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Thermoplastics pipes for the conveyance of fluids — Determination of the stress-rupture resistance of moulding materials using plain strain grooved tensile (PSGT) specimens

Tubes en matières thermoplastiques pour le transport des fluides — Détermination de la résistance à la rupture sous contrainte des matériaux de moulage, au moyen d'éprouvettes de traction rainurées à déformation plane

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Foreword

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ISO 23228 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*.

Introduction

ISO/TC 138 provides test methods for determining the resistance to internal pressure which are essential for assessing the properties and durability of thermoplastics piping system parts. These test methods constitute a basis for the determination of short-term and long-term strength characteristics. However, with regard to moulding materials for pipes and fittings, until the publication of this International Standard, no satisfactory test method has existed in which the material can be exposed to stress conditions that mimic internally pressurized pipes.

The method specified here has been demonstrated to replicate the stress conditions of internally pressurized end-capped pipes by the use of plaque specimen having a reduced section in the form of a groove positioned perpendicular to the uniaxial loading direction. This method is useful for evaluating the stress-rupture resistance of moulding materials and experimental resins being developed for pipes and fittings as well as for those pipes that are difficult to test, such as larger diameter pipes.