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SN

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

SN/T 2946-2011

**Determination of the vinyl acetate content of ethylene-vinyl
acetate copolymers. Fourier transform infrared spectroscopy**

乙烯-乙酸乙烯酯共聚物中乙酸乙烯酯含量的测定 傅立叶变换红外光谱法

(English Translation)

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Foreword

Rule. "standard structure and write rules for the work of standardization Part 1" is given in accordance with the present standard GB/T 1.1-2009 Drafted.

This standard uses redrafted law revision using ISO 8985:1998 "Plastics ethylene - vinyl acetate copolymer (EVAC) thermoplastics Plastics - Determination of vinyl acetate content of "standard infrared spectroscopy. And ISO 8985:1998 as compared to the main technical changes are as follows.

--- Chapter 2 Normative references according to GB/T 1.1-2009 requirements of.

--- Increasing the vinyl acetate content in the range of 1% to 10% of ethylene - Infrared spectroscopy method vinyl acetate copolymer.

--- As the selection criteria different from the ISO 8985:1998 standards set forth in the characteristic absorption peak for the vinyl acetate content in the range 1% to 10% of the measurement, and therefore the range of wave number of infrared spectroscopy of samples to 4000cm⁻¹ ~ 600cm⁻¹, a sample film Use the thickness 50μm ~ 150μm.

--- As the current Fourier transform infrared spectroscopy it has been widely used, so the infrared spectrum of the sample film to use Fourier Fourier transform infrared spectrometer operation description, delete the ISO 8985:1998 in 4.1.3.2.1,4.1.3.2.2,4.1.3.2.3.

--- According to the actual situation of the calibration curve, the regression coefficient C. increase in the calibration curve linear regression equation this standard and ISO 8985:1998 in infrared spectroscopy in structure as compared with more adjustment, Appendix B lists with this standard ISO 8985:1998 Number of reg control list.

This standard is proposed and managed by the National Certification and Accreditation Administration Committee.

This standard was drafted. Xiamen, People's Republic of China Exit Inspection and Quarantine, People's Republic of China Shandong Entry-Exit Inspection and Quarantine Bureau.

1 Scope

This standard specifies the ethylene - Determination of vinyl acetate copolymer resin, vinyl acetate content of Fourier transform infrared spectroscopy.

This standard applies to ethylene - Determination of vinyl acetate content of more than 1% of the sample vinyl acetate copolymer resin in acetic acid.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

Determination of vinyl acetate content of SN/T 0842 Importers and ethylene/vinyl acetate copolymer acetate Principle 3 the pressed into a thin film sample, collecting infrared spectra of thin films. Internal standard peak calibration sample film thickness, according to the known vinyl acetate Standard ester content, the calibration curve samples provided measurement sample vinyl acetate content.

4 Instruments and reagents

4.1

Fourier transform infrared spectrometer. the wave number range $4000\text{cm}^{-1} \sim 600\text{cm}^{-1}$, resolution up to 1cm^{-1} , with a film clamp.

4.2

molding machine. The pressure of not less than 10MPa, the heating platen temperature not lower than $150\text{ }^{\circ}\text{C}$.

4.3

ethylene - vinyl acetate copolymer resin, standard sample. according to SN/T 0842 vinyl acetate content measured by an ethylene - vinyl acetate Copolymer resin.

4.4

Teflon film or aluminum foil.

5.1 Preparation of the sample film

By compression molding machine (4.2) at 100 °C ~ 150 °C and 4MPa ~ 10MPa, compression molded specimens about 3min, prepared 50μm ~ 150μm film thickness, film surface should be made of smooth, thickness should be uniform.

Note 1: If the vinyl acetate content is different, the platen temperature may be slightly different. In general, the higher the content of vinyl acetate, the platen temperature may be slightly reduced;

The pressure is large, compression molding time can be shorter.

Note 2: For the convenience of thin films, to avoid the resulting compression molded film and adhesive plate can be placed between the sample and a template PTFE film; when vinyl acetate when the ester content is less than 20%, it can be used instead of aluminum teflon film.

5.2.1 Test Instrument condition setting

Fourier transform infrared spectrometer according to the operating instructions, adjust the instrument in the best condition, select the wave number range 4000cm⁻¹ ~