

ICS 83.080.20

CCS G 32



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

GB/T 40006.7-2021

**Plastics - Recycled plastics - Part 7: Polycarbonate (PC)
materials**

塑料 再生塑料 第7部分：聚碳酸酯(PC)材料

Issued on: October 11, 2021

Implemented on: May 1, 2022

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

Table of Contents

- 1 Scope
- 2 Test conditions for molding and extrusion plastics

Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for Standardization Work Part

1. Structure and Drafting Rules of Standardization Documents" Drafting. This document is Part 7 of GB/T 40006 "Plastic Recycled Plastics". GB/T 40006 has released the following parts.

- 1. General rules;
- 2. Polyethylene (PE) material;
- 3. Polypropylene (PP) material;
- 5. Acrylonitrile-butadiene-styrene (ABS) materials;
- 6. Polystyrene (PS) and impact-resistant polystyrene (PS-I) materials;
- 7. Polycarbonate (PC) material;
- 8. Polyamide (PA) materials;
- 9. Polyethylene terephthalate (PET) materials. Please note that certain contents of this document may involve patents. The issuing agency of this document is not responsible for identifying patents. This document was proposed by the China Petroleum and Chemical Industry Federation. This document is under the jurisdiction of the National Plastics Standardization Technical Committee (SAC/TC15). This document was drafted by: Shanghai Auxer Material Technology Co., Ltd., Chengdu Product Quality Inspection and Research Institute Co., Ltd., Zhejiang Pu Lite New Materials Co., Ltd., Covestro (Shanghai) Investment Co., Ltd., Wanhua Chemical Group Co., Ltd., Zhonglan Chenguang Chengdu Inspection Technology Technology Co., Ltd., China Petroleum and Chemical Industry Federation, Chinese Academy of Environmental Sciences, Saudi Basic Industries (China) Investment Co., Ltd., Sheng Shiao Polymers (Zhangjiagang) Co., Ltd. Shanghai Branch, Xiamen Lingjie Technology Co., Ltd., Ningbo Xuri Hongyu Technology Co., Ltd., Shandong Wanda Chemical Co., Ltd., Shandong Dawn Polymer Material Co., Ltd., Qingdao Dagang Customs, Guangzhou Customs Technology Center, Beijing Yanshan Petrochemical High-tech Technology Co., Ltd., Luxi Chemical Group Co., Ltd., Qingdao Zhongxin Huamei

Plastic Co., Ltd. The main drafters of this document. Xia Wenjun, Du Shang, Zhang Xiaofei, Ji Xiaojun, Xue Maogang, Zhang Lei, Chen Minjian, Xie Peng, Yang Jianhai, Zhou Bingyan, Bian Huasong, Yu Yiqiang, Huang Ruiyu, Ge Ying, Xie Fengming, Zhao Lei, Gao Jianguo, Li Dan, Zheng Huiqin, Zhang Chao, Wang Dong, Shi Lin, Jiang Meiqin, Zhang Yanjun, Yu Hongjin, Guo Lingxiao.

The plastics industry is an important pillar industry of the national economy. With the rapid development of my country's plastics industry and the large-scale use of plastic products, plastics Recycling and recycling is an important issue facing the industry and one of the ways for the sustainable development of plastics. At the same time, it is also a solution to "white pollution", etc. Environmental issues provide an effective way. At present, there is no product standard in the field of plastic recycling in my country, and there is no standard to follow in the industry. Therefore, GB/T 40006 "Plastic Re "Raw Plastics" series of national standards. According to the characteristics of plastic products, this series of standards is intended to be composed of 12 parts, of which the general rules of Part 1 stipulate General requirements for the naming, terminology, odor grade, restricted substance content, radioactivity, etc. of recycled plastics. The rest of the standards except for the general requirements of the Chinese In addition, the technical requirements for recycled plastics of this kind of material are specified according to the types of plastics. This series of standards is to be composed of the following 12 parts under the general title ``Plastic Recycled Plastics".

- 1.General rules;
- 2.Polyethylene (PE) material;
- 3.Polypropylene (PP) material;

1 Scope

Part 7 of China's national standard series for recycled plastics, covering polycarbonate. It specifies the classification and naming, the requirements, the test methods and the inspection rules. Polycarbonate is the most valuable of the commodity engineering plastics and the hardest to recycle well, and both facts have the same cause: it is a polyester, and polyesters hydrolyse. Water absorbed into the granules will, at the temperature needed to melt it, cut the polymer chains - so a batch dried inadequately before processing comes out with a fraction of its molecular weight and none of the toughness that makes polycarbonate worth using. Recycled feedstock is worse in this respect than virgin, because it has spent years absorbing moisture and has already been through one heat history. The standard's requirements accordingly focus on molecular weight and impact strength, which are the properties that reveal whether the material was handled properly.

- 1.General principles and multi-purpose specimens and length Preparation of strip specimens

2 Test conditions for molding and extrusion plastics

GB/T 1843-2008 Determination of impact strength of plastic cantilever beam

GB/T 2035 Plastic Terms and Definitions

GB/T 2547 Plastic sampling method

GB/T 2918 Standard environment for condition adjustment and testing of plastic samples

GB/T 3682.1-2018 Plastic Thermoplastic Melt Mass Flow Rate (MFR) and Melt Volume Flow Rate (MVR) Determination of Part

GB/T 14190-2017 Fiber-grade polyester (PET) chip test method

GB/T 17037.1 Preparation of injection molded specimens of plastic thermoplastic materials Part

GB/T 19466.2 Plastic Differential Scanning Calorimetry (DSC) Part