

ICS 13.020.99  
CCS Z04



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

**GB/T 28612-2023**

Replacing GB/T 28612-2012

**Green manufacturing - Terminology**

绿色制造 术语

**Issued on: September 7, 2023**

**Implemented on: January 1, 2024**

**Issued by: State Administration for Market Regulation;  
Standardization Administration of the PRC**

## Table of Contents

|                                                  |   |
|--------------------------------------------------|---|
| 1 Scope .....                                    | 1 |
| 2 Normative reference documents .....            | 1 |
| 3 Basic terminology .....                        | 1 |
| 4 Product life cycle stage terminology .....     | 2 |
| 5 Green management and service terminology ..... | 7 |

## Foreword

This document was issued on 7 September 2023 by the State Administration for Market Regulation; Standardization Administration of the PRC and takes effect on 1 January 2024.

It is a GB/T standard: recommended rather than compulsory, but it is the text a Chinese reviewer applies when assessing a submission.

It is classified under ICS 13.020.99, Chinese classification Z04.

It replaces GB/T 28612-2012, which is superseded.

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1. Structure and Drafting Rules of Standardization Documents"

Drafting.

This document replaces GB/T 28612-2012 "Terms for Green Manufacturing of Mechanical Products". Compared with GB/T 28612-2012, except for the structure

In addition to adjustments and editorial changes, the main technical changes are as follows.

a) The scope has been changed and expanded from the machinery industry to the entire manufacturing industry (see Chapter 1, Chapter 1 of the.2012 edition);

b) 107 terms in the mechanical field have been deleted (see 2.2, 2.3, 2.5, 2.6, 2.8~2.10, 2.14~2.16, 2.19~ in the.2012 edition

2.23, 2.25~2.27, 3.1.4, 3.1.5, 3.1.7, 3.1.8, 3.1.10, 3.2.1~3.2.3, 3.2.5~3.2.18, 3.3.4, 3.3.5,

3.4.1~3.4.6, 3.5.3, 3.5.5~3.5.9, 3.5.11, 3.5.16~3.5.24, 3.5.28, 3.5.29, 3.5.32~3.5.35, 4.1,

4.3, 5.3, 5.5~5.11, 5.14, 5.16~5.19, 5.23~5.28, 5.31, 5.32, 5.34~5.39, 5.4, 5.40, 5.42~

5.47);

c) Added 37 terms (see 3.1, 3.3, 3.4, 3.7, 4.1.2, 4.1.5, 4.1.6, 4.1.11, 4.1.12, 4.1.17, 4.1.18, 4.2.1~

4.2.4, 4.2.9~4.2.12, 4.2.14~4.2.16, 4.3.3, 4.4.1, 4.4.11~4.4.13, 5.1, 5.2, 5.10, 5.11, 5.15, 5.17~5.19, 5.21, 5.22);

d) 30 terms have been changed (see 3.2, 3.5, 3.6, 4.1.1, 4.1.4, 4.1.7~4.1.10, 4.1.13, 4.2.6~4.2.8, 4.2.13,

4.3.1, 4.3.2, 4.3.4, 4.4.3, 4.4.4, 4.4.6, 4.4.9, 4.4.10, 5.3~5.5, 5.9, 5.12, 5.14, 5.16, 5.20, 2012

Version 2.1, 2.11, 2.12, 3.1.1, 3.1.3, 3.5.31, 3.2.4, 3.1.6, 2.4, 3.1.9, 4.2, 2.17, 2.18, 5.33, 3.3.1~

3.3.3, 3.5.4, 3.5.12, 3.5.30, 3.5.1, 3.5.2, 2.24, 5.1, 5.2, 2.13, 5.41, 5.22, 5.2, 2.7).

This document is proposed by the Ministry of Industry and Information Technology of the People's Republic of China.

This document is under the jurisdiction of the National Green Manufacturing Technology Standardization Technical Committee (SAC/TC337).

This document was drafted by. China Machinery Productivity Promotion Center Co., Ltd., Chongqing University, Shandong University, University of Science and Technology Beijing, Shanghai Jiao Tong University

Science, Machinery Development Technology Co., Ltd., China Automotive Technology and Research Center Co., Ltd., China Machinery Industry Federation, Beijing Saibao Industry

Technology Research Institute Co., Ltd., Hebei Beijing-Tianjin-Hebei Remanufacturing Industry Technology Research Co., Ltd., China Electronic Information Industry Development Research Institute, China

Gangyan Technology Group Co., Ltd., China Petroleum and Chemical Industry Federation, Beijing Tiantuo Sifang Technology Co., Ltd., Guangzhou CNC Equipment Co., Ltd.

Company, China New Aviation Technology Group Co., Ltd., Fujian Fengzhu Textile Technology Co., Ltd., Zhejiang Suichang Huijin Nonferrous Metals Co., Ltd.

Company, Inner Mongolia Yili Industrial Group Co., Ltd., Youmeite (Beijing) Environmental Materials Technology Co., Ltd., Zhejiang Huijin Environmental Protection Technology Co., Ltd.

Co., Ltd., Jiangsu Suyanjingshen Co., Ltd., Hisense Home Appliances Group Co., Ltd., Hunan Xingbang Intelligent Equipment Co., Ltd.,

Mongolian Luwang Cashmere Co., Ltd., Guangdong Dongpeng Holdings Co., Ltd., Tongyi (Quanzhou) Light Industry Co., Ltd., Midea Group Co., Ltd.

Division, Zhejiang Jiangshan Transformer Co., Ltd., Yongkang Zhenxing Industrial Co., Ltd., Maiqi Chemical Co., Ltd., Xi'an Lan Xiaoke

New Technology Materials Co., Ltd., China Southern Power Grid Co., Ltd. Ultra-High Voltage Transmission Company Baise Bureau, Guangdong Bangpu Cycle Technology Co., Ltd.

Company, Zhejiang Kane New Materials Co., Ltd., CITIC Dicastal Co., Ltd., Inspur Electronic Information Industry Co., Ltd., Harbin Electric Power Generation Equipment

National Engineering Research Center Co., Ltd., Shandong Hengsheng Graphite Technology Co., Ltd.

The main drafters of this document. Qiu Cheng, Sun Tingting, Cao Huajun, Li Fangyi, Xiang Dong, Chen Ming, Wang Liming, Wang Tao, Zhang Tongzhu, Wang Xiaoguang,

Yang Benxiao, Shi Peijing, Xi Daoyun, Li Haiyi, Mo Junyuan, Li Huan, Tang Guangbo, Zhuang Xiangning, Zhao Weidong, Li Boyang, Yang Gengxin, Hu Xiao, Zhao Lei,

Fan Rong, Cao Haizhou, Lu Zhiyong, Zhang Jiansen, Jin Zhihe, Mo Zongqiang, Hu Zhe, Liu Guoliang, Nie Wenshan, Chen Shiqing, Li Zhenzhuo, Chen Xingting, Jiang Zhenjun,

Xu Lu, Tan Xuejun, Tian Xiaojun, Li Maofeng, Yu Haijun, Shao Weiyong, Yin Zhigao, Liu Wei, Zhu Haiyi, Liu Zhiqiang, Dai Aiming, Liu Wenfeng, Dong Xiaoling,

Zhang Xiaodong, Ding Hui, Xie Xintai, Zhou Zhenyu, Mu Qinghong, Zhang Zhigang, Li Rengang, Dai Bolin, Chen Yuetan.

This document was first published in 2012 and this is the first revision.

green manufacturing terminology

## 1 Scope

GB/T 28612-2023 covers the vocabulary of green manufacturing - the terms that the research, the project work, the evaluation and the services around it are all written on top of. It carries no normative references and works instead through three groups of definitions: the basic terminology, starting from sustainable development and the notions built on it; the terminology of the product life cycle stages, running from design and materials through manufacture and use to the end of a product's life; and the terminology of green management and service, which names the organisational and commercial arrangements around a plant rather than the process inside it. A vocabulary looks like dead weight until two parties disagree. Green manufacturing is assessed, scored, certified and increasingly written into procurement conditions, and every one of those uses breaks down when the term for a factory's environmental performance, or for the chain of suppliers standing behind it, means one thing to the applicant and something else to the reviewer. Fixing the words is what lets the evaluation standards that cite them be applied consistently. Of use to manufacturers preparing green factory and green product submissions, the evaluation and certification bodies that review them, and the drafters of further standards in the field.

This document defines relevant terms and definitions of green manufacturing.

This document applies to green manufacturing research, project implementation, green manufacturing evaluation, and related services and management.

## 2 Normative reference documents

This document has no normative references.

## 3 Basic terminology

### 3.1

Development that meets the needs of the present without compromising the ability of future generations to meet the needs of future generations.

Note. Mainly includes social sustainable development, ecological sustainable development, and economic sustainable development.

### 3.2

green manufacturinggreenmanufacturing

A modern manufacturing model with low consumption, low emissions, high efficiency and high benefits. Its essence is to take overall consideration of products in the development process of manufacturing industry.

Factors such as industrial structure, energy resources, ecological environment, health and safety, climate change, etc., and integrate green development concepts and management requirements throughout the entire production process of products.

During the life cycle, in-depth changes in manufacturing models will be used to promote the green transformation and upgrading of traditional industries, lead the green development of emerging industries, and collaboratively promote carbon reduction,

Pollution reduction, green expansion and growth will achieve coordinated optimization of economic, ecological and social benefits.

### 3.3

product life cycle product life cycle

A series of consecutive stages in a product system from obtaining raw materials from nature or natural resources to final disposal.

[Source. GB/T 24040-2008, 3.1, with modifications]

### 3.4

Resource energy, ecological environment and health and safety characteristics of