
**Specifications for thermoplastics
covers and frames for manholes and
inspection chambers used in non-
traffic areas**

*Spécifications pour couvercles et cadres en matériaux
thermoplastiques pour regards et chambres d'inspection utilisés dans
les zones sans circulation*



This document is a preview generated by EVIS



COPYRIGHT PROTECTED DOCUMENT

© ISO 2012

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

Contents

Page

Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms, definitions, symbols and abbreviations	3
3.1 Terms and definitions	3
3.2 Abbreviations	3
4 Material	4
4.1 Other materials	4
4.2 Utilization of non-virgin materials	4
4.3 UV resistant formulations	4
4.4 Sealing rings	5
4.5 Metallic fixings	5
4.6 Solvent cement	5
5 General characteristics	5
5.1 General	5
5.2 Removal of covers from frames	5
5.3 Appearance	5
5.4 Colour	5
6 Geometrical characteristics	5
6.1 Dimensions - general	5
6.2 Total clearance between cover and frame	6
6.3 Compatibility of seatings	6
6.4 Flatness of manhole covers	6
6.5 Anti-skid pattern	6
7 Classification and installation	6
8 Mechanical characteristics	7
9 Physical characteristics	7
10 Performance and durability requirements	8
10.1 General performance	8
11 Marking of covers and frames	8
11.1 Marking of covers and frames	8
11.2 Additional documentation	9
Annex A (normative) Material requirements for materials used in covers and frames	10
Annex B (normative) Impact test on covers and frames	11
Annex C (normative) Skid resistance test	12
Bibliography	15

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 15398 was prepared by Technical Committee ISO/TC 138, *Plastics pipes, fittings and valves for the transport of fluids*, Subcommittee SC 1, *Plastics pipes and fittings for soil, waste and drainage (including land drainage)*.

Introduction

This International Standard is based on the results of the work being undertaken in ISO/TC 138 "*Plastics pipes, fittings and valves for the transport of fluids*", CEN Committee TC 165 and CEN Committee TC 155.

They are supported by separate standards on test methods and by European Standards for covers and frames to which references are made throughout the System Standard.

Specifications for thermoplastics covers and frames for manholes and inspection chambers used in non-traffic areas

1 Scope

This International Standard specifies the definitions and requirements for thermoplastics covers and frames for inspection chambers and other such pipeline access products installed in light vehicular access and pedestrian areas and manufactured from unplasticized poly(vinyl chloride) (PVC-U), polypropylene (PP), polypropylene with mineral modifier (PP-MD) or polyethylene (PE). The products are rated up to B 125 max. and are intended for use either inside or outside buildings including swimming pool areas but are not intended for use in the carriageway of trafficked areas.

This International Standard is only applicable to those covers and frames where the manufacturer has clearly stated in the documentation how the frames are installed and assembled to the intended access product, identifying as necessary the manufacturer and grades of product or riser to which the frame is intended to fit.

NOTE 1 The cover and frame are normally manufactured by injection moulding.

NOTE 2 Fibre reinforced covers and frames are not covered by this International Standard.

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

ISO 1043-1, *Plastics — Symbols and abbreviated terms — Part 1: Basic polymers and their special characteristics*

ISO 1133-1, *Plastics — Determination of the melt mass-flow rate (MFR) and melt volume-flow rate (MVR) of thermoplastics — Part 1: Standard method*

ISO 1183-1, *Plastics — Methods for determining the density of non cellular plastics — Part 1: Immersion method, liquid pycnometer method and titration method*

ISO 1183-2, *Plastics — Methods for determining the density of non-cellular plastics — Part 2: Density gradient column method*

ISO 2507-1, *Thermoplastics pipes and fittings — Vicat softening temperature — Part 1: General test method*

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

ISO 3127, *Thermoplastics pipes — Determination of resistance to external blows — Round the-clock method*

ISO 3506-1, *Mechanical properties of corrosion-resistant stainless steel fasteners — Part 1: Bolts, screws and studs*

ISO 3506-2, *Mechanical properties of corrosion-resistant stainless steel fasteners — Part 2: Nuts*

ISO 4435, *Plastics piping systems for non-pressure underground drainage and sewerage — Unplasticized poly(vinyl chloride) (PVC-U)*

- ISO 4892-2, *Plastics — Methods of exposure to laboratory light sources — Part 2: Xenon-arc lamps*
- ISO 4892-3, *Plastics — Methods of exposure to laboratory light sources — Part 3: Fluorescent UV lamps*
- ISO 8256:2004, *Plastics — Determination of tensile-impact strength*
- ISO 8772, *Plastics piping systems for non-pressure underground drainage and sewerage — Polyethylene (PE)*
- ISO 8773, *Plastics piping systems for non-pressure underground drainage and sewerage — Polypropylene (PP)*
- ISO 11357-6, *Plastics — Differential scanning calorimetry (DSC) — Part 6: Determination of oxidation induction time (isothermal OIT) and oxidation induction temperature (dynamic OIT)*
- ISO 13229, *Thermoplastics piping systems for non-pressure applications — Unplasticized poly(vinyl chloride) (PVC-U) pipes and fittings — Determination of the viscosity number and K-value*
- ISO 13272, *Plastics piping systems for non-pressure underground drainage and sewerage — Unplasticized poly(vinyl chloride) (PVC-U), polypropylene (PP), polypropylene with mineral modifiers (PP-MD) and polyethylene (PE) — Specifications for manholes and inspection chambers in traffic areas and underground installations*
- ISO 21138-1, *Plastics piping systems for non-pressure underground drainage and sewerage — Structured-wall piping systems of unplasticized poly(vinyl chloride) (PVC-U), polypropylene (PP) and polyethylene (PE) — Part 1: Material specifications and performance criteria for pipes, fittings and system*
- ISO 21138-2, *Plastics piping systems for non-pressure underground drainage and sewerage — Structured-wall piping systems of unplasticized poly(vinyl chloride) (PVC-U), polypropylene (PP) and polyethylene (PE) — Part 2: Pipes and fittings with smooth external surface, Type A*
- ISO 21138-3, *Plastics piping systems for non-pressure underground drainage and sewerage — Structured-wall piping systems of unplasticized poly(vinyl chloride) (PVC-U), polypropylene (PP) and polyethylene (PE) — Part 3: Pipes and fittings with non-smooth external surface, Type B*
- EN 124:1994, *Gully tops and manhole tops for vehicular and pedestrian areas — Design requirements, type testing, marking, quality control*
- EN 681-1, *Elastomeric seals — Materials requirements for pipe joint seals used in water and drainage applications — Part 1: Vulcanized rubber*
- EN 681-2, *Elastomeric seals — Materials requirements for pipe joint seals used in water and drainage applications — Part 2: Thermoplastic elastomers*
- EN 681-3, *Elastomeric seals — Materials requirements for pipe joint seals used in water and drainage applications — Part 3: Cellular materials of vulcanized rubber*
- EN 681-4, *Elastomeric seals — Materials requirements for pipe joint seals used in water and drainage applications — Part 4: Cast polyurethane sealing elements*
- EN 12164:2011, *Copper and copper alloys — Rod for free machining purposes*
- ENV 12633:2003, *Method of determination of unpolished and polished slip/skid resistance value*
- CEN/TS 14541, *Plastics pipes and fittings for non-pressure applications — Utilization of non-virgin PVC-U, PP and PE materials*
- EN 14680, *Adhesives for non-pressure thermoplastic piping systems — Specifications*
- EN 14758-1, *Plastics piping systems for non-pressure underground drainage and sewerage — Polypropylene with mineral modifiers (PP-MD) — Part 1: Specifications for pipes, fittings and the system*
- EN 14814, *Adhesives for pressure thermoplastic piping systems — Specifications*