

# SVENSK STANDARD

## SS-EN ISO 1043-1:2011

Fastställt/Approved: 2011-12-05  
Publicerad/Published: 2011-12-07  
Utgåva/Edition: 3  
Språk/Language: engelska/English  
ICS: 01.040.83; 83.080.01

---

### **Plast – Symboler och förkortningar – Del 1: Grundpolymerer och deras speciella egenskaper (ISO 1043-1:2011)**

### **Plastics – Symbols and abbreviated terms – Part 1: Basic polymers and their special characteristics (ISO 1043-1:2011)**

This preview is downloaded from [www.sis.se](http://www.sis.se). Buy the entire standard via <https://www.sis.se/std-82413>

# Standarder får världen att fungera

*SIS (Swedish Standards Institute) är en fristående ideell förening med medlemmar från både privat och offentlig sektor. Vi är en del av det europeiska och globala nätverk som utarbetar internationella standarder. Standarder är dokumenterad kunskap utvecklad av framstående aktörer inom industri, näringsliv och samhälle och befrämjar handel över gränser, bidrar till att processer och produkter blir säkrare samt effektiviserar din verksamhet.*

## Delta och påverka

Som medlem i SIS har du möjlighet att påverka framtida standarder inom ditt område på nationell, europeisk och global nivå. Du får samtidigt tillgång till tidig information om utvecklingen inom din bransch.

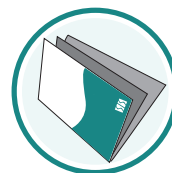
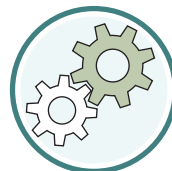
## Ta del av det färdiga arbetet

Vi erbjuder våra kunder allt som rör standarder och deras tillämpning. Hos oss kan du köpa alla publikationer du behöver – allt från enskilda standarder, tekniska rapporter och standardpaket till handböcker och onlinetjänster. Genom vår webbtjänst e-nav får du tillgång till ett lättnavigerat bibliotek där alla standarder som är aktuella för ditt företag finns tillgängliga. Standarder och handböcker är källor till kunskap. Vi säljer dem.

## Utveckla din kompetens och lyckas bättre i ditt arbete

Hos SIS kan du gå öppna eller företagsinterna utbildningar kring innehåll och tillämpning av standarder. Genom vår närhet till den internationella utvecklingen och ISO får du rätt kunskap i rätt tid, direkt från källan. Med vår kunskap om standarders möjligheter hjälper vi våra kunder att skapa verklig nytta och lönsamhet i sina verksamheter.

**Vill du veta mer om SIS eller hur standarder kan effektivisera din verksamhet är du välkommen in på [www.sis.se](http://www.sis.se) eller ta kontakt med oss på tel 08-555 523 00.**



# Standards make the world go round

*SIS (Swedish Standards Institute) is an independent non-profit organisation with members from both the private and public sectors. We are part of the European and global network that draws up international standards. Standards consist of documented knowledge developed by prominent actors within the industry, business world and society. They promote cross-border trade, they help to make processes and products safer and they streamline your organisation.*

## Take part and have influence

As a member of SIS you will have the possibility to participate in standardization activities on national, European and global level. The membership in SIS will give you the opportunity to influence future standards and gain access to early stage information about developments within your field.

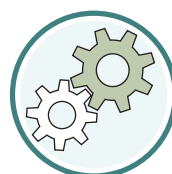
## Get to know the finished work

We offer our customers everything in connection with standards and their application. You can purchase all the publications you need from us - everything from individual standards, technical reports and standard packages through to manuals and online services. Our web service e-nav gives you access to an easy-to-navigate library where all standards that are relevant to your company are available. Standards and manuals are sources of knowledge. We sell them.

## Increase understanding and improve perception

With SIS you can undergo either shared or in-house training in the content and application of standards. Thanks to our proximity to international development and ISO you receive the right knowledge at the right time, direct from the source. With our knowledge about the potential of standards, we assist our customers in creating tangible benefit and profitability in their organisations.

**If you want to know more about SIS, or how standards can streamline your organisation, please visit [www.sis.se](http://www.sis.se) or contact us on phone +46 (0)8-555 523 00**



Europastandarden EN ISO 1043-1:2011 gäller som svensk standard. Detta dokument innehåller den officiella engelska versionen av EN ISO 1043-1:2011.

Denna standard ersätter SS-EN ISO 1043-1, utgåva 2.

The European Standard EN ISO 1043-1:2011 has the status of a Swedish Standard. This document contains the official version of EN ISO 1043-1:2011.

This standard supersedes the Swedish Standard SS-EN ISO 1043-1, edition 2.

© Copyright/Upphovsrätten till denna produkt tillhör SIS, Swedish Standards Institute, Stockholm, Sverige. Användningen av denna produkt regleras av slutanvändarlicensen som återfinns i denna produkt, se standardens sista sidor.

© Copyright SIS, Swedish Standards Institute, Stockholm, Sweden. All rights reserved. The use of this product is governed by the end-user licence for this product. You will find the licence in the end of this document.

*Uppllysningar om sakinnehållet i standarden lämnas av SIS, Swedish Standards Institute, telefon 08-555 520 00. Standarder kan beställas hos SIS Förlag AB som även lämnar allmänna uppllysningar om svensk och utländsk standard.*

*Information about the content of the standard is available from the Swedish Standards Institute (SIS), telephone +46 8 555 520 00. Standards may be ordered from SIS Förlag AB, who can also provide general information about Swedish and foreign standards.*

Denna standard är framtagen av kommittén för Plast, SIS/TK 156.

Har du synpunkter på innehållet i den här standarden, vill du delta i ett kommande revideringsarbete eller vara med och ta fram andra standarder inom området? Gå in på [www.sis.se](http://www.sis.se) - där hittar du mer information.



EUROPEAN STANDARD

**EN ISO 1043-1**

NORME EUROPÉENNE

EUROPÄISCHE NORM

November 2011

ICS 83.080.01

Supersedes EN ISO 1043-1:2001

English Version

## Plastics - Symbols and abbreviated terms - Part 1: Basic polymers and their special characteristics (ISO 1043-1:2011)

Plastiques - Symboles et termes abrégés - Partie 1:  
Polymères de base et leurs caractéristiques spéciales (ISO  
1043-1:2011)

Kunststoffe - Kennbuchstaben und Kurzzeichen - Teil 1:  
Basis-Polymere und ihre besonderen Eigenschaften (ISO  
1043-1:2011)

This European Standard was approved by CEN on 12 November 2011.

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, 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**

## Contents

Page

Foreword .....	iv
<b>1 Scope .....</b>	<b>1</b>
<b>2 Normative references .....</b>	<b>1</b>
<b>3 Terms and definitions .....</b>	<b>1</b>
<b>4 Use of symbols and abbreviated terms .....</b>	<b>1</b>
<b>5 Abbreviated terms for homopolymers, copolymers and natural polymers .....</b>	<b>2</b>
<b>6 Symbols for indication of special characteristics .....</b>	<b>5</b>
<b>7 Symbol for plastics recyclate.....</b>	<b>6</b>
<b>8 Examples of the use of symbols.....</b>	<b>6</b>
<b>Annex A (informative) Guide for preparing new abbreviated terms for basic polymers, mixtures of polymers and related terms .....</b>	<b>7</b>
<b>Annex B (informative) List of symbols used for components of abbreviated terms.....</b>	<b>9</b>
<b>Annex C (informative) Abbreviated terms for plastics grouped by type.....</b>	<b>12</b>
<b>Bibliography.....</b>	<b>15</b>

## Foreword

This document (EN ISO 1043-1:2011) 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 May 2012, and conflicting national standards shall be withdrawn at the latest by May 2012.

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 1043-1:2001.

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, 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.

### Endorsement notice

The text of ISO 1043-1:2011 has been approved by CEN as a EN ISO 1043-1:2011 without any modification.





# Plastics — Symbols and abbreviated terms —

## Part 1: Basic polymers and their special characteristics

### 1 Scope

This part of ISO 1043 defines abbreviated terms for the basic polymers used in plastics, symbols for components of these terms, and symbols for special characteristics of plastics. It includes only those abbreviated terms that have come into established use and its aim is both to prevent the occurrence of more than one abbreviated term for a given plastic and to prevent a given abbreviated term being interpreted in more than one way.

NOTE 1 For symbols and abbreviated terms for fillers and reinforcing materials, see ISO 1043-2, for plasticizers see ISO 1043-3, and for flame retardants see ISO 1043-4. Nomenclature for rubbers and latices is given in ISO 1629. Nomenclature for thermoplastic elastomers is given in ISO 18064.

NOTE 2 Guidance for the preparation of new abbreviated terms is given in Annex A, and reference lists of symbols for the components of plastics terms used to form the abbreviated terms for plastics are given in Annex B.

NOTE 3 A classification of abbreviated terms for polymers grouped by type is given in Annex C.

### 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 472, *Plastics — Vocabulary*

### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 472 and the following apply.

#### 3.1

##### **abbreviated term**

term resulting from the omission of any part of a term while designating the same concept

### 4 Use of symbols and abbreviated terms

**4.1** Abbreviated terms for homopolymers, copolymers and natural polymers are given in Clause 5, symbols for special characteristics are given in Clause 6, the symbol for plastics recycle is given in Clause 7, and examples of the use of symbols are given in Clause 8.

**4.2** To distinguish the essential molecular characteristics within a given generic type of plastics material, additional symbols, with guidance for their use, are provided. The use of symbols for describing properties that can only be ascertained subjectively should be avoided since this can lead to confusion.

**4.3** The abbreviated terms are primarily intended to be a convenient shorthand for chemical names in publications and other written matter. The abbreviated terms are also useful for indicating the type of basic polymer in materials and products, e.g. ABS moulding material, PA film, PE sheeting and PVC pipe.

**4.4** Only capital letters shall be used for symbols and abbreviated terms.

**4.5** The first appearance of an abbreviated term in a text shall be enclosed in parentheses and shall be preceded by the term written in full.

**4.6** The rules of the International Union of Pure and Applied Chemistry (IUPAC) for source-based names of polymers recommend the use of parentheses when the prefix “poly” is used with a monomer name consisting of two or more words. This practice is followed in this part of ISO 1043, but in common usage the enclosing marks are often omitted.

**4.7** No attempt is made formally to systematize a shorthand terminology of polymers. Terminology and formulae designations for scientific literature in the field of natural and synthetic polymers have been elaborated by the Commission on Macromolecular Nomenclature of IUPAC. Any abbreviated terms published by this Commission are, in general, the same as in this part of ISO 1043.

## **5 Abbreviated terms for homopolymers, copolymers and natural polymers**

The following list gives the preferred abbreviated terms for plastics materials, using the component symbols given in Annex B. For some established materials, the abbreviated terms are supplemented by symbols for special characteristics as defined in Clause 6.

For some materials, alternative abbreviated terms are often still used, and for information these are included after the name of the material.

<b>Abbreviated term</b>	<b>Term for material</b>
<b>AB</b>	acrylonitrile-butadiene plastic
<b>ABAK</b>	acrylonitrile-butadiene-acrylate plastic; preferred term for <b>ABA</b>
<b>ABS</b>	acrylonitrile-butadiene-styrene plastic
<b>ACS</b>	acrylonitrile-(chlorinated polyethylene)-styrene; preferred term for <b>ACPES</b>
<b>AEPDS</b>	acrylonitrile-(ethylene-propylene-diene)-styrene plastic; preferred term for <b>AEPDMS</b>
<b>AMMA</b>	acrylonitrile-(methyl methacrylate) plastic
<b>ASA</b>	acrylonitrile-styrene-acrylate plastic
<b>CA</b>	cellulose acetate
<b>CAB</b>	cellulose acetate butyrate
<b>CAP</b>	cellulose acetate propionate
<b>CEF</b>	cellulose formaldehyde
<b>CF</b>	cresol-formaldehyde resin
<b>CMC</b>	carboxymethyl cellulose
<b>CN</b>	cellulose nitrate
<b>COC</b>	cycloolefin copolymer
<b>CP</b>	cellulose propionate
<b>CTA</b>	cellulose triacetate
<b>EAA</b>	ethylene-(acrylic acid) plastic
<b>EBAK</b>	ethylene-(butyl acrylate) plastic; preferred term for <b>EBA</b>
<b>EC</b>	ethyl cellulose
<b>EEAK</b>	ethylene-(ethyl acrylate) plastic; preferred term for <b>EEA</b>
<b>EMA</b>	ethylene-(methacrylic acid) plastic
<b>EP</b>	epoxide; epoxy resin
<b>E/P</b>	ethylene-propylene plastic; preferred term for <b>EPM</b>

<b>ETFE</b>	ethylene-tetrafluoroethylene plastic
<b>EVAC</b> <sup>1)</sup>	ethylene-(vinyl acetate) plastic; preferred term for <b>EVA</b>
<b>EVOH</b>	ethylene-(vinyl alcohol) plastic
<b>FEP</b>	perfluoro(ethylene-propylene) plastic; preferred term for <b>PFEP</b>
<b>FF</b>	furan-formaldehyde resin
<b>HBV</b>	poly(3-hydroxybutyrate)-co-(3-hydroxyvalerate)
<b>LCP</b>	liquid-crystal polymer
<b>MABS</b>	(methyl methacrylate)-acrylonitrile-butadiene-styrene plastic
<b>MBS</b>	(methyl methacrylate)-butadiene-styrene plastic
<b>MC</b>	methyl cellulose
<b>MF</b>	melamine-formaldehyde resin
<b>MP</b>	melamine-phenol resin
<b>MSAN</b>	$\alpha$ -methylstyrene-acrylonitrile plastic
<b>PA</b>	polyamide
<b>PAA</b>	poly(acrylic acid)
<b>PAEK</b>	polyaryletherketone
<b>PAI</b>	polyamidimide
<b>PAK</b>	polyacrylate
<b>PAN</b>	polyacrylonitrile
<b>PAR</b>	polyarylate
<b>PARA</b>	polyarylamide
<b>PB</b>	polybutene
<b>PBAK</b>	poly(butyl acrylate)
<b>PBD</b>	1,2-polybutadiene
<b>PBN</b>	poly(butylene naphthalate)
<b>PBS</b>	poly(butylene succinate)
<b>PBSA</b>	poly(butylene succinate adipate)
<b>PBT</b>	poly(butylene terephthalate)
<b>PC</b>	polycarbonate
<b>PCCE</b>	poly(cyclohexylene dimethylene cyclohexanedicarboxylate)
<b>PCO</b>	polycycloolefin
<b>PCL</b>	polycaprolactone
<b>PCT</b>	poly(cyclohexylene dimethylene terephthalate)
<b>PCTFE</b>	polychlorotrifluoroethylene
<b>PDAP</b>	poly(diallyl phthalate)
<b>PDCPD</b>	polydicyclopentadiene
<b>PE</b>	polyethylene
<b>PE-C</b> <sup>2)</sup>	polyethylene, chlorinated; preferred term for <b>CPE</b>
<b>PE-HD</b>	polyethylene, high density; preferred term for <b>HDPE</b>
<b>PE-LD</b>	polyethylene, low density; preferred term for <b>LDPE</b>
<b>PE-LLD</b>	polyethylene, linear low density; preferred term for <b>LLDPE</b>
<b>PE-MD</b>	polyethylene, medium density; preferred term for <b>MDPE</b>
<b>PE-UHMW</b>	polyethylene, ultra high molecular weight; preferred term for <b>UHMWPE</b>
<b>PE-VLD</b>	polyethylene, very low density; preferred term for <b>VLDPE</b>
<b>PEC</b>	polyestercarbonate
<b>PEEK</b>	polyetheretherketone
<b>PEEST</b>	polyetherester

1) In ISO 1629, the abbreviated term for ethylene-(vinyl acetate) copolymer is EVM.

2) In ISO 1629, the abbreviated term for chlorinated polyethylene is CM.