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Man-made fibres — Generic names

Fibres chimiques — Noms génériques

Second edition — 1977-03-15

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FOREWORD

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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.

International Standard ISO 2076 was developed by Technical Committee ISO/TC 38, *Textiles*. This second edition incorporates draft Amendments 1 and 2, which were circulated to the member bodies in September 1975.

Amendment 1 was approved by the member bodies of the following countries :
countries :

Australia	Hungary	Romania
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Czechoslovakia	Netherlands	Turkey
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Germany
Italy

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Belgium	Italy
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This second edition cancels and replaces the first edition (i.e. ISO 2076-1973), which had been approved by the member bodies of the following countries :

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Belgium	Germany	Spain
Brazil	Greece	Sweden
Canada	India	Switzerland
Chile	Iran	Turkey
Czechoslovakia	Israel	United Kingdom
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Finland	Norway	

The member body of the following country had expressed disapproval of the document on technical grounds :

Japan

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Man-made fibres – Generic names

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1 SCOPE AND FIELD OF APPLICATION

This International Standard gives a list of generic names¹⁾, for technical and commercial use, of the different categories of man-made fibres at present manufactured on an industrial scale for textile and other purposes.

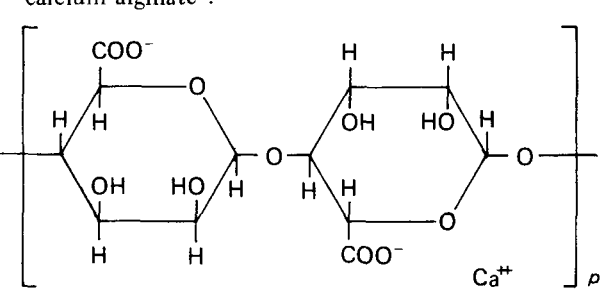
2 GENERAL DEFINITIONS

Man-made fibres include filament yarn, tows and staple fibres manufactured from natural or synthetic polymers.

The generic names given in the first column of the following table apply to fibres which include at least 85 % of the polymer described in the second column, the remaining portion up to 100 % being made up of additives not chemically linked with the said polymer.

1) In the English and French languages, the generic names need not be written with initial capital letters.

TABLE Generic names

Generic name	Constitution of polymer	Typical examples, chemical formulae or characteristics
cupro ¹⁾	cellulose II	regenerated cellulose obtained by the cuprammonium process
viscose ¹⁾	cellulose II	regenerated cellulose obtained by the viscose process
modal ¹⁾	cellulose II	regenerated cellulose obtained by processes giving a high tenacity and a high wet modulus. These fibres or filaments shall be able to resist in the wet state a load per unit linear density of 22,0 cN per tex. Under this load the elongation in the wet state shall not be greater than 15 %
deacetylated acetate ¹⁾	cellulose II	regenerated cellulose obtained by approximately complete deacetylation of a cellulose acetate
acetate	secondary cellulose acetate	cellulose acetate wherein less than 92 % but at least 74 % of the hydroxyl groups are acetylated
triacetate	cellulose triacetate	cellulose acetate wherein at least 92 % of the hydroxyl groups are acetylated
protein	regenerated natural protein	casein, arachin, zein, etc.
alginate	metallic salts of alginic acid	calcium alginate : 
acrylic	linear macromolecules having in the chain at least 85 % (by mass) of the recurring unit $-CH_2 - \underset{\substack{ \\ CN}}{CH} -$	polyacrylonitrile : $-(CH_2 - \underset{\substack{ \\ CN}}{CH})_p -$ and acrylic copolymer : $- \left[(CH_2 - \underset{\substack{ \\ CN}}{CH})_m - (CH_2 - \underset{\substack{ \\ Y}}{\overset{\substack{X \\ }}{C}})_n \right]_p -$

1) The name "rayon", in French *rayonne*, was not used by ISO in this International Standard because this name, used generically for regenerated cellulose fibres in some countries, does not have the same meaning everywhere. Each Member Body must determine its own position on this question and, should it be deemed necessary, define that position in its national standards.

Generic name	Constitution of polymer	Typical examples, chemical formulae or characteristics
aramid	<p>synthetic linear macromolecules made from aromatic groups joined by amide linkages, in which at least 85 % of the amide linkages are joined directly to two aromatic rings and in which imide groups may be substituted for up to 50 % of the amide groups</p>	<p><i>Example 1 :</i></p> $- \left[\text{OC} - \text{Ar} - \text{CO} - \text{NH} - \text{Ar} - \text{NH} \right]_p -$ <p><i>Example 2 :</i></p> $- \left[\left(\text{OC} - \text{C}_6\text{H}_4 - \text{CO} \right)_m - \left(\text{OC} - \text{Ar} - \text{CO} - \text{NH} - \text{Ar} - \text{NH} \right)_n \right]_p -$ <p>NOTE – In each example the aromatic radicals Ar may be alike or different.</p>
chlorofibre	<p>linear macromolecules having in the chain more than 50 % (by mass) of vinyl chloride or vinylidene chloride units (more than 65 % in the case where the rest of the chain is made up of acrylonitrile, the modacrylic fibres being thus excluded)</p>	<p>poly(vinyl chloride) :</p> $- (\text{CH}_2 - \text{CH Cl})_p -$ <p>and</p> <p>poly(vinylidene chloride) :</p> $- (\text{CH}_2 - \text{C Cl}_2)_p -$
elastane¹⁾	<p>elastomer composed of at least 85 % (by mass) of a segmented polyurethane</p>	<p>fibre which, when stretched to three times its original length and released, recovers rapidly and substantially to its initial length</p>
elastodiene¹⁾	<p>elastomer composed of natural or synthetic polyisoprene, or composed of one or more dienes polymerized with or without one or more vinyl monomers</p>	<p>fibre which, when stretched to three times its original length and released, recovers rapidly and substantially to its initial length</p>
fluorofibre	<p>linear macromolecules made from fluorocarbon aliphatic monomers</p>	<p>– polytetrafluoroethylene :</p> $- (\text{CF}_2 - \text{CF}_2)_p -$ <p>– polyhexafluoropropylene</p> <p>– polychlorotrifluoroethylene</p>

1) Forms part of the class of elastofibres.

Generic name	Constitution of polymer	Typical examples, chemical formulae or characteristics
modacrylic	linear macromolecules having in the chain at least 35 % and less than 85 % (by mass) of the recurring unit : $- \text{CH}_2 - \underset{\text{CN}}{\text{CH}} -$	acrylic copolymer : $- \left[\text{(CH}_2 - \underset{\text{CN}}{\text{CH}})_m \cdot \text{(CH}_2 - \underset{\text{Y}}{\overset{\text{X}}{\text{C}}})_n \right]_p -$
polyamide ¹⁾ or nylon	synthetic linear macromolecules having in the chain recurring amide linkages at least 85 % of which are joined to aliphatic or cycloaliphatic groups	polyhexamethylene adipamide (polyamide 6.6) : $- \left[\text{NH} - (\text{CH}_2)_6 - \text{NH} - \text{CO} - (\text{CH}_2)_4 - \text{CO} \right]_p -$ polycaproamide (polyamide 6) : $- \left[\text{NH} - (\text{CH}_2)_5 - \text{CO} \right]_p -$ and polyundecanamide (polyamide 11) : $- \left[\text{NH} - (\text{CH}_2)_{10} - \text{CO} \right]_p -$
polycarbamide	linear macromolecules having in the chain the recurring functional group $- \text{NH} - \text{CO} - \text{NH} -$	polymethylene urea : $- \left[(\text{CH}_2)_m - \text{NH} - \text{CO} - \text{NH} \right]_p -$
polyester	linear macromolecules having in the chain at least 85 % (by mass) of an ester of a diol and terephthalic acid	polyethylene terephthalate : $- \left[\text{OC} - \text{C}_6\text{H}_4 - \text{COO} - \text{CH}_2 - \text{CH}_2 - \text{O} \right]_p -$
polyethylene ²⁾	unsubstituted aliphatic saturated hydrocarbon linear macromolecule	polyethylene : $- (\text{CH}_2 - \text{CH}_2)_p -$

1) The definition of the name "polyamide" given in this International Standard concerns only the technical and commercial uses of the man-made fibres to which it applies; it is not intended to cover all polyamide compounds (of which the products called "aramid" represent a special kind), but is merely the continuation of a fibre name established at a time when polyamide fibres other than aliphatic had not yet been developed.

2) Forms part of the class of polyolefins.

Generic name	Constitution of polymer	Typical examples, chemical formulae or characteristics
polypropylene ¹⁾	aliphatic saturated hydrocarbon linear macromolecule, where one carbon atom in two carries a methyl side chain, generally in an isotactic disposition and without further substitution	polypropylene : $-(\text{CH}_2 - \underset{\text{CH}_3}{\text{CH}})_p-$
polyurethane	linear macromolecules composed of chains with the recurring functional group $- \text{O} - \text{CO} - \text{NH} -$	based on polymethylene dicarbamate : $- \left[\text{NH} - (\text{CH}_2)_m - \text{NH} - \text{CO} - \text{O} - (\text{CH}_2)_n - \text{O} - \text{CO} \right]_p -$
trivinyll	terpolymer of acrylonitrile, a chlorinated vinyl monomer, and a third vinyl monomer, none of which represents as much as 50 % of the total mass	
glass ²⁾	mixed silicates	aluminium, calcium and magnesium borosilicates
vinyllal	linear macromolecules of poly(vinyl alcohol) with different levels of acetalization	acetalized poly(vinyl alcohol) : $- \left[(\text{CH}_2 - \underset{\text{OH}}{\text{CH}})_m - (\text{CH}_2 - \underset{\text{O} - \text{R}}{\text{CH}} - \text{CH}_2 - \underset{\text{O}}{\text{CH}})_n \right]_p -$ <p>when $n \geq 0$</p>

1) Forms part of the class of polyolefins.

2) Is also, in some European countries, called *verranne* when it is in the form of staple fibres and *silonne* when in the form of continuous yarns.