INTERNATIONAL STANDARD

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Adhesives for thermoplastic piping systems — Test method for the determination of thermal stability of adhesives

Adhésifs pour réseaux de tuyauteries en matières thermoplastiques — Méthode d'essai de stabilité thermique d'un adhésif

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Foreword

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International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

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 International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 15908 was prepared by the European Committee for Standardization (CEN) in collaboration with 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*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

Throughout the text of this document, read "...this European Standard..." to mean "...this International Standard...".

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Foreword

This document EN ISO 15908:2002 has been prepared by Technical Committee CEN/TC 193 "Adhesives", the secretariat of which is held by AENOR, in collaboration with Technical Committee ISO/TC 138 "Plastics, pipes, fittings and valves for transport of fluids".

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of an identical text or by endorsement, at the latest by June 2003, and conflicting national standards shall be withdrawn at the latest by June 2003.

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

1 Scope

This European Standard specifies a test method for the determination of the thermal stability of chloride-containing solvent-based and solvent-free adhesives for joining thermoplastic piping systems.

2 Normative references

This European Standard incorporates, by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text, and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 923, *Adhesives — Terms and definitions.*

EN 1066, *Adhesives — Sampling.*

EN 1067, *Adhesives — Examination and preparation of samples for testing.*

3 Terms and definitions

For the purposes of this European Standard, the terms and definitions of EN 923 apply.

4 Principle

A sample of dry adhesive film is heated in a test tube at 200 °C. Indicator paper is used to indicate when the adhesive film releases hydrochloride. The time taken for the adhesive film to release hydrochloride at 200 °C is taken as a measure of the thermal stability of the adhesive.

5 Safety

Persons using this standard shall be familiar with normal laboratory practice.

This standard does not purport to address all the safety problems, if any, associated with its use.

It is the responsibility of the user to establish safety and health practices and to ensure compliance with any European or national regulatory conditions.

6 Apparatus

6.1 Heating block, for heating test tubes at (200 ± 0,5) °C

6.2 Test tubes, of glass, height 110 mm, diameter 5 mm and wall thickness 0,9 mm

6.3 Universal indicator paper, pH 1-11

6.4 Adhesive applicator, capable of producing an adhesive film of thickness $1\,\text{mm}^{+0,1}_{0}\,\text{mm}$

6.5 Glass plate

6.6 Stopwatch

7 Test method

7.1 Condition the adhesive, the applicator and the test plate at (23 ± 2) °C and (50 ± 5) % relative humidity for at least 6 h. The test plate and the adhesive applicator shall be free of dirt and grease.

7.2 Take a representative sample of the adhesive to be tested as described in EN 1066 and examine and prepare it for testing as described in EN 1067.

7.3 After conditioning, pour the adhesive on to the glass plate and spread it using the adhesive applicator. An adhesive film of 1 mm thickness shall be obtained. Allow the adhesive film to dry for (24 ± 2) h at (23 ± 2) °C.

7.4 Remove the adhesive film from the glass plate, and cut it into small pieces with maximum edge length of 2 mm. Fill the test tube with the pieces of the adhesive film (Figure 1) to a depth of approximately 10 mm which is equivalent to (50 ± 5) mg adhesive. A piece, approximately 10 mm length, of indicator paper is placed in the top of the test tube. Prepare three test tubes for each adhesive under test.

Key

1 Indicator paper

2 Sample adhesive (film pieces), approximately 10 mm length

Figure 1 — Test tube

7.5 Bring the heating block to (200 ± 0, 5) °C. Place the test tubes in the heating block and immediately start the stopwatch. The test tubes shall be (66 ± 1) mm in the heating block and (44 ± 1) mm above the heating block (Figure 2).

When the lower part of the indicator paper changes colour (pH = 3, from yellow to red) stop the stopwatch. Record the time in minutes to the nearest 0,5 min.