

# International Standard



# 6472

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## Rubber compounding ingredients — Abbreviations

*Ingrédients de mélange du caoutchouc — Abréviations*

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## 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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 6472 was prepared by Technical Committee ISO/TC 45, *Rubber and rubber products*.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

# Rubber compounding ingredients — Abbreviations

## 1 Scope and field of application

This International Standard establishes unambiguous abbreviations for commonly used rubber compounding ingredients other than polymers. The names are a consensus of world opinion.

These abbreviations are derived from common usage in industry and commerce rather than from any systematic nomenclature. The list is not intended to conflict with, but rather to act as a supplement to, existing tradenames and trademarks.

In technical papers or presentations, the name of the ingredient should be used, if possible. The symbols should follow the chemical name for use in later references.

The list does not purport to be comprehensive, and abbreviations for other compounding ingredients will be added in future revisions.

NOTE — This International Standard recognizes that two systems of abbreviation for some rubber chemicals are in widespread use. For example in the system favoured by North America and some other countries, the dithiocarbamate group is denoted by the symbol "DC", whereas in the system prevailing in many European countries this group is denoted by the single letter "C", with "D" being used to signify dialkyl or diaryl substitution. Abbreviations derived from the latter system are given as alternatives in the list below. Where there are two, the first designates the North American; the second the European.

## 2 Accelerators

|              |                                                                                                 |
|--------------|-------------------------------------------------------------------------------------------------|
| BiMDC; BiDMC | bismuth dimethyldithiocarbamate                                                                 |
| CBS          | <i>N</i> -cyclohexylbenzothiazole-2-sulfenamide;<br><i>N</i> -cyclohexylbenzothiazylsulfenamide |
| CdEDC; CdDEC | cadmium diethyldithiocarbamate                                                                  |
| CdMDC; CdDMC | cadmium dimethyldithiocarbamate                                                                 |
| CuMDC; CuDMC | copper dimethyldithiocarbamate                                                                  |
| DBA          | dibenzylamine                                                                                   |
| DBTU         | 1,3-dibutylthiourea                                                                             |
| DETU         | 1,3-diethylthiourea                                                                             |
| DOTG         | di- <i>o</i> -tolylguanidine                                                                    |
| DPG          | diphenylguanidine                                                                               |
| DPTH         | dipentamethylenethiuram hexasulfide                                                             |
| DTDM         | dithiodimorpholine                                                                              |
| ETU          | ethylene thiourea                                                                               |
| HMT          | hexamethylenetetramine                                                                          |
| LMDC; LDMC   | lead dimethyldithiocarbamate                                                                    |

|              |                                                                                                                   |
|--------------|-------------------------------------------------------------------------------------------------------------------|
| MBS          | 2-morpholinothiobenzothiazole;<br><i>N</i> -oxydiethylenebenzothiazole-2-sulfenamide                              |
| MBT          | 2-mercaptobenzothiazole;<br>2-benzothiazolinethione                                                               |
| MBTS         | benzothiazole disulfide;<br>benzothiazyl disulfide                                                                |
| SeMDC; SeDMC | selenium dimethyldithiocarbamate                                                                                  |
| TBBS         | <i>N</i> - <i>tert</i> -butylbenzothiazole-2-sulfenamide;<br><i>N</i> - <i>tert</i> -butylbenzothiazylsulfenamide |
| TeEDC; TeDEC | tellurium diethyldithiocarbamate                                                                                  |
| TETD         | tetraethylthiuram disulfide                                                                                       |
| TMTD         | tetramethylthiuram disulfide                                                                                      |
| TMTM         | tetramethylthiuram monosulfide                                                                                    |
| TU           | thiourea                                                                                                          |
| ZBDC; ZDBC   | zinc dibutyldithiocarbamate                                                                                       |
| ZEDC; ZDEC   | zinc diethyldithiocarbamate                                                                                       |
| ZMBT         | zinc-2-mercaptobenzothiazole                                                                                      |
| ZMDC; ZDMC   | zinc dimethyldithiocarbamate                                                                                      |

## 3 Antioxidants and antiozonants

|             |                                                                      |
|-------------|----------------------------------------------------------------------|
| APPD        | <i>N</i> -alkyl- <i>N'</i> -phenyl- <i>p</i> -phenylenediamine       |
| BMPPD; 77PD | <i>N,N'</i> -bis-(1,4-dimethylpentyl)- <i>p</i> -phenylenediamine    |
| CPPD        | <i>N</i> -cyclohexyl- <i>N'</i> -phenyl- <i>p</i> -phenylene-diamine |
| DLTDP       | dilauryl thiodipropionate                                            |
| DNPD        | <i>N,N'</i> -di-2-naphthyl- <i>p</i> -phenylenediamine               |
| DOPD; 88PD  | <i>N,N'</i> -dioctyl- <i>p</i> -phenylenediamine                     |
| DPA         | diphenylamine                                                        |
| DPDP        | <i>N,N'</i> -diphenyl- <i>p</i> -phenylenediamine                    |
| DTPD        | <i>N,N'</i> -ditolyl- <i>p</i> -phenylenediamine                     |
| EDTMQ; ETMQ | 6-ethoxy-1,2-dihydro-2,2,4-trimethyl-quinoline                       |
| IPPD        | <i>N</i> -isopropyl- <i>N'</i> -phenyl- <i>p</i> -phenylenediamine   |
| NBC; NDBC   | nickel dibutyldithiocarbamate                                        |
| ODPA        | octylated diphenylamine                                              |
| PANA; PAN   | <i>N</i> -phenyl- $\alpha$ -naphthylamine                            |
| PBNA; PBN   | <i>N</i> -phenyl- $\beta$ -naphthylamine                             |
| PPDPA       | <i>p</i> -isopropoxydiphenylamine                                    |
| SPH         | styrenated phenol                                                    |
| TNPP        | tri(nonylphenyl)phosphite                                            |
| ZMBI        | zinc-2-mercaptobenzimidazole                                         |

## 4 Plasticizers and softeners

|     |                       |
|-----|-----------------------|
| BOP | butyl octyl phthalate |
| DBP | dibutyl phthalate     |