

CPC COOPERATIVE PATENT CLASSIFICATION

D TEXTILES; PAPER

TEXTILES OR FLEXIBLE MATERIALS NOT OTHERWISE PROVIDED FOR

D04 BRAIDING; LACE-MAKING; KNITTING; TRIMMINGS; NON-WOVEN FABRICS

D04H MAKING TEXTILE FABRICS, e.g. FROM FIBRES OR FILAMENTARY MATERIAL (weaving [D03](#); knitting [D04B](#); braiding [D04C](#); net-making [D04G](#); sewing [D05B](#); tufting [D05C](#); finishing non-woven fabrics [D06](#)); FABRICS MADE BY SUCH PROCESSES OR APPARATUS, e.g. FELTS, NON-WOVEN FABRICS; COTTON-WOOL; WADDING {; NON-WOVEN FABRICS FROM STAPLE FIBRES, FILAMENTS OR YARNS, BONDED WITH AT LEAST ONE WEB-LIKE MATERIAL DURING THEIR CONSOLIDATION}(non-woven fabrics having an intermediate or external layer of a different kind, e.g. of woven fabric, [B32B](#))

NOTES

- In this subclass, the following terms or expressions are used with the meaning indicated:
 - "non-woven fabrics" means fabrics formed wholly or partly of textile material by processes comprising operations other than the weaving, knitting, braiding, lacing or knotting of yarns, threads or filaments for which provision is made in other subclasses of section [D](#). This expression includes felts, cotton-wool and wadding;
 - "fibre" means a relatively-short, elongated member of natural or man-made material;
 - "filament" means an endless or quasi-endless, elongated member of natural or man-made material;
 - "yarn" means a unitary assembly of fibres, usually produced by spinning;
 - "thread" means an assembly of yarns or filaments, usually produced by twisting;
 - "synthetic" fibres or filaments means fibres or filaments or the like manufactured from synthesising polymers or small molecules. Examples are polyamide, acrylic, polyester or carbon fibres;
 - "artificial" fibres or filaments means fibres or filaments or the like manufactured by man from natural polymers or their derivatives. Examples are regenerated cellulosic fibres or semi-synthetic fibres;
 - "man-made" fibres or filaments means fibres or filaments which are manufactured by man including "synthetic" or "artificial" fibres.
- In this subclass:
 - some of the non-woven fabrics can also be regarded as "layered products" within the meaning of subclass [B32B](#), and further classification in that subclass should be considered in accordance with the notes thereto;
 - in cases where the making of non-woven fabrics involves the use of particular chemical compounds or compositions, e.g. for treating or bonding fibres, filaments or yarns, further classification in other appropriate subclasses should also be considered.
- By varying the proportions of fibres or threads, and the chemical compounds or compositions, the final products may be given the appearance of paper, cardboard, leather or the like.

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.

Kinds or types of non-woven fabrics; Apparatus or processes for making such products

1/00 Non-woven fabrics formed wholly or mainly of staple fibres or like relatively short fibres

1/005 . {[Making three-dimensional articles by consolidation \(D04H 1/22 takes precedence\)](#)}

WARNING

This group is no longer used for the classification of new documents as from April 1, 2011.

The backfile is being reclassified into groups [D04H 1/00](#), [D04H 1/42](#)

1/02 . Cotton wool; Wadding

1/04 . from fleeces or layers composed of fibres having existing or potential cohesive properties, e.g. natural fibres, prestretched or fibrillated artificial fibres ([felting apparatus D04H 17/00](#))

1/06 . . by treatment to produce shrinking, swelling, crimping or curling of fibres

WARNING

Groups [D04H 1/067](#) and [D04H 1/073](#) are not complete pending a reorganisation. See also group [D04H 1/06](#)

1/067 . . . Regenerated cellulose series

1/073 . . . Acrylonitrile series

1/08 . . and hardened by felting; Felts or felted products

1/09	. . . Silk	1/4366	. . . . Phenol series
	WARNING	1/4374	. . . using different kinds of webs, e.g. by layering webs
	Group D04H 1/09 is not complete pending a reorganisation. See also group D04H 1/08	1/4382	. . . Stretched reticular film fibres; Composite fibres; Mixed fibres; Ultrafine fibres; Fibres for artificial leather
1/10	. . . Felts made from mixtures of fibres	1/43825	. . . . {Composite fibres}
1/12	. . . . and incorporating artificial organic fibres	1/43828	. . . . {sheath-core}
1/14	. . . . and incorporating inorganic fibres	1/4383	. . . . {sea-island}
1/16	. . . Laminated felts in which the separate layers are united by a felting process	1/43832	. . . . {side-by-side}
1/20	. . . Felts incorporating inserts or attachments, e.g. for ornamental purposes	1/43835	. . . . {Mixed fibres, e.g. at least two chemically different fibres or fibre blends}
1/22	. . . Three-dimensional articles formed by felting processes	1/43838	. . . . {Ultrafine fibres, e.g. microfibrres}
1/24	. . . Covers felted on to three-dimensional articles	1/4391	. . . characterised by the shape of the fibres
1/26	. . Wood pulp	1/43912	. . . . {fibres with noncircular cross-sections}
1/28	. . Regenerated cellulose series	1/43914	. . . . {hollow fibres}
1/30	. . Collagen	1/43916	. . . . {microcellular fibres, e.g. porous or foamed fibres}
1/32	. . Synthetic pulp	1/43918	. . . . {nonlinear fibres, e.g. crimped or coiled fibres}
1/40	. from fleeces or layers composed of fibres without existing or potential cohesive properties	1/44	. . the fleeces or layers being consolidated by mechanical means, e.g. by rolling
	WARNING	1/45	. . . by forming intermeshing loops or stitches from some of the fibres
	Groups D04H 1/407 and D04H 1/413 are not complete pending a reorganisation. See also group D04H 1/40	1/46	. . . by needling or like operations to cause entanglement of fibres (D04H 1/45 takes precedence; needling machines D04H 18/00)
	Group D04H 1/407 is not complete pending a reorganisation. See also group D04H 1/40	1/465	. . . . {Hydraulic needling}
1/407	. . containing absorbing substances, e.g. activated carbon		WARNING
1/413	. . containing granules other than absorbent substances		This group is no longer used for the classification of new documents as from April 1, 2011. The backlog of this group is being continuously reclassified to D04H 1/42 and sub-groups, D04H 1/46 , D04H 1/492 , D04H 1/495 and D04H 18/04
1/42	. . characterised by the use of certain kinds of fibres insofar as this use has no preponderant influence on the consolidation of the fleece		
	WARNING	1/48	. . . . in combination with at least one other method of consolidation
	Groups D04H 1/4209 - D04H 1/52 are not complete pending a reorganisation. See also group D04H 1/4209 and other subgroups of D04H 1/42	1/482	. . . . in combination with shrinkage
1/4209	. . . Inorganic fibres	1/485	. . . . in combination with weld-bonding
1/4218	. . . . Glass fibres	1/488	. . . . in combination with bonding agents
1/4226	. . . . characterised by the apparatus for manufacturing the glass fleece	1/49	. . . . entanglement by fluid jet in combination with another consolidation means
1/4234	. . . . Metal fibres	1/492	. . . . by fluid jet (D04H 1/49 takes precedence)
1/4242	. . . . Carbon fibres	1/495	. . . . for formation of patterns, e.g. drilling or rearrangement
1/425	. . . Cellulose series	1/498	. . . . entanglement of layered webs
1/4258	. . . . Regenerated cellulose series	1/50	. . . by treatment to produce shrinking, swelling, crimping or curling of fibres (in combination with needling D04H 1/482)
1/4266	. . . Natural fibres not provided for in group D04H 1/425	1/52	. . . by applying or inserting filamentary binding elements
1/4274	. . . Rags; Fabric scraps	1/54	. . by welding together the fibres, e.g. by partially melting or dissolving (in combination with needling D04H 1/485)
1/4282	. . . Addition polymers		
1/4291	. . . . Olefin series		
1/43	. . . . Acrylonitrile series		
1/4309	. . . . Polyvinyl alcohol		
1/4318	. . . . Fluorine series		
1/4326	. . . Condensation or reaction polymers		
1/4334	. . . . Polyamides		
1/4342	. . . . . Aromatic polyamides		
1/435	. . . . Polyesters		
1/4358	. . . . Polyurethanes		

- 1/5405 . . . {at spaced points or locations}
- WARNING**
- This group is no longer used for the classification of new documents as from April 1, 2011. The backlog of this group is being continuously reclassified to [D04H 1/42](#) and sub-groups, [D04H 1/54](#) and sub-groups
- 1/541 . . . Composite fibres, e.g. sheath-core, sea-island or side-by-side; Mixed fibres
- 1/5412 {sheath-core}
- 1/5414 {side-by-side}
- 1/5416 {sea-island}
- 1/5418 {Mixed fibres, e.g. at least two chemically different fibres or fibre blends}
- 1/542 . . . Adhesive fibres
- 1/544 Olefin series
- 1/545 Polyvinyl alcohol
- 1/546 Polyvinyl acetate
- 1/548 Acrylonitrile series
- 1/549 Polyamides
- 1/55 Polyesters
- 1/551 Resins thereof not provided for in groups [D04H 1/544](#) - [D04H 1/55](#)
- 1/552 . . . by applying solvents or auxiliary agents
- 1/554 . . . by radio-frequency heating
- 1/555 . . . by ultrasonic heating
- 1/556 . . . by infrared heating
- 1/558 . . . in combination with mechanical or physical treatments other than embossing
- 1/559 . . . the fibres being within layered webs
- 1/56 . . . in association with fibre formation, e.g. immediately following extrusion of staple fibres
- 1/565 {by melt-blowing}
- WARNING**
- This group is no longer used for the classification of new documents as from April 1, 2011. The backlog of this group is being continuously reclassified to [D04H 1/42](#) and sub-groups, [D04H 1/54](#) and sub-groups
- 1/58 . . by applying, incorporating or activating chemical or thermoplastic bonding agents, e.g. adhesives (in combination with needling [D04H 1/488](#))
- WARNING**
- Groups [D04H 1/587](#) - [D04H 1/68](#) are not complete pending a reorganisation. See also groups [D04H 1/64](#) and other subgroups of [D04H 1/58](#)
- 1/587 . . . characterised by the bonding agents used
- 1/593 . . . to layered webs
- 1/60 . . . the bonding agent being applied in dry state, e.g. thermo-activatable agents in solid or molten state, and heat being applied subsequently
- 1/62 at spaced points or locations
- 1/64 . . . the bonding agent being applied in wet state, e.g. chemical agents in dispersions or solutions
- 1/641 {characterised by the chemical composition of the bonding agent}
- WARNING**
- This group is no longer used for the classification of new documents as from April 1, 2011. The backlog of this group is being continuously reclassified to [D04H 1/42](#) and sub-groups and [D04H 1/64](#) and sub-groups
- 1/642 {characterised by the impregnation or treatment-process or apparatus}
- WARNING**
- This group is no longer used for the classification of new documents as from April 1, 2011. The backlog of this group is being continuously reclassified to [D04H 1/42](#) and sub-groups and [D04H 1/645](#) and sub-groups
- 1/643 {characterised by a combination of the chemical composition and the impregnation or treatment process or apparatus}
- WARNING**
- This group is no longer used for the classification of new documents as from April 1, 2011. The backlog of this group is being continuously reclassified to [D04H 1/42](#) and sub-groups and [D04H 1/645](#) and sub-groups
- 1/645 Impregnation followed by a solidification process
- 1/65 using mixed or composite fibres
- 1/655 characterised by the apparatus for applying bonding agents
- 1/66 at spaced points or locations ([D04H 1/68](#) takes precedence)
- 1/68 the bonding agent being applied in the form of foam
- 1/70 . . characterised by the method of forming fleeces or layers, e.g. reorientation of fibres
- WARNING**
- Groups [D04H 1/72](#) - [D04H 1/76](#) are not complete pending a reorganisation. See also group [D04H 1/72](#)
- 1/72 . . the fibres being randomly arranged
- 1/724 . . . forming webs during fibre formation, e.g. flash-spinning
- 1/728 . . . by electro-spinning {(electro-spinning methods and apparatus [D01D 5/0007](#))}
- 1/732 . . . by fluid current, e.g. air-lay
- 1/736 . . . characterised by the apparatus for arranging fibres ([D04H 1/728](#), [D04H 1/732](#) take precedence)
- 1/74 . . the fibres being orientated, e.g. in parallel {(anisotropic fleeces)}
- 1/76 . . otherwise than in a plane, e.g. in a tubular way
- 3/00 Non-woven fabrics formed wholly or mainly of yarns or like filamentary material of substantial length**

3/002	. Inorganic yarns or filaments	3/166	. . . {the filaments being flash-spun}
3/004	. . Glass yarns or filaments		
3/005	. Synthetic yarns or filaments (D04H 3/013 takes precedence)		WARNING
3/007	. . Addition polymers		This group is no longer used for the classification of new documents as from April 1, 2011. The backlog of this group is being continuously reclassified to D04H 3/002 - D04H 3/018 , and D04H 3/16
3/009	. . Condensation or reaction polymers		
3/011	. . . Polyesters		
3/013	. Regenerated cellulose series		
3/015	. Natural yarns or filaments	5/00	Non woven fabrics formed of mixtures of relatively short fibres and yarns or like filamentary material of substantial length
3/016	. characterised by the fineness		
3/018	. characterised by the shape		
3/02	. characterised by the method of forming fleeces or layers, e.g. reorientation of yarns or filaments		WARNING
3/03	. . at random		Groups D04H 5/02 - D04H 5/12 are not complete pending a reorganisation. See also group D04H 5/02 and other subgroups of D04H 5/00
3/033	. . . reorientation immediately after yarn or filament formation		
3/037	. . . reorientation by liquid	5/02	. strengthened or consolidated by mechanical methods, e.g. needling (needling machines D04H 18/00)
3/04	. . in rectilinear paths, e.g. crossing at right angles		
3/045	. . . for net manufacturing	5/03	. . by fluid jet
3/05	. . in another pattern, e.g. zig-zag, sinusoidal {(D04H 3/04 takes precedence)}	5/04	. strengthened or consolidated by applying or incorporating chemical or thermo-activatable bonding agents in solid or liquid form
3/07	. . otherwise than in a plane, e.g. in a tubular way	5/06	. strengthened or consolidated by welding-together thermoplastic fibres, filaments, or yarns
3/073	. . . Hollow cylinder shaped	5/08	. characterised by the method of forming fleeces or layers, e.g. reorientation of fibres or yarns
3/077	. . . Stick, rod or solid cylinder shaped	5/10	. . otherwise than in a plane, e.g. in a tubular way
3/08	. characterised by the method of strengthening or consolidating	5/12	. Glass fibres
3/10	. . with bonds between yarns or filaments made mechanically	11/00	Non-woven pile fabrics (layered products forming non-woven pile fabrics B32B)
3/102	. . . {by needling}	11/04	. formed by zig-zag folding of a fleece or layer of staple fibres, filaments, or yarns, strengthened or consolidated at the folds
	WARNING	11/08	. formed by creation of a pile on at least one surface of a non-woven fabric without addition of pile-forming material, e.g. by needling, by differential shrinking (needling machines D04H 18/00)
	This group is no longer used for the classification of new documents as from April 1, 2011. The backlog of this group is being continuously reclassified to D04H 3/002 - D04H 3/018 , D04H 3/105 and D04H 3/11		
3/105	. . . by needling (needling machines D04H 18/00)	13/00	Other non-woven fabrics
3/11	. . . by fluid jet	13/001	. {Making non-woven fabrics from staple fibres, filaments or yarns, bonded to at least one web-like material, e.g. woven, knitted non-woven fabric, paper, leather, during consolidation}
3/115	. . . by applying or inserting filamentary binding elements		WARNING
3/12	. . with filaments or yarns secured together by chemical or thermo-activatable bonding agents, e.g. adhesives, applied or incorporated in liquid or solid form		This group is no longer used for the classification of new documents as from April 1, 2011. The backlog of this group is being continuously reclassified to D04H 13/00 , D04H 1/4374 and B32B
3/14	. . with bonds between thermoplastic yarns or filaments produced by welding		
3/147	. . . Composite yarns or filaments		
3/153	. . . Mixed yarns or filaments		
3/16	. . with bonds between thermoplastic filaments produced in association with filament formation, e.g. immediately following extrusion	13/002	. . {characterised by the disposition or nature of their elements}
3/163	. . . {at spaced points or locations}		WARNING
	WARNING		This group is no longer used for the classification of new documents as from April 1, 2011. The backlog of this group is being continuously reclassified to D04H 13/00 , D04H 1/4374 and B32B
	This group is no longer used for the classification of new documents as from April 1, 2011. The backlog of this group is being continuously reclassified to D04H 3/002 - D04H 3/018 , and D04H 3/16		

- 13/003 . . {strengthened or consolidated by mechanical methods ([needling machines D04H 18/00](#); [knitting D04B](#), [sewing D05B](#))}

WARNING

This group is no longer used for the classification of new documents as from April 1, 2011. The backlog of this group is being continuously reclassified to [D04H 13/00](#), [D04H 1/4374](#), [D04H 1/44](#), [D04H 1/45](#) and sub-groups, [D04H 1/52](#), [D04H 3/105](#), [D04H 3/11](#), [D04H 3/115](#), [D04H 5/02](#) - [D04H 5/08](#) and [B32B](#)

18/00 Needling machines**WARNING**

Groups [D04H 18/02](#) and [D04H 18/04](#) are not complete pending a reorganisation. See also group [D04H 18/00](#)

- 18/02 . with needles
18/04 . with water jets

- 13/005 . . . {by needling}

WARNING

This group is no longer used for the classification of new documents as from April 1, 2011. The backlog of this group is being continuously reclassified to [D04H 13/00](#), [D04H 1/46](#) and sub-groups, [D04H 1/593](#), [D04H 3/105](#), [D04H 3/11](#), [D04H 3/115](#), [D04H 5/02](#) - [D04H 5/08](#) and [B32B](#)

- 13/006 . . {strengthened or consolidated by the use of bonding agents in solid or liquid form}

WARNING

This group is no longer used for the classification of new documents as from April 1, 2011. The backlog of this group is being continuously reclassified to [D04H 13/00](#), [D04H 1/48](#) and sub-groups, [D04H 1/498](#), [D04H 5/04](#) and [B32B](#)

- 13/007 . . {strengthened or consolidated by welding together the various components}

WARNING

This group is no longer used for the classification of new documents as from April 1, 2011. The backlog of this group is being continuously reclassified to [D04H 13/00](#), [D04H 1/54](#) and sub-groups, [D04H 1/559](#), [D04H 5/06](#) and [B32B](#)

- 13/008 . {Glass fibre products; Complete installations for making them}

WARNING

This group is no longer used for the classification of new documents as from April 1, 2011. The backlog of this group is being continuously reclassified to [D04H 1/4218](#), [D04H 1/4226](#); [D04H 3/002](#) and [D04H 5/12](#)

- 13/02 . Production of non-woven fabrics by partial defibrillation of oriented thermoplastics films

17/00 Felting apparatus

- 17/10 . for felting between rollers, e.g. heated rollers
17/12 . . Multi-roller apparatus