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

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**General technical requirements of blow mould for lightweight
PET bottle**

轻量化PET瓶吹瓶成型模具通用技术要求

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Table of Contents

Preface	III
Introduction	IV
1 Scope	1
2 Normative references	1
3 Terms and Definitions	1
4 Model, type, basic parameters and working conditions	2
4.1 Model	2
4.2 Type and basic parameters	2
4.3 Working conditions	3
5 Technical requirements	3
5.1 General requirements	3
5.2 Performance Requirements	4
5.3 Parts	4
5.4 Assembly	5
5.5 Material quality and design	5
5.6 Security Design	5
5.7 Appearance quality and instructions	5
5.8 Average wall thickness of lightweight bottle body	6
6 Test methods	6
6.1 Test conditions	6
6.2 General requirements	6
6.3 Performance Test	6
6.4 Parts	7
6.5 Assembly	8
6.6 Material quality and design	8
6.7 Safety Design	8
6.8 Appearance quality and instructions	8
6.9 Average wall thickness of lightweight bottle body	8
7 Inspection Rules	8
7.1 Inspection categories	8
7.2 Factory Inspection	9
7.3 Type inspection	9

8 Marking, packaging, transportation and storage	10
8.1 Logo	10
8.2 Packaging	10
8.3 Transportation and storage	10

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 for standardization documents" Drafting is required.

Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents.

This document is proposed and coordinated by the National Technical Committee for Standardization of Packaging Machinery (SAC/TC 436).

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Introduction

The rapid development of food and beverage industries is inseparable from packaging. PET bottles are cheap, light, easy to shape, good performance, In order to build a high-quality modern economic system and solve pollution problems, the promotion of lightweight PET bottle packaging technology will be an important way to reduce resource waste and environmental pollution.

The use of lightweight PET bottle blowing molds to blow PET bottles aims to reduce carbon emissions, including but not limited to the following ways.

Lightweight design and manufacturing of the model can reduce the amount of raw materials used for a single PET bottle of the same bottle type; reduce the quality of the blowing mold and reduce the Driving energy consumption, improving the production efficiency of the bottle blowing machine; reducing the bottle blowing pressure, reducing the gas consumption of bottle blowing, and reducing the energy consumption of the gas production of bottle blowing; reducing the hot filling Bottling mold temperature, reduce mold heating energy consumption; increase rated capacity, reduce carbon emissions per unit capacity; use lightweight PET bottles as packaging The promotion and application of lightweight bottle blowing molds can greatly reduce the weight of a single PET bottle.

The corresponding carbon emissions will promote the green and low-carbon development of industries such as food and beverage.

Universal lightweight PET bottle blowing mold Technical requirements

1 Scope

This document specifies the model, type, basic parameters and working conditions, technical requirements, inspection regulations of lightweight PET bottle blowing molds.

It specifies the rules, marking, packaging, transportation and storage, and describes the corresponding test methods.

This document is applicable to the design of lightweight PET bottle blowing molds for the food and beverage industry (hereinafter referred to as "lightweight bottle molds"), It can be used as a reference in manufacturing, inspection, daily chemicals, medicine and other fields.

2 Normative references

GB/T 191

GB/T 230.1

GB/T 231.1

GB/T 1031

GB/T 2828.1

GB/T 4340.1

GB/T 7311

GB/T 13384

GB/T 17931

GB/T 38461-2020

GB/T 41167-2021

3 Terms and definitions

The terms and definitions defined in GB/T 38461-2020 and the following apply to this document.

3.1 Lightweight bottle

Bottles that meet usage requirements and have an average wall thickness below a specific limit.

3.2 Blow mould for lightweight PET bottle

Moulds for blowing lightweight PET bottles.

3.3 Hot filling beverage bottle

Beverage bottles with a filling temperature greater than or equal to 65°C.