

# CPC COOPERATIVE PATENT CLASSIFICATION

## D TEXTILES; PAPER

### TEXTILES OR FLEXIBLE MATERIALS NOT OTHERWISE PROVIDED FOR

#### D01 NATURAL OR MAN-MADE THREADS OR FIBRES; SPINNING

(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

<b>1/00</b>	<b>General methods for the manufacture of artificial filaments or the like</b>	<b>6/00</b>	<b>Monocomponent artificial filaments or the like of synthetic polymers; Manufacture thereof</b>
1/02	<ul style="list-style-type: none"> <li>Addition of substances to the spinning solution or to the melt (<a href="#">addition of substances to viscose D01F 2/08</a>)</li> </ul>		<b>NOTE</b>
1/04	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>Pigments</li> </ul> </li> </ul>		In this group, the percentage for determining the major constituent is expressed in mole percent.
1/06	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>Dyes</li> </ul> </li> </ul>	6/02	<ul style="list-style-type: none"> <li>from homopolymers obtained by reactions only involving carbon-to-carbon unsaturated bonds</li> </ul>
1/07	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>for making fire- or flame-proof filaments</li> </ul> </li> </ul>	6/04	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>from polyolefins</li> </ul> </li> </ul>
1/08	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>for forming hollow filaments</li> </ul> </li> </ul>	6/06	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>from polypropylene</li> </ul> </li> </ul>
1/09	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>for making electroconductive or anti-static filaments</li> </ul> </li> </ul>	6/08	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>from polymers of halogenated hydrocarbons</li> </ul> </li> </ul>
1/10	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>Other agents for modifying properties</li> </ul> </li> </ul>	6/10	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>from polyvinyl chloride or polyvinylidene chloride</li> </ul> </li> </ul>
1/103	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>{<a href="#">Agents inhibiting growth of microorganisms</a>}</li> </ul> </li> </ul>	6/12	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>from polymers of fluorinated hydrocarbons</li> </ul> </li> </ul>
1/106	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>{<a href="#">Radiation shielding agents, e.g. absorbing, reflecting agents</a>}</li> </ul> </li> </ul>	6/14	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>from polymers of unsaturated alcohols, e.g. polyvinyl alcohol, or of their acetals or ketals</li> </ul> </li> </ul>
<b>2/00</b>	<b>Monocomponent artificial filaments or the like of cellulose or cellulose derivatives; Manufacture thereof</b>	6/16	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>from polymers of unsaturated carboxylic acids or unsaturated organic esters, e.g. polyacrylic esters, polyvinyl acetate</li> </ul> </li> </ul>
2/02	<ul style="list-style-type: none"> <li>from solutions of cellulose in acids, bases or salts</li> </ul>	6/18	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>from polymers of unsaturated nitriles, e.g. polyacrylonitrile, polyvinylidene cyanide</li> </ul> </li> </ul>
2/04	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>from cuprammonium solutions</li> </ul> </li> </ul>	6/20	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>from polymers of cyclic compounds with one carbon-to-carbon double bond in the side chain</li> </ul> </li> </ul>
2/06	<ul style="list-style-type: none"> <li>from viscose</li> </ul>	6/22	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>from polystyrene</li> </ul> </li> </ul>
2/08	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>Composition of the spinning solution or the bath</li> </ul> </li> </ul>	6/24	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>from polymers of aliphatic compounds with more than one carbon-to-carbon double bond</li> </ul> </li> </ul>
2/10	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>Addition to the spinning solution or spinning bath of substances which exert their effect equally well in either</li> </ul> </li> </ul> </li> </ul>	6/26	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>from other polymers</li> </ul> </li> </ul>
2/12	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>Addition of delustering agents to the spinning solution</li> </ul> </li> </ul> </li> </ul>	6/28	<ul style="list-style-type: none"> <li>from copolymers obtained by reactions only involving carbon-to-carbon unsaturated bonds</li> </ul>
2/14	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>Addition of pigments</li> </ul> </li> </ul> </li> </ul>	6/30	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>comprising olefins as the major constituent</li> </ul> </li> </ul>
2/16	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>Addition of dyes to the spinning solution</li> </ul> </li> </ul> </li> </ul>	6/32	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>comprising halogenated hydrocarbons as the major constituent</li> </ul> </li> </ul>
2/18	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>Addition to the spinning solution of substances to influence ripening</li> </ul> </li> </ul> </li> </ul>	6/34	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>comprising unsaturated alcohols, acetals or ketals as the major constituent</li> </ul> </li> </ul>
2/20	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>for the manufacture of hollow threads</li> </ul> </li> </ul> </li> </ul>	6/36	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>comprising unsaturated carboxylic acids or unsaturated organic esters as the major constituent</li> </ul> </li> </ul>
2/22	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>by the dry spinning process</li> </ul> </li> </ul>	6/38	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>comprising unsaturated nitriles as the major constituent</li> </ul> </li> </ul>
2/24	<ul style="list-style-type: none"> <li>from cellulose derivatives</li> </ul>	6/40	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>Modacrylic fibres, i.e. containing 35 to 85% acrylonitrile</li> </ul> </li> </ul>
2/26	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>from nitrocellulose</li> </ul> </li> </ul>	6/42	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>comprising cyclic compounds containing one carbon-to-carbon double bond in the side chain as major constituent</li> </ul> </li> </ul>
2/28	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>from organic cellulose esters or ethers, e.g. cellulose acetate</li> </ul> </li> </ul>		
2/30	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>by the dry spinning process</li> </ul> </li> </ul>		
<b>4/00</b>	<b>Monocomponent artificial filaments or the like of proteins; Manufacture thereof</b>		
4/02	<ul style="list-style-type: none"> <li>from fibroin</li> </ul>		
4/04	<ul style="list-style-type: none"> <li>from casein</li> </ul>		
4/06	<ul style="list-style-type: none"> <li>from globulins, e.g. groundnut protein</li> </ul>		

- 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 (working or processing of metal wire [B21F](#); from softened glass, minerals or slags [C03B 37/00](#))
- 9/10 . . . by decomposition of organic substances ([D01F 9/12](#) takes precedence)
- 9/12 . . . Carbon filaments; Apparatus specially adapted for the manufacture thereof
- 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**
- 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

## D01F

- 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