

SLOVENSKI STANDARD
SIST EN ISO 13478:2007
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BUXca Yý U.
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Plastomerne cevi za transport fluidov - Ugotavljanje odpornosti proti hitremu širjenju razpoke (RCP) - Preskus polnega obsega (Full-scale test - FST) (ISO 13478:2007)

Thermoplastics pipes for the conveyance of fluids - Determination of resistance to rapid crack propagation (RCP) - Full-scale test (FST) (ISO 13478:2007)

Rohre aus Thermoplasten für den Transport von Fluiden - Bestimmung des Widerstandes gegenüber schneller Rissfortpflanzung - Praxistest (FST) (ISO 13478:2007)

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Tubes en matières thermoplastiques pour le transport des fluides - Détermination de la résistance à la propagation rapide de fissure (RCP) - Essai grandeur nature (FST) (ISO 13478:2007)

Ta slovenski standard je istoveten z: EN ISO 13478:2007

ICS:

23.040.20 Cevi iz polimernih materialov Plastics pipes

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en

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English Version

Thermoplastics pipes for the conveyance of fluids -
Determination of resistance to rapid crack propagation (RCP) -
Full-scale test (FST) (ISO 13478:2007)

Tubes en matières thermoplastiques pour le transport des
fluides - Détermination de la résistance à la propagation
rapide de la fissure (RCP) - Essai grandeur nature (FST)
(ISO 13478:2007)

Rohre aus Thermoplasten für den Transport von Fluiden -
Bestimmung des Widerstandes gegenüber schneller
Rissfortpflanzung (RCP) - Praxistest (FS-Prüfung) (ISO
13478:2007)

This European Standard was approved by CEN on 30 June 2007.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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Foreword

This document (EN ISO 13478:2007) has been prepared by Technical Committee ISO/TC 138 "Plastics pipes, fittings and valves for the transport of fluids" in collaboration with Technical Committee CEN/TC 155 "Plastics piping systems and ducting systems" the secretariat of which is held by NEN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by February 2008, and conflicting national standards shall be withdrawn at the latest by February 2008.

This document supersedes EN ISO 13478:1997.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

Endorsement notice

The text of ISO 13478:2007 has been approved by CEN as a EN ISO 13478:2007 without any modification.

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**Thermoplastics pipes for the conveyance
of fluids — Determination of resistance to
rapid crack propagation (RCP) —
Full-scale test (FST)**

*Tubes en matières thermoplastiques pour le transport des fluides —
Détermination de la résistance à la propagation rapide de la fissure
(RCP) Essai grandeur nature (FST)*

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

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.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 13478 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 second edition cancels and replaces the first edition (ISO 13478:1997), which has been technically revised.

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Introduction

Test methods that measure the resistance of internally pressurized plastics pipes to rapid fracture propagation (RCP) have been standardized: ISO 13477 ^[1] and this International Standard. The S4 method specified in ISO 13477 utilizes short lengths of pipe to determine a critical RCP pressure or temperature for the pipe. Longer pipes up to 20 m in length are the basis of this full-scale test (FST) method for measurement of these critical parameters. On the one hand, the S4 method uses internal baffles to prevent rapid decompression of the internal test pressure, thus ensuring that the high-speed crack tip is exposed to the full pipe pressure throughout the test. The FST, on the other hand, has no baffles installed and is more related to field service. The crack tip is subjected to a reducing pressure by decompression effects as the crack propagates. This arrangement reflects the RCP mode of failure of long pipelines and is assumed to be the reference test method. The critical RCP values derived from each test are different but can be correlated experimentally. A mathematical equation for correlation has been developed for polyethylene (PE) pipes (see ISO 13477).

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