

ICS 83.080.20

CCS G 31



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

GB/T 45475.1-2025

**Plastics - Poly(phenylene ether)(PPE) moulding and extrusion
materials - Part 1: Designation system and basis for
specifications**

塑料 聚苯醚（PPE）模塑和挤出材料 第1部分：命名系统和分类基础
(English Translation)

Issued on: March 28, 2025

Implemented on: October 1, 2025

**Issued by: State Administration for Market Regulation, China National
Standardization Administration**

Table of Contents

Foreword

Introduction

1 Scope

2 Normative references

3 Terms and definitions

4 Naming system

4.1 Overview

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.

This document is Part 1 of GB/T 45475 "Plastic Polyphenylene Ether (PPE) Molding and Extrusion Materials". GB/T 45475 has been published the following parts.

--- Part 1: Nomenclature system and basis of classification;

--- Part 2: Sample preparation and property determination.

This document is modified to adopt ISO 20557-1:2018 "Plastic polyphenylene ether (PPE) molding and extrusion materials Part 1: Nomenclature system and "Basics of Classification".

The technical differences between this document and ISO 20557-1:2018 and their reasons are as follows.

--- ISO 1043-1 is replaced by the normative reference GB/T 1844.1 (see 4.1, 4.2);

--- Replaced ISO 20577-2 with the normative reference GB/T 45475.2 (see Chapter 1, 4.5.2, 4.5.3, 4.5.4, 4.5.5).

Introduction

Polyphenylene ether is an indispensable key material in photovoltaic, electric vehicles, water treatment, high-frequency communication and other industries.

It has the advantages of good performance, low water absorption, good high temperature resistance, good electrical insulation and low density, and is widely used in electric vehicle power battery support materials and shells.

In recent years, with the international division of labor and industrial transfer, the market demand for polyphenylene ether products has increased significantly.

The demand for raw materials is increasing day by day, and the country mainly relies on imports.

At present, there is no applicable national standard for polyphenylene ether molding and extrusion materials in my country, which has brought difficulties to the promotion and application of polyphenylene ether and its domestic and foreign trade.

This has brought inconvenience to trade and technical exchanges, affecting the healthy development of the polyphenylene ether industry. Therefore, GB/T 45475 "Plastic Polyphenylene Ether" was formulated.

(PPE) molding and extrusion materials". GB/T 45475 is the classification and naming, sample preparation and performance determination of polyphenylene ether molding and extrusion materials.

The basic standard provides support for polyphenylene ether product standards.

GB/T 45475 "Plastic polyphenylene ether (PPE) molding and extrusion materials" is planned to be divided into two parts.

--- Part 1: Naming system and basis for classification. The purpose is to establish the naming system of polyphenylene ether (PPE) thermoplastic materials and distinguish different types of Polyphenylene ether (PPE) molding and extrusion materials.

--- Part 2: Preparation of test specimens and determination of properties. The purpose is to define the nomenclature and specifications of polyphenylene ether (PPE) molding and extrusion materials.

Establish rules for specimen preparation, specimen conditioning and test conditions.

Plastic polyphenylene ether (PPE) molding and extrusion materials Part 1: Nomenclature system and basis of classification

1 Scope

This document specifies the nomenclature system and basis for classification of polyphenylene ether (PPE) moulding and extrusion materials.

Different types of polyphenylene ether plastics are classified according to the specified characteristic property values (load deflection temperature, melt volume flow rate, simple supported beam notched impact strength, etc.).

impact strength, flame retardancy) and specific uses and/or processing methods, important properties, additives, colorants, fillers and reinforcing materials.

Classification system to distinguish.

This document applies to all PPE materials, including those modified with polystyrene or polyamide.

This document applies to materials in powder, granular or flake form, unmodified or modified with colorants, additives, fillers, etc.

Materials with the same designation in this document do not necessarily have the same properties. This standard does not provide the engineering requirements for specifying materials.

Data, performance data or processing condition data. If necessary, determine these additional properties according to the test methods specified in GB/T 45475.2.

To describe the special use of a polyphenylene ether thermoplastic material or to ensure the reproducibility of processing, additional requirements may be given in character group 5.

(See 4.1).

2 Normative references

The contents of the following documents constitute essential clauses of this document through normative references in this document.

For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to this document.

GB/T 1844.1 Plastics symbols and abbreviations Part 1: Basic polymers and their characteristic properties (GB/T 1844.1-2022,ISO 1043-1:2011,MOD) GB/T 45475.2 Plastics Polyphenylene ether (PPE) molding and extrusion materials Part 2: Sample preparation and property determination (GB/T 45475.2-2025,ISO 20557-2:2018,MOD)

3 Terms and definitions

There are no terms or definitions that require definition in this document.

4.1 Overview

The naming system for thermoplastics is based on the following standard model.