INTERNATIONAL STANDARD

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Plastics piping and ducting systems — Injection-moulded thermoplastics fittings — Methods for visually assessing the effects of heating

Systèmes de canalisations et de gaines en plastiques — Raccords thermoplastiques moulés par injection — Méthodes d'essai pour estimer visuellement les effets de la chaleur

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Foreword

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The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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ISO 580 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*.

This third edition cancels and replaces the second edition (ISO 580:1990), which has been technically revised.

Introduction

The test for determination of the resistance to heat according to the two test methods specified in this International Standard is applicable for distinguishing between properly and improperly moulded thermoplastics pipe fittings.

It can be used to

— determine whether cold slugs (pieces of material that enter the mould at a temperature significantly lower than the rest of the mass) or unfused areas are present,

— reveal cavities and porosity,

— determine the amount of moulded-in stress produced by the moulding process,

— reveal contamination, and

— show the integrity of the fusion line.

A stress-free part will generally have better properties and higher strength than parts with a higher degree of residual stress and will generally be less reactive when exposed to chemicals. By placing moulded fittings in a heated medium (air or liquid) at elevated temperature for a period of time dependant on their wall thickness, it is possible to detect internal stress.

Since the stresses start to be released as soon as the material passes to the rubbery state, it is only necessary to maintain the moulded pieces at a higher temperature for a defined period of time.

NOTE Injection-moulded fittings can be made by a number of techniques, whereby the material is injected into the mould cavity. These include single- or multi-point injection, diaphragm gating and ring gating. The technique used in the manufacture of mouldings will affect the way in which they are assessed.

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