SLOVENSKI STANDARD
SIST-TS CEN/TS 14999:2006

01-julij-2006

Lepila za plastomerne cevne sisteme - Preskus pospešenega staranja lepil

Adhesives for thermoplastic piping systems - Accelerated ageing test of adhesives

Klebstoffe für thermoplastische Rohrleitungssysteme - Prüfung von Klebstoffen bei künstlicher Alterung

Adhésifs pour réseaux de tuyauteries en matières thermoplastiques - Essai de vieillissement accéléré des adhésifs

Ta slovenski standard je istoveten z: **CEN/TS 14999:2006**

ICS:

23.040.01	Deli cevovodov in cevovodi na splošno	Pipeline components and pipelines in general
83.180	Lepila	Adhesives

SIST-TS CEN/TS 14999:2006 **en**

TECHNICAL SPECIFICATION

SPÉCIFICATION TECHNIQUE

TECHNISCHE SPEZIFIKATION

CEN/TS 14999

May 2006

ICS 83.180

English Version

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The period of validity of this CEN/TS is limited initially to three years. After two years the members of CEN will be requested to submit their comments, particularly on the question whether the CEN/TS can be converted into a European Standard.

CEN members are required to announce the existence of this CEN/TS in the same way as for an EN and to make the CEN/TS available promptly at national level in an appropriate form. It is permissible to keep conflicting national standards in force (in parallel to the CEN/TS) until the final decision about the possible conversion of the CEN/TS into an EN is reached.

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Ref. No. CEN/TS 14999:2006: E

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Foreword

This document (CEN/TS 14999:2006) has been prepared by Technical Committee CEN/TC 193 “Adhesives”, the secretariat of which is held by AENOR.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to announce this CEN Technical Specification: Austria, Belgium, 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 United Kingdom.

1 Scope

This Technical Specification (TS) describes a method for an accelerated ageing test of an adhesive in its container. The result provides the manufacturer with an indication of the storage stability of the adhesive and container combination and their ability to retain adhesive properties.

The method described is intended for solvent based adhesives for thermoplastic piping systems but may be applied to other adhesive types if appropriate.

The method described in this TS does not give a correlation between the results obtained after the accelerated aging test and after the shelf life of the adhesive at the ambient conditions defined by the manufacturer in the data sheet.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 923:2005, *Adhesives - Terms and definitions*

EN ISO 9311-2, *Adhesives for thermoplastic piping systems - Part 2: Determination of shear strength (ISO 9311-2:2002)*

EN 12092, *Adhesives - Determination of viscosity*

3 Terms and definitions

For the purposes of this Technical Specification, the terms and definitions given in EN 923:2005 apply.

4 Principe

The sample is subjected to a combination of temperature and time under specified conditions, followed by comparison of the viscosity and the shear strength of the aged sample with those of a reference sample that has been maintained under standard reference conditions ((23 ± 2) ºC and (50 ± -5) % relative humidity).

5 Safety clause

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 appropriate safety and health practices and to ensure compliance with any European or national regulatory conditions.

6 Apparatus

6.1 Oven, able to maintain a temperature of 50ºC ± 2°C or 40° C± 2°C.

6.2 Climatic chamber, able to maintain the following conditions: 23°C ± 2°C and 50% ± 5% relative humidity.

7 Sampling

Take a minimum of four identical unopened containers of each adhesive, three to be exposed to the ageing conditions and one as reference sample.

Typical examples of containers commonly used for adhesives for thermoplastic piping systems, though not exhaustive, are:

a) tin plated can + tin plated cap

b) tin plated can + plastic cap

c) aluminium plated can + plastic cap

d) brown glass bottle + plastic cap

e) plastic container + plastic cap

8 Procedure

Put the three samples of the adhesive in an oven (6.1) for 28 days at 50 ° C ± 2°C. For low boiling point solvent containing adhesives lower temperatures may be used, e.g. 40ºC ± 2ºC.

At the end of the test period, condition the aged samples for 24 hours at 23 ºC ± 2 ºC and 50% ± 5% relative humidity in the climatic chamber (6.2).

Put the reference sample in a climatic chamber at 23ºC ± 2ºC and 50% ± 5% relative humidity for 24 h.

Determine the viscosity of every sample in accordance with EN 12092 and the shear strength of one sample in accordance with EN ISO 9311-2.

Determine the viscosity and the shear strength of the reference sample.

Calculate the average value of the viscosity of the three aged samples.

The average value of the viscosity and the shear strength of the aged samples compared to the viscosity and the shear strength of the reference sample gives an indication of the storage stability of the adhesive and container combination and their ability to retain adhesive properties.

9 Test Report

The test report shall include, at least, the following information:

a) A reference to this TS;

b) Type and identification (batch number, date of manufacturing or other code) of the adhesive tested;

c) Description of the packaging tested;

d) The average viscosity value of the three aged samples and that of the reference sample;

e) The shear strength obtained for the aged sample and the reference sample;

f) Any modification of the procedures described, and any incident which may have affected the results;

g) Observations of the visual appearance of the containers and the adhesive after aging;

h) Date of the test.