

**Plastics piping systems for hot and cold water
installations - Chlorinated poly(vinyl chloride)
(PVC-C) - Part 3: Fittings**

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN ISO 15877-3:2009 sisaldab Euroopa standardi EN ISO 15877-3:2009 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 31.07.2009 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 15.03.2009.

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN ISO 15877-3:2009 consists of the English text of the European standard EN ISO 15877-3:2009.

This standard is ratified with the order of Estonian Centre for Standardisation dated 31.07.2009 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.

Date of Availability of the European standard text 15.03.2009.

The standard is available from Estonian standardisation organisation.

ICS 23.040.45, 91.140.60

Standardite reprodutseerimis- ja levitamiseõigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonilisse süsteemi või edastamine ükskõik millises vormis või millisel teel on keelatud ilma Eesti Standardikeskuse poolt antud kirjaliku loata.

Kui Teil on küsimusi standardite autorikaitse kohta, palun võtke ühendust Eesti Standardikeskusega:
Aru 10 Tallinn 10317 Eesti; www.evs.ee; Telefon: 605 5050; E-post: info@evs.ee

Right to reproduce and distribute Estonian Standards belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without permission in writing from Estonian Centre for Standardisation.

If you have any questions about standards copyright, please contact Estonian Centre for Standardisation:
Aru str 10 Tallinn 10317 Estonia; www.evs.ee; Phone: +372 605 5050; E-mail: info@evs.ee

English Version

Plastics piping systems for hot and cold water installations -
Chlorinated poly(vinyl chloride) (PVC-C) - Part 3: Fittings (ISO
15877-3:2009)

Systèmes de canalisations en plastique pour les
installations d'eau chaude et froide - Poly(chlorure de
vinyle) chloré (PVC-C) - Partie 3: Raccords (ISO 15877-
3:2009)

Kunststoff-Rohrleitungssysteme für die Warm- und
Kaltwasserinstallation - Chloriertes Polyvinylchlorid (PVC-
C) - Teil 3: Formstücke (ISO 15877-3:2009)

This European Standard was approved by CEN on 28 February 2009.

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.

CEN members are the national standards bodies of 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 United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: Avenue Marnix 17, B-1000 Brussels

Foreword

This document (EN ISO 15877-3:2009) has been prepared by Technical Committee CEN/TC 155 "Plastics piping systems and ducting systems", the secretariat of which is held by NEN, in collaboration with Technical Committee ISO/TC 138 "Plastics pipes, fittings and valves for the 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 September 2009, and conflicting national standards shall be withdrawn at the latest by September 2009.

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

This document supersedes EN ISO 15877-3:2003.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, 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.

Contents

Page

Foreword.....	iv
Introduction.....	vi
1 Scope	1
2 Normative references	1
3 Terms, definitions and symbols	2
3.1 Terms and definitions.....	2
3.2 Symbols	3
4 Material characteristics	3
4.1 General.....	3
4.2 Fitting material	3
4.3 Evaluation of σ_{LPL} -values	3
4.4 Thermal stability	7
4.5 Metallic material	8
4.6 Influence on water intended for human consumption.....	9
5 General characteristics	9
5.1 Appearance	9
5.2 Opacity	9
6 Geometrical characteristics	9
6.1 General.....	9
6.2 Dimensions of fittings	9
6.3 Dimensions of sockets.....	16
6.4 Dimensions of flange adaptors and flanges	18
6.5 Dimensions of metallic fittings.....	20
7 Mechanical characteristics	20
7.1 Resistance to internal pressure	20
7.2 Determination of free lengths.....	21
7.3 Derivation of the hydrostatic test pressure	22
8 Performance requirements	23
9 Adhesives	23
10 Sealing rings	23
11 Marking	24
11.1 General.....	24
11.2 Minimum required marking.....	24
11.3 Additional marking	24
Bibliography	25

Introduction

The System Standard, of which this is Part 3, specifies the requirements for a piping system when made from chlorinated poly(vinyl chloride) (PVC-C). The piping system is intended to be used for hot and cold water installations and for heating system installations.

In respect of potential adverse effects on the quality of water intended for human consumption caused by the product covered by this part of ISO 15877, the following are relevant.

- a) This part of ISO 15877 provides no information as to whether the product may be used without restriction in any of the Member States of the EU or EFTA.
- b) It should be noted that, while awaiting the adoption of verifiable European criteria, existing national regulations concerning the use and/or the characteristics of this product remain in force.

Requirements and test methods for materials and components, other than fittings, are specified in ISO 15877-1 and ISO 15877-2. Characteristics for fitness for purpose (mainly for joints) are covered in ISO 15877-5. ISO/TS 15877-7 gives guidance for the assessment of conformity.

This part of ISO 15877 specifies the characteristics of the fittings.

Plastics piping systems for hot and cold water installations — Chlorinated poly(vinyl chloride) (PVC-C) —

Part 3: Fittings

1 Scope

This part of ISO 15877 specifies the characteristics of fittings made from chlorinated poly(vinyl chloride) (PVC-C) for piping systems intended to be used for hot and cold water installations within buildings for the conveyance of water, whether or not intended for human consumption (domestic systems) and for heating systems under design pressures and temperatures according to the class of application (see Table 1 of ISO 15877-1:2009).

This part of ISO 15877 covers a range of service conditions (application classes) and design pressure classes. For values of T_D , T_{max} and T_{mal} in excess of those in Table 1 of ISO 15877-1:2009, this part of ISO 15877 does not apply.

NOTE 1 It is the responsibility of the purchaser or specifier to make the appropriate selections from these aspects, taking into account their particular requirements and any relevant national regulations and installation practices or codes.

It also specifies the parameters for the test methods referred to in this part of ISO 15877.

In conjunction with the other parts of ISO 15877, it is applicable to PVC-C fittings, their joints and joints with components of PVC-C, other plastics and non-plastics materials intended to be used for hot and cold water installations.

This part of ISO 15877 is applicable to fittings of the following types:

- fittings for solvent cement joints;
- mechanical fittings;
- fittings with incorporated inserts.

NOTE 2 Fittings made from PVC-C are manufactured by injection-moulding.

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.

ISO 228-1, *Pipe threads where pressure-tight joints are not made on the threads — Part 1: Dimensions, tolerances and designation*

ISO 580, *Plastics piping and ducting systems — Injection-moulded thermoplastics fittings — Methods for visually assessing the effects of heating*

ISO 1167-1, *Thermoplastics pipes, fittings and assemblies for the conveyance of fluids — Determination of the resistance to internal pressure — Part 1: General method*

ISO 1167-2, *Thermoplastics pipes, fittings and assemblies for the conveyance of fluids — Determination of the resistance to internal pressure — Part 2: Preparation of pipe test pieces*

ISO 2536, *Unplasticized polyvinyl chloride (PVC) pressure pipes and fittings, metric series — Dimensions of flanges*

ISO 3126, *Plastics piping systems — Plastics components — Determination of dimensions*

ISO 7686, *Plastics pipes and fittings — Determination of opacity*

ISO 9080, *Plastics piping and ducting systems — Determination of the long-term hydrostatic strength of thermoplastics materials in pipe form by extrapolation*

ISO 15877-1:2009, *Plastics piping systems for hot and cold water installations — Chlorinated poly(vinyl chloride) (PVC-C) — Part 1: General*

ISO 15877-2:2009, *Plastics piping systems for hot and cold water installations — Chlorinated poly(vinyl chloride) (PVC-C) — Part 2: Pipes*

ISO 15877-5, *Plastics piping systems for hot and cold water installations — Chlorinated poly(vinyl chloride) (PVC-C) — Part 5: Fitness for purpose of the system*

EN 681-1, *Elastomeric seals — Material requirements for pipe joint seals used in water and drainage applications — Part 1: Vulcanized rubber*

EN 727, *Plastics piping and ducting systems — Thermoplastics pipes and fittings — Determination of Vicat softening temperature (VST)*

EN 1254-3, *Copper and copper alloys — Plumbing fittings — Part 3: Fittings with compression ends for use with plastics pipes*

EN 10088-1, *Stainless steels — Part 1: List of stainless steels*

EN 10226-1, *Pipe threads where pressure tight joints are made on the threads — Part 1: Taper external threads and parallel internal threads — Dimensions, tolerances and designation*