

D01D

MECHANICAL METHODS OR APPARATUS IN THE MANUFACTURE OF ARTIFICIAL FILAMENTS, THREADS, FIBRES, BRISTLES OR RIBBONS

Definition statement

This place covers:

Mechanical methods and apparatus for the manufacture of artificial fibres and filaments.

It does also cover the physical and mechanical treatment of fibres and filaments during their production, e.g. before winding (after production: [D01G](#), [D02](#)).

Relationships with other classification places

Many documents in the field disclose features related to both the mechanical ([D01D](#)) and the chemical ([D01F](#)) aspects of fibre manufacture. Two cases can be envisaged:

a) When a document is concerned with mechanical aspects but mentions specific polymers, a class should always be given in [D01D](#) and a class may be added in [D01F](#) when the chemical aspects are relevant or non-usual polymers or additives are used. No [D01F](#) class should be given when a long list of polymers is mentioned, even in the claims.

b) When a document is concerned with chemical aspects but mentions specific techniques (e.g. melt-blowing, electrospinning) a class should always be given in [D01F](#) and a class may be added in [D01D](#) when the specific technique plays an important role. No [D01D](#) class should be given when several unrelated techniques are mentioned, even in the claims.

References

Limiting references

This place does not cover:

Working or processing of metal wire	B21F
Production of metallic filaments	B22D 11/00 , B22F 1/0007
Production of glass fibres	C03B 37/00
Production of ceramic fibres	C04B 35/62227
Apparatus specially adapted for the manufacture of carbon filaments are classified	D01F 9/00
Processes starting from pre-made fibres or filaments, such as the production of yarns from single filaments	D02G , D02J

Informative references

Attention is drawn to the following places, which may be of interest for search:

Shaping foodstuffs by extruding	A23P 30/20
Synthetic grass (lawns for playground or sports grounds: E01C 13/08)	A41G 1/009
Artificial hair	A41G 3/0083
Bristles (production of filaments to make bristles: D01D/F)	A46D 1/00
Medical devices	A61L , A61F
Strings for tennis rackets	A63B 51/02
Filters (Cigarette filters: A24D 3/00)	B01D

Extrusion in general	B29C 47/00
Handling of filamentary materials (e.g. winding)	B65H
Composite materials - (chemical aspects) - (mechanical aspects)	C08J 5/00 , B29C 70/00
Treatment of natural materials to make fibres-(mechanical) - (chemical)	D01B , D01C
Mechanical preliminary treatment of fibres (e.g. cutting, roughening, carding)	D01G
Spinning and twisting	D01H
Crimping or curling	D02G 1/00
Yarns and their applications (Tyre yarns see also B60C 9/00)	D02G 3/00
Finishing- (mechanical), - (chemical)	D02J , D06M
Nonwoven fabrics	D04H
Strings for musical instruments	G10D 3/10

Special rules of classification

A group in [D01D](#) is not automatically allocated whenever a specific technique is used or mentioned in a document, but only when important aspects are disclosed related to that technique, or when there is an inter-relationship with the technique used and the other features.

When a document is also related to a neighbouring field it should always be circulated to the related classifiers. In the cases where many different applications of the invention are claimed, the document should only be circulated to the exemplified or the most relevant technical field.

Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

Fibre	a relatively-short, elongated member of natural or artificial material;
Filament	an endless or quasi-endless, elongated member of natural or artificial material;
Thread	an assembly of yarns or filaments, usually produced by twisting.
Yarn	a unitary assembly of fibres, usually produced by spinning;

D01D 1/00

Treatment of filament-forming or like material (working of plastics or substances in a plastic state, in general [B29](#))

Definition statement

This place covers:

The treatment of the fibre-forming material before extrusion.

References

Limiting references

This place does not cover:

Working of plastics or substances in a plastic state, in general	B29
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D01D 4/00

Spinnerette packs; Cleaning thereof ([D01D 5/0069](#)), [D01D 5/24](#), [D01D 5/253](#), [D01D 5/28](#) take precedence)

Definition statement

This place covers:

Details about the constructional features and the cleaning of spinneret packs, i.e. the devices through which the polymer melt/solution is extruded

References**Limiting references**

This place does not cover:

Rotating spinnerets	D01D 5/18
Spinnerets for making hollow filaments	D01D 5/24
Spinnerets for making fibres with a non-round cross-section	D01D 5/253
Spinnerets for making conjugated filaments	D01D 5/30
Spinnerets for making hollow fibres membranes	B01D 69/085

Informative references

Attention is drawn to the following places, which may be of interest for search:

Extrusion dies	B29C 47/00
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D01D 5/00

Formation of filaments, threads, or the like

Definition statement

This place covers:

Formation of filaments or the like

References**Informative references**

Attention is drawn to the following places, which may be of interest for search:

Production of specific nonwoven fabrics (e.g. electrospun, spunbonded, melt-blown)	D04H
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Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

Simultaneous stretching	the stretching is done while the fibres are not yet solidified, i.e. before quenching or the like
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Further details of subgroups[D01D 5/0985](#)

spunbonding and melt-blowing

[D01D 5/10](#)

this group is not in use. Corresponding documents are classified in [D01D 5/08](#) and its subgroups.

[D01D 5/12](#)

Continuous melt-spinning processes including a stretching step on the solid fibres

[D01D 5/18](#)

this group includes both centrifugal spinning and rotating spinnerets for making helically wound filaments (e.g. spiral wire).

[D01D 5/20](#)

e.g. thick-and-thin fibres, beads-on-a-string fibres.

[D01D 5/24](#)

Hollow fibre membranes are normally classified in [B01D 69/00](#) or [B01D 71/00](#) because they are not fibres in the classical sense. They might also get a class in [D01D](#) when specific aspects related to the fibre extrusion are mentioned. The production of hollow/tubular articles in general is classified in [B29D 22/00- B29D 23/00](#). When additives are used to make hollow or porous fibres the [D01F 1/08](#) should be given.

D01D 7/00

**Collecting the newly-spun products ({[D01D 5/0076](#) takes precedence;}
collecting newly-spun products with the imparting of twist [D01H](#))**

Definition statement

This place covers:

Collecting the filaments or the like. Mechanical methods and apparatus for collecting fibres, filaments, yarns, threads or the like after spinning

References**Limiting references**

This place does not cover:

Electrospinning processes and apparatus characterized by the collector	D01D 5/0076
Collection with simultaneous imparting of twist	D01H

D01D 10/00

Physical treatment of artificial filaments or the like during manufacture, i.e. during a continuous production process before the filaments have been collected (finishing [D02J](#))

Definition statement

This place covers:

Physical treatment of the filaments or the like during their manufacture, i.e. during a continuous production process before the filaments have been collected.

References**Limiting references**

This place does not cover:

Chemical or physicochemical treatment during manufacture	D01F 11/00
Mechanical treatment after manufacture	D01G , D02
Spinning of yarns	D01H
Yarns	D02G 3/00
Production of fabrics	D03 , D04 , D05

D01D 13/00

Complete machines for producing artificial threads

Definition statement

This place covers:

Machines including both mechanical apparatus for forming fibres or filaments and mechanical apparatus for assembling the fibres or filaments into threads.