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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)

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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.

Upplysningar 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 upplysningar 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 - där hittar du mer information.

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 1043-1

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.

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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.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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EUROPÄISCHES KOMITEE FÜR NORMUNG

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Ref. No. EN ISO 1043-1:2011: E

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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 recyclate 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.

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

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