is accorded to Professor James A Turner of the University of Michigan who has kindly given permission for the use of his paper *Guide to reading NIAM diagrams*, May 1991, which is reproduced in Section A4.

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CONTENTS

	<i>Page</i>
SECTION 1 SCOPE AND GENERAL	
1.1 SCOPE	4
1.2 APPLICATION	4
1.3 REFERENCED DOCUMENTS	4
1.4 ABBREVIATIONS	5
1.5 DEFINITIONS	5
1.6 OTHER INTERCHANGE FORMATS	6
1.7 ARCHITECTURAL, ENGINEERING AND CONSTRUCTION (AEC) INDUSTRY	6
SECTION 2 SUBSET APPLICATION LEVELS	
2.1 STRUCTURE OF SUBSET APPLICATION LEVELS	7
2.2 RELATIONSHIP TO 3-D CAD SYSTEMS	7
2.3 THE 2-D CONSTRUCTION DRAWING SUBSET	7
SECTION 3 APPLICATION PROTOCOL	
3.1 APPLICATION INFORMATION PROTOCOLS	9
3.2 DRAWING CONCEPTS	9
3.3 2-D DRAWING APPLICATION REFERENCE MODEL	10
3.4 2-D DRAWING APPLICATION IMPLEMENTATION MODEL	10
3.5 MAPPING OF INFORMATION CONTENT TO IGES SUBSET ENTITIES	15
SECTION 4 2-D DRAWING ENTITY SUBSET	
4.1 NOTES ON ENTITY TYPES AND PARAMETER RANGES	16
4.2 GENERAL	16
4.3 GLOBAL SECTION	16
4.4 CIRCULAR ARC ENTITY (TYPE 117)	17
4.5 COMPOSITE CURVE ENTITY (TYPE 102)	17
4.6 CONIC ARC ENTITY (TYPE 104)	18
4.7 COPIOUS DATA ENTITY (TYPE 106)	18
4.8 LINE ENTITY (TYPE 110)	19
4.9 PARAMETRIC SPLINE CURVE ENTITY (TYPE 112)	19
4.10 POINT ENTITY (TYPE 116)	20
4.11 TRANSFORMATION MATRIX ENTITY (TYPE 124)	20
4.12 RATIONAL B-SPLINE CURVE ENTITY (TYPE 126)	21
4.13 ANGULAR DIMENSION ENTITY (TYPE 202)	21
4.14 DIAMETER DIMENSION ENTITY (TYPE 206)	22
4.15 GENERAL NOTE ENTITY (TYPE 212)	22
4.16 LEADER (ARROW) ENTITY (TYPE 214)	23
4.17 LINEAR DIMENSION ENTITY (TYPE 216)	23
4.18 ORDINATE DIMENSION ENTITY (TYPE 218)	24
4.19 RADIUS DIMENSION ENTITY (TYPE 222)	24
4.20 SECTIONED AREA ENTITY (TYPE 230)	25
4.21 SUBFIGURE DEFINITION ENTITY (TYPE 308)	25
4.22 ASSOCIATIVITY INSTANCE ENTITY (TYPE 402)	26
4.23 SINGULAR SUBFIGURE INSTANCE ENTITY (TYPE 408)	26
SECTION 5 TESTING	
5.1 DATA ACCURACY REQUIREMENTS	27
5.2 TESTING REQUIREMENTS	27
5.3 TESTING AUTHORITIES	27
APPENDIX A NIAM NOTATION	28
APPENDIX B GUIDELINES FOR THE USE OF THIS STANDARD	36

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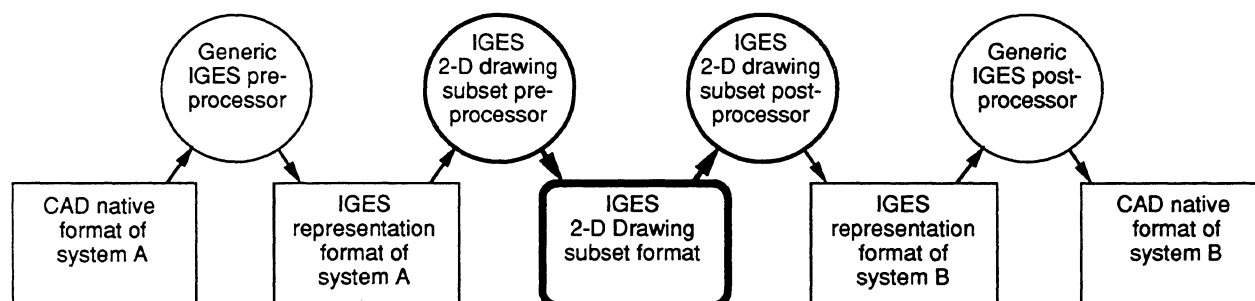
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SECTION 1 SCOPE AND GENERAL

1.1 SCOPE This Standard specifies the subset of initial graphics exchange specification (IGES) (AS 3643.1) entities which shall be used for the digital exchange of AEC 2-D drawing information. Specifications are given for information protocols. Entities and their associated limits are specified. Test requirements to validate conformance to the subset are defined. An Appendix to this Standard provides for users of CAD systems a detailed guide, based on current best practice, on the use of IGES and the application subset.

1.2 APPLICATION This Standard provides the basis for the development and implementation of IGES pre- and post-processor software to exchange digital drawing data complying with the specified IGES application subset. It is assumed that data will be preprocessed from the source format to IGES version 4.0 format, then to the 2-D drawing subset format and finally post-processed by the receiver in a similar manner to the destination format. These steps are illustrated in Figure 1.1.



NOTE: The IGES application (the 2-D drawing subset) is an optional further step in the processing of the originating source file which, in addition to being converted from its native structure to a generic IGES structure, is also 'flavoured' to match the application subset.

FIGURE 1.1 STEPS TO PROCESSING AN IGES 2-D DRAWING SUBSET FILE

In order for software to comply with this Standard, it shall only contain the nominated entities, comply with the restricted forms and parameter ranges, and shall satisfy the stated test requirements. This subset specification should be read in conjunction with AS 3643.1.

1.3 REFERENCED DOCUMENTS

AS

- 3643 Computer graphics—Initial graphics exchange specification (IGES) for digital exchange of product definition data
- 3643.1 Part 1: General
- 3883 Computer graphics—Computer aided design (CAD)—Guide for structuring of computer graphic information