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

GB/T 1845.1-2016

Replacing GB/T 1845.1-1999

**Plastics -- Polyethylene (PE) moulding and extrusion materials
-- Part 1: Designation system and basis for specifications**

塑料 聚乙烯 (PE) 模塑和挤出材料 第1部分: 命名系统和分类基础

(English Translation)

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Foreword

GB/T 1845 "plastic polyethylene (PE) molding and extrusion materials" is divided into the following two parts.

- Part 1. naming systems and classification basics;

Part 2. Sample preparation and performance determination.

This part is part 1 of GB/T 1845.

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

Replacement of GB/T 1845.1-1999 "Plastic Polyethylene (PE) Molding and Extrusion Materials Part 1. Naming Systems and Class basis ".

This part of the main technical changes compared with GB/T 1845.1-1999 as follows.

- update the normative reference document to the newly issued national standard (see Chapter 2, 1999, Chapter 2);
- naming and classification patterns to add the description group and the standard number part (see Chapter 3, 1999, Chapter 3);
- changed the naming feature of the project group character set (see chapter 3.1, 1999 edition, chapter 3);
- changed the letter code of polyethylene (see 3.2, 1999 version 3.1);
- delete the mineral fill with specific symbols such as "E" "P" and other expressly stated comments (1999 edition 3.4 Table 4);
- Increases the description of the character set 3 bit 1 indicating that position 1 only gives the primary application and/or processing of the named polyethylene material Method (see 3.4);

- increase the character set 3 position 2 ~ 8 letters, with "J" that performance "heat" (see Table 2);
- Added the requirement of "-" between two feature codes in character set 4 (see 3.5);
- increased division of polyethylene resin by density (see Table 3.5.2);
- Removal of melt mass Flow rate test conditions E (1999 edition 3.3.2 Table 2);
- The description of the amount of sample added and the cut-out time interval in the melt mass flow rate measurement was removed (1999 edition 3.3.2, table 3).
- increase the melt mass flow rate sub-range and the corresponding code (see 3.5.3 Table 5).

This part uses the re-drafting method to modify the international standard ISO 17855-1.:2014 "plastic polyethylene (PE) molding and extrusion materials Part 1. naming systems and classification basics "(English version).

The main technical differences between this section and ISO 17855-1.:2014 are as follows.

--- on the normative reference documents, this standard has made a technical differences in the adjustment to meet China's technical conditions, adjust the situation the situation is reflected in Chapter 2, "Normative references", as follows.

- ISO 1183-2.:2004 referenced by ISO 17855-1.:2014, except GB/T 1033.2-2010 with international standard modification;

Replace ISO 17855-1.:2014 ISO 1872-2.:1997 with GB/T 1845.2-2006 with international standard.

The density was determined by the "density gradient method". The spline at the test melt flow rate was used as the measured density Sample.

This part is proposed by China Petroleum & Chemical Corporation.

This part is headed by the National Plastics Standardization Technical Committee of Petrochemical Plastic Resin Products (SAC/TC15/SC1).

This part of the drafting unit. China Petrochemical Co., Ltd. Qilu Branch Research Institute, China Petroleum and Chemical Corporation Beijing Yanshan Branch Resin Application Research Institute.

Introduction

This part of the revision of GB/T 1845.1-1999, GB/T 1845.1-1999 is modified using ISO 1872-1.:1993. by in the international standard introduced a new naming system, changed the naming feature of the project group in the order of the character group, ISO 1872-1.:1993 was ISO 17855-1.:2014 alternative. Therefore, this part of the amendment

using the international standard ISO 17855-1.:2014.

Plastic polyethylene (PE) molded and extruded materials Part 1. naming systems and classification basics

1 Scope

1.1

This part of the GB/T 1845 specifies the naming system for polyethylene (PE) thermoplastics materials, which can be used as a basis for classification.

1.2

different types of polyethylene thermoplastics materials with the following specified characteristics of the value of the value and recommended use and/or processing methods, heavy Identify a classification system based on performance, additives, colorants, fillers and reinforcing materials, etc..

a) density;

b) melt mass flow rate.

1.3

This part applies to polyethylene homopolymer and other 1-olefin monomer mass fraction less than 50% and functional group of non-olefin monomer A copolymer having a fractional of not more than 3%.

This part applies to materials that are conventionally modified in the form of powders, granules or granules, unmodified or modified by colorants, additives, fillers and the like.

This part does not apply to masterbatch and EPM rubber. This part does not apply to ultra-high molecular weight polyethylene (PE-UHMW). High score refer to GB/T 21461.1-2008 for the naming and classification of polyethylene.

1.4

This part does not mean that naming the same material must have the same performance. This part is not provided for the purpose of specifying material for use and (Or) the engineering data, performance data or processing conditions required for the machining method.

If necessary, these additional properties can be determined according to the test method specified in Part 2 of ISO/IEC 1545.

1.5

In order to illustrate the particular use of a polyethylene thermoplastics material or to ensure reproducibility of processing, Additional requirements.

2 Normative reference documents

The following documents are indispensable for the application of this document. For dated references, only the dated edition applies to this article. For undated references, the latest edition (including all modifications) applies to this document.

GB/T 1033.2-2010 Plastics - Determination of non-foam density - Part 2. Density gradient column method (ISO 1183-2.

2004, MOD)

Plastics symbols and acronyms - Part 1. Base polymers and their characteristic properties (ISO 1043-1.

2001, IDT)

GB/T 1845.2-2006 Plastics - Polyethylene (PE) molding and extrusion materials - Part 2. Preparation of test specimens and determination of properties (ISO 1872-2:1997, MOD)

Plastics - Ultra-high molecular weight polyethylene (PE-UHMW) molding and extrusion materials - Part 1. Nomenclature System and Classification Basics (ISO 11542-1:2001, IDT) ISO 1133-1 Plastics Thermoplastics Melt Mass Flow Rate (MFR) and Melt Volume Flow Rate (MVR) Determination Part 1. Standard Method

[Plastics-Determination of the melt-mass flow rate (MFR) and melt-volume flow rate (MVR) of thermoplastics-Part 1. Standard method]

3.1 General

Polyethylene naming and classification systems are based on the following standard models.