

ICS 83.080.20

CCS G32



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

GB/T 11115-2009

Replacing GB 11116-1989

Polyethylene(PE) resin

聚乙烯 (PE) 树脂

Issued on: July 17, 2009

Implemented on: February 1, 2010

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine of the People's Republic of China;
Standardization Administration of China**

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Foreword

This Standard replaces GB/T 11115-1989 Low density polyethylene resin, GB/T 11116-1989 High density polyethylene resin and GB/T 15182-1994 Linear low density polyethylene resin. Compared with GB/T 11115, GB/T 11116 and GB/T 15182, the main differences of this Standard are as follows: - Combined GB/T 11115, GB/T 11116 and GB/T 15182 into one standard; - In addition to hygienic standard, all normative references in Chapter 2 were changed as dated references; - Added Chapter

3 Classification and designation; - In 5.1, deleted the requirements of "the particle size shall be (25)mm in any direction" in

3.1 in the original standard; and changed "without mechanical impurity" into "without impurity". - Added "Sample preparation" in the table in Chapter

5 Requirements; - Replaced "cleanliness (colored particle)" with "granular appearance" in the table in Chapter

5 Requirements; - Added "because the application field of each resin is different, the injection molding sample properties can be different from that of compression molding sample" in 6.2.2. The specific prepare method of each resin is shown in Table 1 to Table 7; - Adjusted the blow molding process of LLDPE film and LDPE film; and deleted "reduced diameter of film" in 6.2.3; - Specified two test methods for "fish-eye" in 6.10; - Re-specified

the test method for "strip" in 6.11; - Added provisions on the shelf life of polyethylene resin in Chapter 9. This Standard was proposed by China Petrochemical Corporation (Sinopec Group). This Standard shall be under the jurisdiction of Petrochemical Plastic Resins Product Branch of National Standardization Technical Committee of Plastic (SAC/TC 15/SC 1). Responsible drafting organization of this Standard. Chemical Plant 1 of Beijing Yanshan Branch of China Petroleum and Chemical Corporation; and Research Institute of Qilu Branch of China Petroleum and Chemical Corporation. Polyethylene (PE) resin

1 Scope

GB/T 11115-2009 is the Chinese national standard on polyethylene(pe) resin, in the field of rubber and plastic industries. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 17 July 2009 by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China; Standardization Administration of China, and has been in force since 1 February 2010. Classification: ICS 83.080.20, CCS G32. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This Standard specified the classification and designation, requirements, test methods, inspection rules, product labelling, packaging, transportation and storage for polyethylene (PE) resin. This Standard applies to ethylene homopolymer OR copolymer that takes ethylene and other 1-olefin as monomer AND polymer that contains additives. This Standard does not apply to ultra-high molecular weight polyethylene AND colored, filled, modified, enhanced polyethylene resin AND masterbatch pellets.

1.0 Deviation $\pm 0.2 \pm$

0.3 Tensile yield stress MPa $\geq 22.0 \geq 21.0 \geq$

2 Normative references

The articles contained in the following documents have become part of this Standard when they are quoted herein. For the dated documents so quoted, all the subsequent modifications (including all corrections) or revisions made thereafter do not apply to this standard. However, the parties who reach an agreement according to this standard are encouraged to study whether the latest versions of these documents may be used. For the undated documents so quoted, the latest versions (including all modification sheets) apply to this document.

GB/T 1040.2-2006 Plastics - Determination of tensile properties - Part 2. Test conditions for moulding and extrusion plastics (ISO 527-2.1993, IDT)

GB/T 1043.1-2008 Plastics - Determination of Charpy impact properties - Part 1. Non-instrumented impact test (ISO 179-1.2000, IDT)

GB/T 1409-2006 Recommended methods for the determination of the permittivity and dielectric dissipation factor of electrical insulating materials at power, audio and radio frequencies including meter wavelengths (IEC 60250.1969, MOD)

GB/T 1842-2008 Plastics - Test method for environmental stress-cracking of polyethylene

GB/T 1845.1-1999 Polyethylene (PE) moulding and extrusion materials - Part 1. Designation system and basis for specifications (eqv ISO 1872-1.1993)

GB/T 1845.2-2006 Plastics - Polyethylene (PE) moulding and extrusion materials - Part 2. Preparation of test specimens and determination of properties (ISO 1872-2.1997, MOD)

GB/T 2410-2008 Determination of the luminous transmittance and haze of transparent plastics

GB/T 2547-2008 Plastic resins - Sampling

GB/T 2918-1998 Standard atmospheres for conditioning and testing of plastic specimens (idt ISO291.1997)

GB/T 3682-2000 Determination of the melt mass-flow rate (MFR) and the melt volume-flow rate (MVR) of thermoplastics (idt ISO 1133.1997)

GB/T 8170-2008 Rules of rounding off for numerical values & expression and judgment of limiting values

GB/T 9341-2008 Plastics - Determination of flexural properties (ISO 178.2001, IDT)

GB 9691 Hygienic standard for polyethylene resin used as food packaging material

3 Classification and designation

The classification and designation of polyethylene resin are done according to provisions of GB/T 1845.1-1999.

4 Hygienic requirements

The resin having hygienic requirements shall comply with provisions of GB 9691.

5 Requirements

1 Particle appearance Colored particle piece/kg ≤ 10 ≤ 20 ≤ 40 ≤ 10 ≤ 20 ≤ 40 ≤ 10 ≤ 20 ≤ 40

20.0 Nominal tensile strain at break % ≥ 350 Sample preparation Q

Note. Q refers to compression molding. Table

7 Technical requirements of injection molding monofilament polyethylene (PE) resin No.
Item Unit PE, M, 18D500 PE, M, 18D022 Superior First class Qualified Superior First class
Qualified

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