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Plastics - Epoxy resins - Test methods

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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 modified to adopt ISO 18280.2010 "Test methods for plastic epoxy resins".

A chapter "Terms and Definitions" has been added to this document.

Compared with 18280.2010, this document has many technical differences, and a vertical single line is used in the outer margin of the terms involved.

(?) are marked. See Appendix A for a list of these technical differences and their causes.

The following editorial changes have been made to this document.

---Deleted the content of "note" in 3.1.5.

Please note that some contents of this document may refer to patents. The issuing agency of this document assumes no responsibility for identifying patents.

Introduction

The purpose of this document is to provide an overview of the test methods used to characterize epoxy resins, listing those suitable and necessary to characterize epoxy resins prior to polymerization.

test methods, and a brief description of the principles involved. Appendix B provides a summary of test methods for epoxy resins.

Due to the particularity of thermosetting resins (such as epoxy resins), the properties before crosslinking (useful properties for processing) and after crosslinking (intrinsic properties)

There is a difference between performance. Test procedures for determining the intrinsic

properties of crosslinked (or cured) epoxy resins are given in ISO 3673-2.

Test methods for plastic epoxy resins

1 Scope

This document describes methods for the determination of the physical and chemical properties of epoxy resins.

This document applies to the determination of the physical and chemical properties of epoxy resins.

2 Normative references

The contents of the following documents constitute the essential provisions of this document through normative references in the text. Among them, dated references

For documents, only the version corresponding to the date is applicable to this document; for undated reference documents, the latest version (including all amendments) is applicable to

this document.

GB/T 1725 Determination of non-volatile content of paints, varnishes and plastics (GB/T 1725-2007, ISO 3251.2003, IDT)

GB/T 3536 Determination of flash point and fire point of petroleum products Cleveland open cup method (GB/T 3536-2008, ISO 2592.

2000,MOD)

GB/T 4612 Determination of epoxy equivalent of plastic epoxy compounds (GB/T 4612-2008, ISO 3001.1999, IDT)

GB/T 4618.1 Determination of Chlorine Content in Plastic Epoxy Resin Part 1.Inorganic Chlorine (GB/T 4618.1-2008,

ISO 21627-1.2002, IDT)

GB/T 4618.2 Determination of Chlorine Content in Plastic Epoxy Resin Part 2.Saponifiable Chlorine (GB/T 4618.2-2008,

ISO 21627-2.2002, IDT)

GB/T 9281.1 Color grades for the assessment of transparent liquids on the Gardner color scale - Part 1.Visual method (GB/T 9281.1-2008,

ISO 4630-1.2004, IDT)

GB/T 9282.1 Evaluation of color of transparent liquids by platinum-cobalt scale - Part

1. Visual method (GB/T 9282.1-2008,

ISO 6271-1.2004, MOD)

GB/T 9345.1-2008 Determination of Ash Content in Plastics Part 1. General Method (ISO 3451-1.1997, IDT)

GB/T 15223 Determination of density by pycnometer method for plastic liquid resins (GB/T 15223-2008, ISO 1675.1985, IDT)

GB/T 16582-2008 Determination of melting behavior of partially crystalline polymers by capillary method and polarizing microscope for plastics (melting temperature or melting range) (ISO 3146.2000, IDT)

GB/T 19466.3 Plastic Differential Scanning Calorimetry (DSC) Part 3. Determination of Melting and Crystallization Temperature and Enthalpy

(GB/T 19466.3-2004, ISO 11357-3.1999, IDT)

GB/T 21775 Determination of flash point Closed cup balance method (GB/T 21775-2008, ISO 1523.2002, IDT)

GB/T 22314 Method for Determination of Viscosity of Plastic Epoxy Resins (GB/T 22314-2008, ISO 3219.1993, MOD)

GB/T 24148.9 Plastic unsaturated polyester resin (UP-R) Part 9. Determination of total volume shrinkage (GB/T 24148.9-

2014, ISO 3521.1997, MOD)

GB/T 32683.1 Determination of viscosity of plastics by falling ball viscometer - Part 1. Inclined tube method (GB/T 32683.1-2016,

ISO 12058-1.1997, MOD)

GB/T 40280 Determination of Apparent Viscosity of Plastic Liquid or Emulsion or Dispersion Resin with Single-tube Rotational Viscometer

(GB/T 40280-2021, ISO 2555.2018, IDT)