



Designation: D1600 – 18

Standard Terminology for Abbreviated Terms Relating to Plastics¹

This standard is issued under the fixed designation D1600; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

This standard has been approved for use by agencies of the U.S. Department of Defense.

1. Scope*

1.1 The purpose of this terminology is to provide uniform contractions of terms relating to plastics. Abbreviated terminology has evolved through widespread common usage. This compilation has been prepared to avoid both the occurrence of more than one abbreviated term for a given plastics term and multiple meanings for abbreviated terms.

1.2 The scope of these abbreviated terms includes plastics terms pertaining to composition and relating to type or kind according to mode of preparation or principle distinguishing characteristics. Also included are abbreviated terms for terms relating to copolymers, blends and alloys of plastics, and additives such as plasticizers, fillers, etc.

NOTE 1—A code relating to the composition of rubbers is given in Practice D1418.

1.3 No attempt is made here to systematize formally a shorthand terminology for polymers. Terminology, including nomenclature, codes, symbols, and formula designations for use in scientific literature in the field of natural and synthetic polymers, are being studied and standardized by the International Union of Pure and Applied Chemistry.²

1.4 These abbreviated terms are by no means all-inclusive of plastics terminology. They represent, in general, those terms that have come into established use. Since it is recognized that abbreviated terms serve no useful purpose unless they are generally accepted and used, no attempt has been made to establish a rigorous code for devising standard abbreviated terms. This would result in awkward departures from established usage of existing and accepted abbreviated terms and lead to cumbersome combinations in the future, which would not be likely to receive widespread acceptance. The abbreviated terms now in use have grown naturally out of the need for convenient, readily comprehended shorthand for long chemical names. This process can be expected to continue along the

natural lines of least resistance and will serve as a basis for further standardization as the need arises. A general guide for the preparation of abbreviated terms appears desirable, however, to facilitate more organized and uniform standardization in the future. An appendix is attached, which suggests a uniform way to prepare abbreviated terms.

1.5 Note that the uppercase letter F should be used to designate phosphate and that other elements may also be designated F.

1.6 An abbreviated term (FR) and code numbers are provided to identify classes of materials used as flame retardants added to plastics. The system is provided for use in situations where marking of plastics products is desired.

NOTE 2—Many of the abbreviated terms, codes, numbers, and symbols in ISO 1043 parts 1 through 4 and in ISO/DIS 1043-4 are the same as the corresponding item in ASTM D1600. D1600 includes a number of abbreviated terms that are not in ISO 1043.

1.7 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 ASTM Standards:³

D883 Terminology Relating to Plastics

D1418 Practice for Rubber and Rubber Latexes—Nomenclature

D1972 Practice for Generic Marking of Plastic Products (Withdrawn 2014)⁴

E176 Terminology of Fire Standards

2.2 ISO Standards:⁵

ISO 1043-1:2001 Plastics—Symbols—Part 1: Basic Polymers and Their Special Characteristics

¹ This terminology is under the jurisdiction of ASTM Committee D20 on Plastics and is the direct responsibility of Subcommittee D20.92 on Terminology.

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² “Report on Nomenclature in the Field of Macromolecules,” *Journal of Polymer Science*, Vol VIII, 1952, pp. 257–277.

³ For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard’s Document Summary page on the ASTM website.

⁴ The last approved version of this historical standard is referenced on www.astm.org.

⁵ Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036, <http://www.ansi.org>.

*A Summary of Changes section appears at the end of this standard

ISO 1043-2:2000 Plastics—Symbols—Part 2: Fillers and Reinforcing Materials

ISO 1043-3:1996 Plastics—Symbols—Part 3: Plasticizers

ISO 1043-4:1998 Plastics—Symbols and Abbreviated Terms—Part 4: Flame Retardants

3. Terminology

3.1 Definitions:

3.1.1 For definitions of general terms, see Terminology D883.

3.2 Definitions of Terms Specific to This Standard:

3.2.1 *flame retardant, FR, n*—a substance which, when added to a combustible material, inhibits flame spread of the resulting substance or material when exposed to flame impingement. (E176)

3.2.1.1 *Discussion*—Flame retardants may be incorporated in plastics as additives (additive flame retardant) or as chemical groups in the base polymer by use of reactive intermediates in the polymerization process (reactive flame retardant). The code numbers in Section 7 of this standard are restricted to additive flame retardants.

3.2.2 *flame retardant, adj*—not a defined term. Use only as a modifier with defined compound terms: flame-retardant chemical, flame-retardant coating, and flame-retardant treatment. (E176)

4. Terms and Abbreviated Terms

4.1 Plastics and Resins:⁶

Term	Abbreviated Term
Acrylonitrile/butadiene plastics	AB
Acrylonitrile-butadiene-acrylate plastics	ABA
Acrylonitrile-butadiene-styrene plastics	ABS
Acrylonitrile-chlorinated polyethylene-styrene plastics	ACPES
Acrylonitrile-ethylene-styrene plastics	AES
Acrylonitrile-methyl acrylate-acrylonitrile-butadiene rubber	AMAB
Acrylonitrile-methyl methacrylate plastics	AMMA
Acrylonitrile-styrene-acrylate plastics	ASA
Acrylonitrile/ethylene-propylene-diene/styrene	AEPDMS
Aromatic polyester	ARP
Carboxymethyl cellulose	CMC
Casein	CS
Caseine-formaldehyde resin	CSF
Cellulose acetate	CA
Cellulose acetate-butyrate	CAB
Cellulose acetate propionate	CAP
Cellulose formaldehyde	CEF

Term	Abbreviated Term
Cellulose nitrate	CN
Cellulose plastics, general	CE
Cellulose propionate	CP
Cellulose triacetate	CTA
Chlorinated poly(vinyl chloride)	CPVC
Chlorinated polyethylene	CPE
Cresol-formaldehyde resin	CF
Epoxy, epoxide	EP
Ethyl cellulose	EC
Ethylene acrylate	EA
Ethylene-chlorotrifluoroethylene copolymer	E-CTFE
Ethylene-ethyl acrylate plastics	EEA
Ethylene-methacrylic acid plastics	EMA
Ethylene-propylene polymer	EPM
Ethylene-propylene-diene plastics	EPD
Ethylene-tetrafluoroethylene copolymer	ETFE
Ethylene-vinyl acetate plastics	EVA
Ethylene-vinyl alcohol copolymer	EVOH
Fluorocarbon perfluoromethoxy	MPA
Furan formaldehyde resin	FF
General purpose polystyrene	GPSS
High density polyethylene plastics	HDPE
High impact-resistant polystyrene	HIPS
Impact resistant polystyrene	IPS
Linear low density polyethylene plastics	LLDPE
Linear medium density polyethylene plastics	LDMDPE
Liquid crystal polymer	LCP
Low density polyethylene plastics	LDPE
Medium density polyethylene plastics	MDPE
Melamine-formaldehyde resin	MF
Melamine/phenol-formaldehyde resin	MPF
Methacrylate-butadiene-styrene plastics	MBS
Methyl cellulose	MC
Methyl methacrylate-acrylonitrile-butadiene-styrene resin	MMABS
Nylon (see also polyamide)	PA
Perfluoro(alkoxy alkane)	PFA
Perfluoro(ethylene-propylene) copolymer	FEP
Perfluoromethoxy resin	MFA
Phenol-formaldehyde resin	PF
Phenol-furfural resin	PFF
Poly(acrylic acid)	PAA
Poly(allyl diglycol carbonate)	PADC
Poly(aryl ether ketone)	PAEK
Poly(butyl acrylate)	PBA
Poly(butylene adipate-co-succinate)	PBAS
Poly(butylene adipate-co-terephthalate)	PBAT
Poly(butylene succinate)	PBS
Poly(butylene terephthalate)	PBT
Poly(cyclohexylenedimethylene cyclohexandicarboxylate), glycoland acid comonomer	PCCE
Poly(cyclohexylenedimethylene terephthalate)	PCT

⁶ To prevent any confusion with or misuse of the registered trademark, PET[®] Milk, the guidelines of 8.1 shall be followed.