

**SINGAPORE STANDARD**

**Code of practice for construction  
computer-aided design (CAD)**

– Part 1 : Organisation and naming of CAD layers

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*CPG Corporation Pte Ltd*  
*Defence Science and Technology Agency*  
*Institute of Engineers, Singapore*  
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*RSP Architects Planners & Engineers Ltd*  
*Singapore Institute of Architects*  
*Surbana Consultants Pte Ltd*  
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## Foreword

This Code of Practice was prepared by the Technical Committee on Construction Industry IT Standards under the direction of the Information Technology (IT) Standards Committee.

This code was prepared with reference to the following publications:

1. ISO 13567: 1998 Technical product documentation – Organisation and naming of layers for CAD, Part 1 : Overview and principles
2. ISO 13567: 1998 Technical product documentation – Organisation and naming of layers for CAD, Part 2 : Concepts, format and codes used in construction documentation

Acknowledgement is made for the use of information from the above references.

Current users of CP 83 include architects, professional engineers - C&S and M&E, as well as contractors who participate in Electronic Submission. The Urban Redevelopment Authority (URA) and the Building Construction Authority (BCA) have adopted the CAD layers for Electronic Development Application (EDA) and Electronic Submission System (eSS) respectively.

CAD vendors have developed software tools that can implement and support CP 83. BCA has been conducting hands-on training on CP 83 and the software application on various CAD platforms.

The revision of CP 83: Part 1 CAD layer names, is required in order to streamline industry practices for building projects as well as infrastructure projects such as the Mass Rapid Transport extensions which include architectural, civil and structural as well as mechanical and electrical works. The revised list of main and sub elements gives the users flexibility to combine the main and sub-elements based on their requirements.

The major changes are as follows:

- Table 2 – Additional codes for originator field;
- Table 4 – Additional codes for first character of presentation field;
- Table 5 – Additional codes for second character of presentation field;
- Figure 2 – Examples of layer name structure – Mandatory and optional fields;
- Annex A – Revised list of main elements in alphabetical order;
- Annex B – Revised list of recommended sub-elements in alphabetical order;
- Annex C – Deletion of mapping of elements in CP 80.

Attention is drawn to the possibility that some of the elements of this Singapore Standard may be the subject of patent rights. Enterprise Singapore shall not be held responsible for identifying any or all of such patent rights.

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3. *Compliance with a SS or TR does not exempt users from any legal obligations.*

## **Code of practice for construction computer-aided design (CAD) Part 1 – Organisation and naming of CAD layers**

### **1 Scope**

This Singapore Standard establishes the general principles of layer structure within construction computer-aided design (CAD) files. It covers the organisation and allocation of layers that are used in CAD files for construction projects, and is intended to be used for communication and management purposes. A list of standard CAD layer element names is provided in this code.

The principles established in this code are applicable to all parties involved in preparing and using technical documentation on CAD systems. Although these principles are primarily for users, CAD system developers are expected to provide software tools capable of implementing and supporting this code. An important use is also to structure data in component libraries produced by third parties.