AS 3643.2—1992

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

STANDARDS AUSTRALIA

This Australian Standard was prepared by Committee IT/3, Computer Related Graphics. It was approved on behalf of the Council of Standards Australia on 5 February 1992 and published on 15 May 1992.

––––––––––––

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

––––––––––––

––––––––––––

This Standard was issued in draft form for comment as DR 89103.

AS 3643.2—1992

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

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.

CONTENTS

STANDARDS AUSTRALIA

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

S E C T I O N   1   S C O P E   A N D   G E N E R A L

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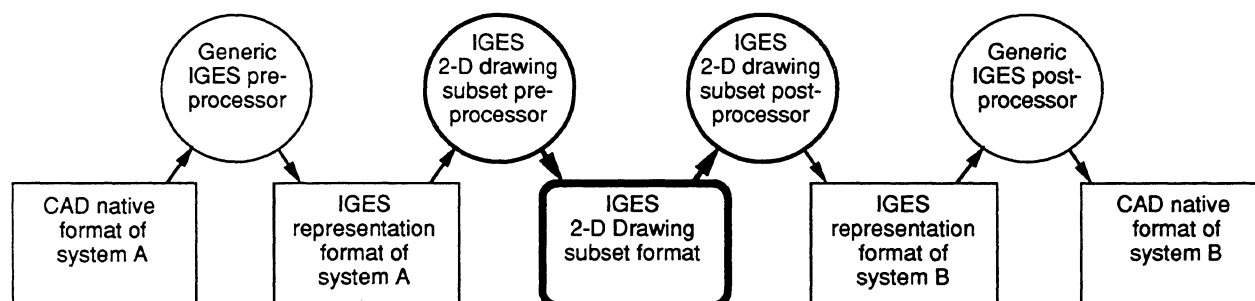
NOTE: The IGES application (the 2-D drawing subset) is an optional further step in the processing of the originating source file which, in addition to being converted from its native structure to a generic IGES structure, is also 'flavoured' to match the application subset.

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