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

GB/T 33466.1-2016

**Rigid PVC pipes -- Differential scanning calorimetry (DSC)
method -- Part 1: Measurement of the processing temperature**

硬聚氯乙烯管材 差示扫描量热法(DSC) 第1部分：加工温度的测量
(English Translation)

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Foreword

GB/T 33466 "hard polyvinyl chloride pipe differential scanning calorimetry (DSC)" is divided into two parts.

- Part 1. Measurement of processing temperature;

Part 2. Measurement of melting enthalpy of microcrystals.

This part is part 1 of GB/T 33466.

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

This part uses the translation method equivalent to ISO 18373-1.:2007 "hard polyvinyl chloride pipe differential scanning calorimetry (DSC) Part 1. Measurement of processing temperature".

This section makes the following editorial changes.

--- ISO 18373-1.:2007 6.4d) has been changed to mL/min in this section.

This part of the national quality supervision by the key product testing methods Standardization Technical Committee.

This part of the national quality supervision by the key product inspection methods Standardization Technical Committee (SAC/TC374), the national plastic products standards Technical Committee (SAC/TC48).

This part of the drafting unit. Guangzhou Quality Supervision and Inspection Research Institute, in the inspection Warner (Beijing) Quality Technology Center Co., Ltd., in the Union (North Beijing) Quality Inspection Technology Research Institute Co., Ltd., Guangdong Lian Plastic Technology Industrial Co., Ltd., Yong Gao Co., Ltd., Germany Chi Chi equipment manufacturing limited Company, the National Polymer Engineering Materials and Products Quality Supervision and Inspection Center (Guangdong).

Introduction

International has been studying the production process of hard PVC pipe B peak starting point or the highest processing temperature measurement method. These studies Indicating that differential scanning calorimetry (DSC) was used to meet the requirements.

The method involves taking a small sample from the tube and then heating in the DSC. The heat history of the sample is detected by a weak endothermic peak these data can be obtained from the B peak starting point or the maximum processing temperature.

The technology requires the experimenter to have a good understanding of DSC equipment and technology, especially PVC-related knowledge. What's important is new the experimenter must be familiar with the test equipment and the test method before testing.

The requirements for the specified starting point or maximum processing temperature may be added to the relevant product standards.

The method is also applicable to other types of extruded rigid PVC products, but may require different sampling rules.

Hard polyvinyl chloride pipe differential scanning calorimetry (DSC) Part 1. Measurement of processing temperature

1 Scope

This part of GB/T 33466 specifies a method for measuring the processing temperature of hard polyvinyl chloride (PVC) pipe samples. The method is based on the thermal history of the sample was measured using differential scanning calorimetry (DSC).

This section applies to all types of hard PVC tubing.

2 Terms and definitions

The following terms and definitions apply to this document.

Baseline leveling baselinetilting Adjust the angle of the baseline and level it.

Curve magnification Amplify the DSC peak ("magnification") near the A peak start point temperature and the B peak starting point temperature.

A peak start point A-onset Represents the starting point of the microcrystalline melting range.

B peak starting point B-onset Indicates the maximum processing temperature T_p .

Instrument Baseline instrumentalbaseline Measure the empty sample tray, ie deduct the background.

Sample position positionofsample Sampling parts in the product.

Purge gas

Used to ensure the inert atmosphere of the gas.

Repeat the sample repeatsamples Samples taken from the same location.

3 Principle

DSC is a mature method for testing the melting temperature of PVC products (see references [1] and [2]).