

Rigid PVC pipes — Differential scanning calorimetry (DSC) method —

Part 1: Measurement of the processing temperature

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National foreword

This British Standard is the UK implementation of ISO 18373-1:2007.

The UK participation in its preparation was entrusted by Technical Committee PRI/88, Plastics piping systems, to Subcommittee PRI/88/4, Test methods.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Rigid PVC pipes — Differential scanning calorimetry (DSC) method —

Part 1: Measurement of the processing temperature

Tubes rigides en PVC — Méthode utilisant la calorimétrie différentielle à balayage —

Partie 1: Mesurage de la température de procédé



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Foreword

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ISO 18373-1 was prepared by Technical Committee ISO/TC 138, *Plastics pipes, fittings and valves for the transport of fluids*, Subcommittee SC 5, *General properties of pipes, fittings and valves of plastic materials and their accessories - Test methods and basic specifications*.

ISO 18373 consists of the following parts, under the general title *Rigid PVC pipes — Differential scanning calorimetry (DSC) method*:

- *Part 1: Measurement of the processing temperature*
- *Part 2: Measurement of the enthalpy of fusion of crystallites*

Introduction

Studies have been undertaken at the international level to determine a method of measuring the B-onset or maximum processing temperature used during the production of rigid PVC pipes. These studies have demonstrated that a test using differential scanning calorimetry (DSC) fulfils these requirements.

The method involves taking small samples from the pipe wall and heating these in a differential scanning calorimeter. Small endotherms are used to detect the thermal history of the samples and the B-onset or maximum processing temperature is derived from these data.

The technique requires a good understanding of DSC instruments and techniques, particularly in relation to PVC. It is important that newcomers to the technique familiarize themselves with both the instrumentation and method prior to undertaking reportable tests.

It is intended that individual product standards will specify the requirements for B-onset or maximum processing temperature.

The method can also be suitable for other types of extruded rigid PVC products, but different sampling protocols might be required.