

CPC COOPERATIVE PATENT CLASSIFICATION

D TEXTILES; PAPER

TEXTILES OR FLEXIBLE MATERIALS NOT OTHERWISE PROVIDED FOR

D01 **NATURAL OR ARTIFICIAL THREADS OR FIBRES; SPINNING** ([metal threads B21](#); [fibres or filaments of softened glass, minerals, or slag C03B 37/00](#); [yarns D02](#))
(NOTE omitted)

D01F **CHEMICAL FEATURES IN THE MANUFACTURE OF ARTIFICIAL FILAMENTS, THREADS, FIBRES, BRISTLES OR RIBBONS; APPARATUS SPECIALLY ADAPTED FOR THE MANUFACTURE OF CARBON FILAMENTS**

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

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|-------------|--|--------------------|--|
| 1/00 | General methods for the manufacture of artificial filaments or the like | 4/00 | Monocomponent artificial filaments or the like of proteins; Manufacture thereof |
| 1/02 | . Addition of substances to the spinning solution or to the melt (addition of substances to viscose D01F 2/08 - D01F 2/20) | 4/02 | . from fibroin |
| 1/04 | . . Pigments | 4/04 | . from casein |
| 1/06 | . . Dyes | 4/06 | . from globulins, e.g. groundnut protein |
| 1/07 | . . for making fire- or flame-proof filaments | 6/00 | Monocomponent artificial filaments or the like of synthetic polymers; Manufacture thereof |
| 1/08 | . . for forming hollow filaments | 6/02 | . from homopolymers obtained by reactions only involving carbon-to-carbon unsaturated bonds |
| 1/09 | . . for making electroconductive or anti-static filaments | 6/04 | . . from polyolefins |
| 1/10 | . . Other agents for modifying properties | 6/06 | . . . from polypropylene |
| 1/103 | . . . { Agents inhibiting growth of microorganisms } | 6/08 | . . from polymers of halogenated hydrocarbons |
| 1/106 | . . . { Radiation shielding agents, e.g. absorbing, reflecting agents } | 6/10 | . . . from polyvinyl chloride or polyvinylidene chloride |
| 2/00 | Monocomponent artificial filaments or the like of cellulose or cellulose derivatives; Manufacture thereof | 6/12 | . . . from polymers of fluorinated hydrocarbons |
| 2/02 | . from solutions of cellulose in acids, bases or salts | 6/14 | . . from polymers of unsaturated alcohols, e.g. polyvinyl alcohol, or of their acetals or ketals |
| 2/04 | . . from cuprammonium solutions | 6/16 | . . from polymers of unsaturated carboxylic acids or unsaturated organic esters, e.g. polyacrylic esters, polyvinyl acetate |
| 2/06 | . from viscose (preparation of alkali cellulose C08B) | 6/18 | . . from polymers of unsaturated nitriles, e.g. polyacrylonitrile, polyvinylidene cyanide |
| 2/08 | . . Composition of the spinning solution or the bath (preparing or dissolving cellulose xanthate C08B) | 6/20 | . . from polymers of cyclic compounds with one carbon-to-carbon double bond in the side chain |
| 2/10 | . . . Addition to the spinning solution or spinning bath of substances which exert their effect equally well in either | 6/22 | . . . from polystyrene |
| 2/12 | . . . Addition of delustering agents to the spinning solution | 6/24 | . . from polymers of aliphatic compounds with more than one carbon-to-carbon double bond |
| 2/14 | Addition of pigments | 6/26 | . . from other polymers |
| 2/16 | . . . Addition of dyes to the spinning solution | 6/28 | . from copolymers obtained by reactions only involving carbon-to-carbon unsaturated bonds |
| 2/18 | . . . Addition to the spinning solution of substances to influence ripening | <u>NOTE</u> | |
| 2/20 | . . . for the manufacture of hollow threads | | For the purposes of groups D01F 6/30 - D01F 6/96, the percentage for determining the major constituent is expressed in mole percent. |
| 2/22 | . . by the dry spinning process | | |
| 2/24 | . from cellulose derivatives | | |
| 2/26 | . . from nitrocellulose | | |
| 2/28 | . . from organic cellulose esters or ethers, e.g. cellulose acetate | 6/30 | . . comprising olefins as the major constituent |
| 2/30 | . . . by the dry spinning process | 6/32 | . . comprising halogenated hydrocarbons as the major constituent |

- 6/34 . . comprising unsaturated alcohols, acetals or ketals as the major constituent
- 6/36 . . comprising unsaturated carboxylic acids or unsaturated organic esters as the major constituent
- 6/38 . . comprising unsaturated nitriles as the major constituent
- 6/40 . . Modacrylic fibres, i.e. containing 35 to 85% acrylonitrile
- 6/42 . . comprising cyclic compounds containing one carbon-to-carbon double bond in the side chain as major constituent
- 6/44 . from mixtures of polymers obtained by reactions only involving carbon-to-carbon unsaturated bonds as major constituent with other polymers or low-molecular-weight compounds
- 6/46 . . of polyolefins
- 6/48 . . of polymers of halogenated hydrocarbons
- 6/50 . . of polyalcohols, polyacetals or polyketals
- 6/52 . . of polymers of unsaturated carboxylic acids or unsaturated esters
- 6/54 . . of polymers of unsaturated nitriles
- 6/56 . . of polymers of cyclic compounds with one carbon-to-carbon double bond in the side chain
- 6/58 . from homopolycondensation products
- 6/60 . . from polyamides (from polyamino acids or polypeptides [D01F 6/68](#))
- 6/605 . . . {from aromatic polyamides}
- 6/62 . . from polyesters
- 6/625 . . . {derived from hydroxy-carboxylic acids, e.g. lactones}
- 6/64 . . . from polycarbonates
- 6/66 . . from polyethers
- 6/665 . . . {from polyetherketones, e.g. PEEK}
- 6/68 . . from polyaminoacids or polypeptides
- 6/70 . . from polyurethanes
- 6/72 . . from polyureas
- 6/74 . . from polycondensates of cyclic compounds, e.g. polyimides, polybenzimidazoles
- 6/76 . . from other polycondensation products
- 6/765 . . . {from polyarylene sulfides}
- 6/78 . from copolycondensation products
- 6/80 . . from copolyamides
- 6/805 . . . {from aromatic copolyamides}
- 6/82 . . from polyester amides or polyether amides
- 6/84 . . from copolyesters
- 6/86 . . from polyetheresters
- 6/88 . from mixtures of polycondensation products as major constituent with other polymers or low-molecular-weight compounds
- 6/90 . . of polyamides
- 6/905 . . . {of aromatic polyamides}
- 6/92 . . of polyesters
- 6/94 . . of other polycondensation products
- 6/96 . from other synthetic polymers
- 8/00 Conjugated, i.e. bi- or multicomponent, artificial filaments or the like; Manufacture thereof**
- 8/02 . from cellulose, cellulose derivatives, or proteins
- 8/04 . from synthetic polymers
- 8/06 . . with at least one polyolefin as constituent
- 8/08 . . with at least one polyacrylonitrile as constituent
- 8/10 . . with at least one other macromolecular compound obtained by reactions only involving carbon-to-carbon unsaturated bonds as constituent
- 8/12 . . with at least one polyamide as constituent
- 8/14 . . with at least one polyester as constituent
- 8/16 . . with at least one other macromolecular compound obtained otherwise than by reactions only involving carbon-to-carbon unsaturated bonds as constituent
- 8/18 . from other substances
- 9/00 Artificial filaments or the like of other substances; Manufacture thereof; Apparatus specially adapted for the manufacture of carbon filaments**
- 9/02 . of reaction products of rubber with acids or acid anhydrides, e.g. sulfur dioxide
- 9/04 . of alginates
- 9/08 . of inorganic material (from softened glass, minerals or slags [C03B 37/00](#); {obtaining ceramic fibres [C04B 35/62227](#)}; incandescent bodies [F21H](#), [H01K 1/02](#), [H01K 3/02](#))
- 9/10 . . by decomposition of organic substances ([D01F 9/12](#) takes precedence)
- 9/12 . . Carbon filaments; Apparatus specially adapted for the manufacture thereof ({with fullerene structure, e.g. carbon nanotubes [C01B 32/15](#)})
- 9/127 . . . by thermal decomposition of hydrocarbon gases or vapours {or other carbon-containing compounds in the form of gas or vapour, e.g. carbon monoxide, alcohols}
- 9/1271 {Alkanes or cycloalkanes}
- 9/1272 {Methane}
- 9/1273 {Alkenes, alkynes}
- 9/1274 {Butadiene}
- 9/1275 {Acetylene}
- 9/1276 {Aromatics, e.g. toluene}
- 9/1277 {Other organic compounds}
- 9/1278 {Carbon monoxide}
- 9/133 Apparatus therefor
- 9/14 . . . by decomposition of organic filaments
- 9/145 from pitch or distillation residues
- 9/15 from coal pitch
- 9/155 from petroleum pitch
- 9/16 from products of vegetable origin or derivatives thereof, e.g. from cellulose acetate ([D01F 9/18](#) takes precedence)
- 9/17 from lignin
- 9/18 from proteins, e.g. from wool
- 9/20 from polyaddition, polycondensation or polymerisation products ([D01F 9/145](#), [D01F 9/16](#), [D01F 9/18](#) take precedence)
- 9/21 from macromolecular compounds obtained by reactions only involving carbon-to-carbon unsaturated bonds
- 9/22 from polyacrylonitriles
- 9/225 {from stabilised polyacrylonitriles}
- 9/24 from macromolecular compounds obtained otherwise than by reactions only involving carbon-to-carbon unsaturated bonds
- 9/245 {from polyurethanes}
- 9/26 from polyesters
- 9/28 from polyamides
- 9/30 from aromatic polyamides
- 9/32 Apparatus therefor

- 9/322 {for manufacturing filaments from pitch}
- 9/324 {for manufacturing filaments from products of vegetable origin}
- 9/326 {for manufacturing filaments from proteins}
- 9/328 {for manufacturing filaments from polyaddition, polycondensation, or polymerisation products}
- 11/00 Chemical after-treatment of artificial filaments or the like during manufacture** ({of artificial filaments from softened glass, minerals or slags [C03C](#); from ceramics [C04B](#); finishing [D06M](#))
- 11/02 . of cellulose, cellulose derivatives, or proteins
- 11/04 . of synthetic polymers
- 11/06 . . of macromolecular compounds obtained by reactions only involving carbon-to-carbon unsaturated bonds
- 11/08 . . of macromolecular compounds obtained otherwise than by reactions only involving carbon-to-carbon unsaturated bonds
- 11/10 . of carbon
- 11/12 . . with inorganic substances {Intercalation}
- 11/121 . . . {Halogen, halogenic acids or their salts}
- 11/122 . . . {Oxygen, oxygen-generating compounds (anode oxidising [D01F 11/16](#))}
- 11/123 . . . {Oxides}
- 11/124 . . . {Boron, borides, boron nitrides}
- 11/125 . . . {Carbon}
- 11/126 . . . {Carbides (boron-comprising compounds [D01F 11/124](#); nitrogen carbide [D01F 11/128](#))}
- 11/127 . . . {Metals (metal depositing by electrolysis [D01F 11/16](#); metal alloys with reinforcing carbon fibres [C22C 49/14](#))}
- 11/128 . . . {Nitrides, nitrogen carbides (nitrogen borides [D01F 11/124](#))}
- 11/129 . . . {Intercalated carbon- or graphite fibres}
- 11/14 . . with organic compounds, e.g. macromolecular compounds
- 11/16 . . by physicochemical methods
- 13/00 Recovery of starting material, waste material or solvents during the manufacture of artificial filaments or the like**
- 13/02 . of cellulose, cellulose derivatives or proteins {(recovery of sodium sulfate from coagulation baths [C01D 5/006](#))}
- 13/04 . of synthetic polymers