AS 3883—1991

Australian Standard®

Computer graphics—Computer Aided Design (CAD)—Guide for structuring of computer graphic information

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PREFACE

This Standard was prepared by the Standards Australia Committee on Computer Related Graphics. It is identical with and has been reproduced from BS 1192: *Construction drawing practice*—Part 5: *Guide for structuring of computer graphic information.*

Under arrangements made between Standards Australia and the International Standards Bodies, ISO and IEC, as well as certain other Standards organizations, users of this Australian Standard are advised of the following:

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For the purposes of this Australian Standard, the BS text should be modified as follows:

References The references to BS and NIST Standards should be replaced by references to Australian Standards as follows:

Reference to International Standard		*Australian Standard*	
BS		AS	
308	Engineering drawing practice	—	
1192	Construction drawing practice	—	
1192-1	Part 1: Recommendations for general principles	—	
1192-2	Part 2: Recommendations for architectural and engineering drawings	—	
1192-3	Part 3: Recommendations for symbols and other graphic conventions	—	
1192-4	Part 4: Recommendations for landscape drawings	—	
6390	Glossary of building and civil engineering terms	—	
6390	Specification for a set of functions for computer graphics programming, the Graphical Kernel System	2880	Information processing systems—Computer graphics—Graphical Kernel System (GKS) functional description
6568	Reference model for open systems interconnection	2777	Information processing systems—Open Systems Interconnection—Basic Reference Model
6568-1	Part 1: Basic reference model (incorporating connectionless-mode transmission)	2777.1	Supp 1: Connectionless-mode transmission
NIST	(NBS) Initial Graphics Exchange Specification (IGES)	3646	Computer graphics—Initial Graphics Exchange Specification (IGES) for digital data exchange of product definition data
		3646.1	Part 1: General

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Guide

0 Introduction

This Part of BS 1192 is written for the users and managers of CAD systems in the construction industry who may be architects, contractors, engineers, surveyors and others. It is not a standard for the producers of CAD systems.

There are a number of reasons why users and managers of CAD systems should take note of this standard and apply its recommendations in order to:

(a) understand what is common between different CAD systems;

(b) increase the efficiency of an office which is using CAD;

(c) manage the use of a CAD system by more than one user;

(d) organize the transfer of CAD data between several offices;

(e) structure data for archiving to help future retrieval.

Computer produced drawings should always satisfy the requirements of the users of information shown on the drawings. The drawings should also comply with the recommendations of all Parts of BS 1192. Developing computer technology needs some additional considerations which are the subject of this Part of BS 1192.

Projection systems for three dimensional viewing are set out in BS 1192: Part 1 and relate to visualization by computer.

1 Scope

This Part of BS 1192 gives guidance on the representation of construction by computers primarily for the purpose of generating drawings and the exchange of data between CAD users.

The standard identifies a data model from which proprietary CAD systems may vary in several ways. Terminology used in this model, independent of particular system terms, is recommended. A basis for allocating construction data to layers is recommended in appendix A. A list of equivalent terms is given in appendix B.

This guide covers the production of drawings and non-graphic data from two and three dimensional computer models to facilitate more effective exchange of data between different CAD systems under the proposed International Standard for Exchange of Product Data, STEP.

NOTE. The titles of the publications referred to in this Part of BS 1192 are listed on the inside back cover.

2 Definitions and abbreviations

2.1 General

For the purposes of this standard, the definitions given in BS 6100: Subsection 1.5.7 and in BS 1192: Parts 1 and 3 apply. In addition, the definitions given in **2.2** and the abbreviations in **2.3** of this Part of BS 1192 apply. Definitions of general building and civil engineering terms also apply, as given in BS 6100: Section 1.0.

There is a need for standard terminology since the diversity of terms used in each system hinders discussion and understanding. A table of recommended terms compared with system terms is given in appendix B.

Abbreviations and terms defined in the standard are reproduced, the first time they appear within any one of the clauses **2** to **9**, in bold type.

2.2 Definitions

2.2.1 annotation

Parts of a drawing consisting of letters or numbers and, where relevant, associated graphic **entities.**

2.2.2 attribute

Essential property, trait, quality or characteristic of an **entity.**

2.2.3 background model

Graphic data used for reference only.

2.2.4 computer graphics

Methods for converting data to or from graphic displays via computers.

2.2.5 co-ordinate system

System of magnitudes used to fix position of point, line or plane.

2.2.6 database

Consistent collection of data that can be interpreted and operated on, by the computer system.

2.2.7 data structure

Description of the way in which data is organized in a computer program.

2.2.8 drawing specification

Specific details of a drawing including sheet size, layout, title block and notes, and of content in terms of **model views** and positions.

NOTE. Not to be confused with specification of works.

2.2.9 entity

Information unit having uniform meaning and use.

NOTE. This term may include **models, sub-models, primitives** and **instances.**