
INTERNATIONAL STANDARD



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Rubbers and latices — Nomenclature

Caoutchouc et latex de caoutchouc — Nomenclature

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Descriptors : rubber, latex, nomenclature, designation, classification, codes.

FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up 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.

Prior to 1972, the results of the work of the technical committees were published as ISO Recommendations; these documents are in the process of being transformed into International Standards. As part of this process, Technical Committee ISO/TC 45, *Rubber and rubber products*, has reviewed ISO Recommendation R 1629-1971 and found it technically suitable for transformation. International Standard ISO 1629 therefore replaces ISO Recommendation R 1629-1971 (incorporating amendments approved in 1974 and 1976), to which it is technically identical.

ISO Recommendation R 1629 had been approved by the member bodies of the following countries :

Australia	Hungary	South Africa, Rep. of
Austria	India	Spain
Canada	Iran	Sweden
Colombia	Israel	Switzerland
Cuba	Italy	Thailand
Czechoslovakia	Netherlands	United Kingdom
Egypt, Arab Rep. of	New Zealand	U.S.A.

The member bodies of the following countries had expressed disapproval of the Recommendation on technical grounds :

France
U.S.S.R.

No member body disapproved the transformation of the Recommendation into an International Standard.

Rubbers and latices – Nomenclature

1 SCOPE AND FIELD OF APPLICATION

1.1 This International Standard establishes a system of general classification for the basic rubbers in both dry and latex forms, based on the chemical composition of the polymer chain.

1.2 The purpose of this International Standard is to standardize the terms used in industry, commerce and government, and it is not intended to conflict with, but rather to act as a supplement to, existing trade names and trade-marks.

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

2 RUBBERS

2.1 Rubbers, in both dry and latex forms, are classified and coded on the basis of the chemical composition of the polymer chain in the following manner :

- M Rubbers having a saturated chain of the polymethylene type.
- N Rubbers having nitrogen in the polymer chain.
- O Rubbers having oxygen in the polymer chain.
- R Rubbers having an unsaturated carbon chain, for example, natural rubber and synthetic rubbers derived at least partly from diolefins.
- Q Rubbers having silicone in the polymer chain.
- T Rubbers having sulphur in the polymer chain.
- U Rubbers having carbon, oxygen, and nitrogen in the polymer chain.

3 GROUP DESIGNATIONS

3.1 The "M" group includes rubbers having a saturated chain of the polymethylene type. The following classification is used :

- ACM Copolymers of ethylacrylate or other acrylates and a small amount of a monomer which facilitates vulcanization.
- ANM Ethylacrylate or other acrylate and acrylonitrile copolymers.
- CM Chloropolyethylene.
- CFM Polychlorotrifluoroethylene¹⁾.
- CSM Chlorosulphonylpolyethylene.
- EPDM Terpolymer of ethylene, propylene, and a diene with the residual unsaturated portion of the diene in the side chain.
- EPM Ethylene-propylene copolymer.
- FPM Rubbers having fluoro and fluoroalkyl or fluoroalkoxy substituent groups on the polymer chain.
- IM Polyisobutene.

3.2 The "O" group includes rubbers having oxygen in the polymer chain. The following classification is used :

- CO Polychloromethyloxiran (epichlorohydrin elastomer).
- ECO Ethylene oxide (oxiran) and chloromethyloxiran (epichlorohydrin copolymer).
- GPO Copolymer of propylene oxide and allyl glucidyl ether.

1) In ISO 1043, *Symbols for terms relating to plastics*, prepared by ISO/TC 61, *Plastics*, the abbreviation given for polychlorotrifluoroethylene is PCTFE.

3.3 The "R" group, in both dry and latex forms, is defined by inserting, before the word "rubber", the name of the monomer or monomers from which the rubber was prepared (except for natural rubber). The letter immediately preceding the letter "R" signifies the diolefin from which the rubber was prepared (except for natural rubber). Any letter or letters preceding the diolefin letter signifies the comonomer or comonomers. The following classification is used for members of the "R" group :

ABR	Acrylate-butadiene rubbers.
BR	Butadiene rubbers.
CR	Chloroprene rubbers.
IIR	Isobutene-isoprene rubbers.
IR	Isoprene rubbers, synthetic.
NBR	Nitrile-butadiene rubbers.
NCR	Nitrile-chloroprene rubbers.
NR	Isoprene rubbers natural.
PBR	Pyridine-butadiene rubbers.
SBR	Styrene-butadiene rubbers.
SCR	Styrene-chloroprene rubbers.
SIR	Styrene-isoprene rubbers.
NIR	Nitrile-isoprene rubbers.
PSBR	Pyridine-styrene-butadiene rubbers.

NOTE — Carboxylic rubbers are identified by the prefix letter "X".

3.3.1 Rubbers having substitute carboxylic acid groups (COOH) on the polymer chain are classified as follows :

XSBR	Carboxylic-styrene-butadiene.
XNBR	Carboxylic-nitrile-butadiene.

3.3.2 Rubbers containing halogen on the polymer chains are classified as follows :

BIIR	Bromo-isobutene-isoprene.
CIIR	Chloro-isobutene-isoprene.

3.4 The "Q" group, in both dry and latex forms, is defined by inserting the name of the substituent group on the polymer chain prior to the silicone designation. The following classification is used for members of the "Q" group :

MFQ	Silicone rubbers having both methyl and fluorine substituent groups on the polymer chain.
MPQ	Silicone rubbers having both methyl and phenyl substituent groups on the polymer chain.
MPVQ	Silicone rubbers having methyl, phenyl, and vinyl substituent groups on the polymer chain.
MQ	Silicone rubbers having only methyl substituent groups on the polymer chain, such as dimethyl polysiloxane.
MVQ	Silicone rubbers having both methyl and vinyl substituent groups on the polymer chain.

3.5 The "U" group includes rubbers having carbon, oxygen, and nitrogen in the polymer chain. The following classification is used :

AFMU	Terpolymer of tetrafluoroethylene-tri-fluoro-nitrosomethane and nitroso-perfluorobutyric acid.
AU	Polyester rubbers.
EU	Polyether rubbers.

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