

ICS 01.080; 29.020
CCS K 04



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 5094-1985

Replacing GB/T 5094.1-2002

**Industrial systems, installations and equipment and industrial
products -- Structuring principles and reference designations --
Part 1: Basic rules
(English Translation)**

Issued on: July 13, 2018

Implemented on: February 1, 2019

**Issued by: State Administration for Market Regulation, China National
Standardization Administration**

Table of Contents

Foreword
Introduction
0.1 Overview
0.2 Basic requirements of this part
0.3 Characteristics of this part
1 Scope
2 Normative references
3 Terms and definitions

Foreword

GB/T 5094 "Industrial Systems, Devices and Equipment and Industrial Product Structure Principles and Reference Codes" are divided into the following two parts.

- Part 1. Basic rules;
- Part 2. Classification and classification of the project.

This part is the first part of GB/T 5094.

This part is drafted in accordance with the rules given in GB/T 1.1-2009.

This part replaces GB/T 5094.1-2002 "Industrial Systems, Devices and Equipment, and Industrial Product Structure Principles and Reference Codes" Part 1. Basic Rules, the main technical changes compared with GB/T 5094.1-2002 are as follows.

- Removed GB/T 2659, IEC 61346-2, ISO 4157-1, ISO 4157-2 reference standards;
- Added "process, component, location, identifier" to the terms and definitions in Chapter 3, and deleted the "reference code group";
- Added the contents of Chapters 4, 9 and 10;
- The contents of Chapter 5 ~ Chapter 8 have been adjusted, such as the addition of 5.2, 8.2, deleted the original 5.6 "reference code group" description State
- Besides Appendix D is changed to Appendix H, the contents are changed, and other appendices are new.

This section uses the translation method equivalent to the IEC 81346-1:2009 "Industrial Systems, Devices and Equipment, and Industrial Product Structure Principles and refer to Code Part 1. Basic Rules.

This part is proposed and managed by the National Technical Committee for the Construction of Electrical Information, Documentation and Graphic Symbol Standardization (SAC/TC27).

This section drafted by. China Machine Productivity Promotion Center, China Building Standard Design and Research Institute Co., Ltd., Beijing Radio Measurement Research Institute, Nanjing Nanrui Jibao Electric Co., Ltd., China Aviation Planning and Design Research Institute Co., Ltd., China Aerospace Science and Technology Defense Technology Research Institute.

0.1 Overview

This part carries out the code number of the earlier version and the revoked (IEC 60113-2, IEC 60750) project code in terms of the code of the project.

Paving, (see Appendix A). It provides the basis for modeling of plants, machinery and buildings.

This section proposes.

- Principles of the project structure, including relevant information;
- On the basis of the formation of the structure, the rules for the reference code are generated.

Using structural principles, it is even possible to efficiently handle large information sets of complex devices.

Structural principles and reference code rules apply to items with physical and non-physical characteristics.

The structural principle and reference code rules provide an easy to operate and maintainable system. At the same time, because complex structures become easier to build and understand that the system provides a good overview of the technical system.

Since the reference code is no longer based on the implementation of the process, but based on the order in which the program is established, the reference is made during the life cycle of the project.

The structural principles and rules of the code number can support alternative designs and processes.

By adopting more than one aspect, structural principles and reference code rules can support multiple coding principles. This technology can also pass Multiple explicit identifiers treat the "old structure" into a "new structure." by establishing a reference code and subsequent integration into a larger module structure, the structural principles and reference code rules support single management. In addition They also support the creation of reusable modules, whether as functional specifications or entity outcomes.

Note: The concept of reusable modules includes, for example, for manufacturers. establishing contract independent modules, complex components for operators. according to the vendor's independent model the block describes the requirements.

Structural principles and reference code rules support parallel work, allowing different partners to work on structured projects in a project Add and/or delete data.

Structural principles and reference code rules, under different structures, the time factor in the life cycle and based on the technical system under consideration the application of different perspectives is considered equally important.

0.2 Basic requirements of this part

The basic requirements were established in the first edition of GB/T 5094.1.

Note: These basic requirements focus on the structural principles of the standard, not its application. Therefore they are not specifications for standard applications.

- This section applies to all technical fields and can be widely used.
- This section applies to all types of projects and their components, such as factories, systems, components, software programs, spaces, and so on.
- This section is able to continuously apply all phases of the project life cycle (ie concept development, planning, specification, design, engineering, construction, safety) Installation, commissioning, operation, maintenance, dismantling, disposal, etc.).
- This section provides the ability to clearly identify any single project as part of another project.
- This section supports the integration of sub-project structures of multiple organizations into projects of other organizations without changing the original project structure and sub-items.

The structure of the object and any of their files.

- This section supports the independent presentation of a project from the complexity of the project.
- This section is convenient for application, and the code should be easy for the user to understand.
- This section supports the use of computer aided tools and should be able to develop, plan, standardize, design, engineer, and apply computer aided concepts.

Work, installation, commissioning, operation, maintenance, dismantling, disposal, etc.

0.3 Characteristics of this part

The standard features were developed in the first edition of GB/T 5094.1.

- This section should not include restrictions and prohibitions on use in a technical field.
- This section covers all foreseeable applications in all technical areas.
- This section supports information addressing at all stages of the project life cycle.
- This section supports code-based architecture at all times based on currently available information.
- This section supports project identification based on customer rights.
- This section includes a clear code name rule.
- This section is open and allows for the expansion of the code.
- This section supports modular and reusable projects.
- This section supports the description of the opinions of different users.
- This section provides rules for interpreting code where needed.

Figure 1 provides an overview of the criteria for system code, documentation, and information representation.

Figure 1 Standard overview of system code, documentation, and information representation

Note: The publication shown in Figure 1 is incomplete.

Industrial systems, plants and equipment, and industrial products Structural principle and reference code Part 1. Basic rules

1 Scope

This part of GB/T 5094 specifies the general principles of the system structure (including the system information structure).

Based on these principles, rules and guidelines for the development of project (object) reference codes in any system are proposed.

The reference code is used to identify the project, so that the project information can be generated and retrieved, and the components corresponding to the project can be understood.

The reference code for the identification component is the key to finding project information in different kinds of files.

The principles laid down in this section are general and apply to all technical fields (eg