

Unplasticized poly(vinyl chloride) (PVC-U) pipes -  
Dichloromethane resistance at specified temperature  
(DCMT) - Test method (ISO 9852:2007)

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 9852:2017 sisaldab Euroopa standardi EN ISO 9852:2017 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 9852:2017 consists of the English text of the European standard EN ISO 9852:2017.
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English Version

Unplasticized poly(vinyl chloride) (PVC-U) pipes -  
Dichloromethane resistance at specified temperature  
(DCMT) - Test method (ISO 9852:2007)

Tubes en poly(chlorure de vinyle) non plastifié (PVC-U) - Résistance au dichlorométhane à une température spécifiée (DCMT) - Méthode d'essai (ISO 9852:2007)

Rohre aus weichmacherfreiem Polyvinylchlorid (PVC-U) - Beständigkeit gegen Dichlormethan bei einer festgelegten Temperatur (DCMT) - Prüfverfahren (ISO 9852:2007)

This European Standard was approved by CEN on 19 September 2017.

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COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

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## European Foreword

The text of ISO 9852:2007 has been prepared by Technical Committee ISO/TC 138 “Plastics pipes, fittings and valves for the transport of fluids” of the International Organization for Standardization (ISO) and has been taken over as EN ISO 9852:2017 by 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of an identical text or by endorsement, at the latest by April 2018 and conflicting national standards shall be withdrawn at the latest by October 2020.

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### Endorsement notice

The text of ISO 9852:2007 has been approved by CEN as a EN ISO 9852:2017 without any modification.

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## Introduction

The maximum temperature at which unplasticized poly(vinyl chloride) (PVC-U) pipe is not attacked by dichloromethane gives an indication of the level and homogeneity of gelation of the PVC material in the pipe. This characteristic is related to the mechanical properties and, in particular, the long-term performance of the pipe.

# Unplasticized poly(vinyl chloride) (PVC-U) pipes — Dichloromethane resistance at specified temperature (DCMT) — Test method

## 1 Scope

This International Standard specifies a method for determining the resistance of unplasticized poly(vinyl chloride) (PVC-U) pipes to dichloromethane at a specified temperature (DCMT).

It is applicable to all PVC-U pipes, irrespective of their intended use.

The method can be used as a rapid means of quality control during manufacture.

**NOTE** The temperature of the dichloromethane up to which the pipe shall not be attacked is specified in the referring standard.

## 2 Principle

A piece of PVC-U pipe, of specified length, chamfered at one end to an angle dependent on its thickness, is immersed for  $(30 \pm 1)$  min in dichloromethane, at a temperature  $T$  specified by the referring standard, to verify that the PVC-U is not attacked at that temperature. For safety reasons, the surface area of the dichloromethane is kept to the minimum and the dichloromethane is covered by a deep layer of water to reduce evaporation. After immersion in the dichloromethane, the test piece is held in the water layer to allow it to “drip” before final drying and inspection.

**NOTE 1** If the PVC-U has not sufficiently gelled, whitening of the surface will occur and, in the worst case, a precipitate will be observed.

**NOTE 2** It is assumed that the following test parameters are set by the standard making reference to this International Standard:

- a) the temperature  $T$  of the dichloromethane (see 4.3 and 6.3);
- b) the minimum wall thickness for which the test can be used;
- c) the number of test pieces, if appropriate (see 5.1).

## 3 Reagent

### 3.1 Dichloromethane, technical grade.

**NOTE** Technical-grade dichloromethane contains small quantities (at the most, 1 % of each) of chloromethane ( $\text{CH}_3\text{Cl}$ ), trichloromethane ( $\text{CHCl}_3$ ) and tetrachloromethane ( $\text{CCl}_4$ ). It has been noted that, even if the level of these impurities reaches 5 % in total, the results are not significantly affected.

**WARNING —** The boiling point of dichloromethane is low ( $40^\circ\text{C}$ ). Consequently, it has a high vapour pressure at ambient temperature. Further, it can be toxic by absorption through the skin and eyes. It is therefore necessary to take precautions when handling dichloromethane or test pieces which have been immersed in it. The vapour is also toxic, the threshold limit value (TLV) corresponding to the maximum admissible concentration (MAC) being  $100 \text{ ml/m}^3$  (ppm). Ventilation of the room or area in which the container is located and where the test pieces are dried is therefore essential.