

Plastics - Polyamide (PA) moulding and extrusion materials - Part 1: Designation system, marking of products and basis for specifications (ISO 16396-1:2015)

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 16396-1:2015 sisaldab Euroopa standardi EN ISO 16396-1:2015 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 16396-1:2015 consists of the English text of the European standard EN ISO 16396-1:2015.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 25.02.2015.	Date of Availability of the European standard is 25.02.2015.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 83.080.20

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardikeskusele

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

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardikeskusega:

Aru 10, 10317 Tallinn, Eesti; koduleht www.evs.ee; telefon 605 5050; e-post info@evs.ee

The right to reproduce and distribute 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 a written permission from the Estonian Centre for Standardisation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation:

Aru 10, 10317 Tallinn, Estonia; homepage www.evs.ee; phone +372 605 5050; e-mail info@evs.ee

English Version

**Plastics - Polyamide (PA) moulding and extrusion materials -
Part 1: Designation system, marking of products and basis for
specifications (ISO 16396-1:2015)**

Plastiques - Matériaux polyamides (PA) pour moulage et
extrusion - Partie 1: Système de désignation, marquage des
produits et base de spécification (ISO 16396-1:2015)

Kunststoffe - Polyamid (PA)-Formmassen für das
Spritzgießen und die Extrusion - Teil 1:
Bezeichnungssystem, Produktkennzeichnung und Basis für
Spezifikationen (ISO 16396-1:2015)

This European Standard was approved by CEN on 26 December 2014.

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-CENELEC 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-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Foreword

This document (EN ISO 16396-1:2015) has been prepared by Technical Committee ISO/TC 61 "Plastics" in collaboration with Technical Committee CEN/TC 249 "Plastics" the secretariat of which is held by NBN.

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 August 2015, and conflicting national standards shall be withdrawn at the latest by August 2015.

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 1874-1:2010.

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, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO 16396-1:2015 has been approved by CEN as EN ISO 16396-1:2015 without any modification.

Contents

Page

Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Designation system	2
3.1 General.....	2
3.2 Data block 1.....	3
3.3 Data block 2.....	5
3.4 Data block 3.....	6
3.5 Data block 4.....	7
3.5.1 General.....	7
3.5.2 Viscosity number.....	7
3.5.3 Tensile modulus of elasticity.....	9
3.6 Data block 5.....	10
4 Examples of designations	10
4.1 Designations without specification.....	10
4.2 Designation transformed into a specification.....	12
Annex A (normative) Definition and designation of polyamides	14
Bibliography	16

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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

The committee responsible for this document is ISO/TC 61, *Plastics*, Subcommittee SC 9, *Thermoplastic materials*.

This first edition of ISO 16396-1 cancels and replaces ISO 1874-1:2010, which has been technically revised to introduce a new designation system.

The revised designation system is published under a new ISO number, as many existing documents refer to ISO 1874-1. If the existing ISO 1874-1 would be replaced by the new designation system, these documents would refer to the incorrect designation system.

In order to give users time to switch from ISO 1874-1 to ISO 16396-1, any designation system according to ISO 1874-1 is to be phased out in 5 to 10 years. During this period, ISO 1874-2 will effectively be Part 2 of this International Standard.

ISO 16396 consists of the following parts, under the general *Plastics — Polyimide (PA) moulding and extrusion materials*:

— *Part 1: Designation system, marking of products and basis for specification*

Introduction

ISO 1874-1:2010 is complex and does not fit with daily practice anymore. In practice, ISO 1043 and ISO 11469 are, in combination, 'improperly' being used as a designation system for, e.g. marking. The aim of this International Standard is to simplify the data block system and to connect more to ISO 1043 and ISO 11469, where the first two blocks are used for generic identification and marking of products.

Plastics — Polyamide (PA) moulding and extrusion materials —

Part 1:

Designation system, marking of products and basis for specifications

1 Scope

This part of ISO 16396 establishes a system of designation for polyamide (PA) moulding and extrusion materials, which can be used as the basis for specifications.

The types of polyamide plastics are differentiated from each other by a classification system based on appropriate levels of the designatory properties

- a) viscosity number and
- b) tensile modulus of elasticity

and on information about composition, intended application and/or method of processing, important properties, additives, colorants, fillers, and reinforcing materials.

The designation system is applicable to all polyamide homopolymers, copolymers, and blends.

It applies to unmodified materials ready for normal use and materials modified, for example, by colorants, additives, fillers, reinforcing materials, and polymer modifiers.

This part of ISO 16396 does not apply to the following materials:

- a) monomer casting-type polyamides of PA 6;
- b) monomer casting-type polyamides of PA 12.

It is not intended to imply that materials having the same designation give the same performance. This part of ISO 16396 does not provide engineering data, performance data, or data on processing conditions which can be required to specify a material. If such additional properties are required, they will be determined in accordance with the test methods specified in ISO 1874-2, if suitable.

In order to designate a thermoplastic material to meet particular specifications, the requirements are to be given in data block 5 (see [3.1](#)).

2 Normative references

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

ISO 307, *Plastics — Polyamides — Determination of viscosity number*

ISO 1043-1:2011, *Plastics — Symbols and abbreviated terms — Part 1: Basic polymers and their special characteristics*

ISO 1874-2, *Plastics — Polyamide (PA) moulding and extrusion materials — Part 2: Preparation of test specimens and determination of properties*