

# CPC COOPERATIVE PATENT CLASSIFICATION

## B PERFORMING OPERATIONS; TRANSPORTING

(NOTES omitted)

### SHAPING

## B32 LAYERED PRODUCTS

### B32B LAYERED PRODUCTS, i.e. PRODUCTS BUILT-UP OF STRATA OF FLAT OR NON-FLAT, e.g. CELLULAR OR HONEYCOMB, FORM

#### NOTES

1. This subclass covers:
  - layered products comprising different kinds of material or layered products not characterised by the particular kind of material used;
  - a product similar to a layered product but comprising only material in the form of a sheet or network embedded in a mass of plastics or of physically-similar substances which mass penetrates the said sheet or network and lies on both sides of the latter (e.g. so that the sheet or network reinforces the plastics substance) PROVIDED THAT the embedded sheet or network extends coherently or connectedly over substantially the whole area of the product; thus the embedded sheet or network may be a fabric or a series of rods connected by cross wires. The manner of making such a product is, however, classified in this subclass only if it is essentially a process of building-up an assembly of layers of which at least one outer layer is preformed. If the embedded material comprises only a series of unconnected rods, the product is not classified in this subclass.
2. This subclass does not cover:
  - processes or apparatus used in, or in connection with, the production or treatment of any product, if the process or apparatus is fully classifiable in a single other class or subclass for processes or apparatus, e.g. [B05](#), [B29](#), [B44D](#), [C08J](#), [C09J](#), [C23](#);
  - compositions or preparation or treatment thereof, unless they are essentially restricted to layered products and cannot be fully classified in another class without ignoring this restriction;
  - etched metallic pattern on the surface of a printed circuit board.
3. In this subclass:
  - a film formed on a layer by spreading a substance thereon is not considered to constitute a layer itself if it serves only as an adhesive or its purpose is merely to finish a surface of a product
  - {with exclusion to [B32B 15/01](#) - [B32B 15/018](#), a coating formed directly onto a substrate layer is not considered to constitute a layer when at the moment of its contact with the substrate it does not have the form of a layer with the exception of layers that come under the meaning of Note (4).}
  - {groups designating products cover also methods or apparatus specially adapted for producing such products.}
4. In this subclass, the following terms or expressions are used with the meanings indicated:
  - "layer" is a sheet or strip or anything else having a small thickness relatively to its other dimensions which, together with at least one other layer, exists in a product, whether it pre-existed, e.g. as a separate sheet or strip, or was formed during the production of the layered product{, e.g. formed in-situ as with casting, extrusion or moulding. It may be deformed out of the flat plane to form a three-dimensional shape}. It may or may not be homogeneous or cohesive; it may be an assembly of fibres or pieces of material. It may be discontinuous, e.g. in the form of a grating, honeycomb, or frame. It may or may not be in complete contact with the next layer, e.g. a corrugated layer against a flat layer;
  - "layered product" comprises at least two layers secured together. The term "secured" includes any method of uniting layers, e.g. needling, stitching, gluing, nailing, dovetailing or the interposition of an adhesive or adhesive impregnated support. It may also be an intermediate stage in the production of an article which is not layered in its final form, e.g. a panel with a protective layer {that} is stripped off when the panel is placed in its position of use. The layers are preformed layers or layers formed IN SITU on a preformed layer and may consist of coherent solid materials, including honeycombs and other cellular materials or of non-coherent solid materials composed of assemblies of strands, strips, fibres, tiles or the like;
  - "filamentary layer" means a layer of threads or filaments of any substance (e.g. wires) of more or less unlimited length placed in an orderly arrangement and secured together; it may be woven, knitted, braided, or netted, or formed of threads crossed or laid side by side and bonded together;
  - "fibrous layer" means a random assembly of fibres or filaments, usually of limited length, e.g. felt, fleece; the fibres {being} interengaged or connected, e.g. by adhesive.
5. If a layered product is characterised by the way it is produced and not by its structure or composition, the production method should be classified in groups [B32B 37/00](#) or [B32B 38/00](#), or in subclass [B29C](#), for example in groups [B29C 45/16](#) or [B29C 48/18](#).
6. {In this subclass,}

## B32B

### B32B

(continued)

- The classification of layered products is provided for in many classes, most of which are confined to a particular kind of material. However, in order that this subclass may provide a basis for making a complete search with respect to layered products, all relevant subject matter is classified in this subclass even though it may also be classified in other classes.
- 7. {In groups [B32B 37/00](#), [B32B 38/00](#), [B32B 41/00](#) and [B32B 39/00](#), the following expressions are used with the meaning indicated:
  - "lay-up" is considered to be the action of combining separate layers, one on top of the other, in order to form a half-product for entering the laminating process
  - "laminating" means the action of combining previously unconnected but possibly laid up layers to become one product whose layers will remain together;
  - "partial laminating" occurs when one layer does not fully cover a surface of another layer, whereby the layer with the greater surface area is laminated on only part of its surface or when two coextensive layers are bonded on only part of their facing surfaces;
  - "adhesive" means a substance applied in any state or in any manner, which has bonding properties.}
- 8. {In this subclass, combination sets [C-Sets] are used. The detailed information about the C-Sets construction and the associated syntax rules are found in the definitions of [B32B](#).}

#### **WARNING**

The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

<a href="#">B32B 3/24</a>	covered by	<a href="#">B32B 3/266</a>
<a href="#">B32B 17/12</a>	covered by	<a href="#">B32B 17/067</a>

<b>1/00</b>	<b>Layered products having a general shape other than plane</b>	3/10	• characterised by a discontinuous layer, i.e. formed of separate pieces of material
	<b>NOTE</b>		<b>NOTE</b>
	For classification of a product in this group, surface unevennesses or non-uniformities and the shape of individual layers are ignored.		In this group, a series of spaced separate elements forming in effect a broken surface should {not} be regarded as a layer.
1/02	• Receptacles {, i.e. rigid containers}, e.g. tanks	3/12	• • characterised by a layer of regularly- arranged cells, e.g. a honeycomb structure
1/04	• characterised by feature of form at particular places, e.g. in edge regions {(not used)}	3/14	• • characterised by a face layer formed of separate pieces of material {which are juxtaposed side-by-side ( <a href="#">B32B 5/02</a> takes precedence)}
1/06	• characterised by fillings or added members in hollow portions {(not used)}	3/16	• • • secured to a flexible backing
1/08	• Tubular products	3/18	• • characterised by an internal layer formed of separate pieces of material {which are juxtaposed side-by-side ( <a href="#">B32B 5/02</a> takes precedence)}
<b>3/00</b>	<b>Layered products comprising a layer with external or internal discontinuities or unevennesses, or a layer of non-planar form (fibrous or filamentary layer <a href="#">B32B 5/02</a>; particulate layer <a href="#">B32B 5/16</a>; foamed layer <a href="#">B32B 5/18</a>); Layered products having particular features of form (receptacles or tubular products <a href="#">B32B 1/00</a>)</b>	3/20	• • • of hollow pieces, e.g. tubes; of pieces with channels or cavities
3/02	• characterised by features of form at particular places, e.g. in edge regions {(non-uniform thickness <a href="#">B32B 3/263</a> )}	3/22	• • • of spaced pieces {(not used)}
3/04	• • characterised by {at least one} layer folded at the edge, e.g. over another layer {; characterised by at least one layer enveloping or enclosing a material}	3/26	• characterised by a particular shape of the outline of the cross-section of a continuous layer; characterised by a layer with cavities or internal voids {(foam layer <a href="#">B32B 5/18</a> ; layer of synthetic resin characterised by fillers that create voids or cavities <a href="#">B32B 27/205</a> ); characterised by an apertured layer}
3/06	• • for securing layers together; for attaching the product to another member, e.g. to a support {, or to another product, e.g. groove/tongue, interlocking}	3/263	• • {characterised by a layer having non-uniform thickness}
3/08	• • characterised by added members at particular parts {(layer formed of separate pieces of material which are juxtaposed side-by-side <a href="#">B32B 3/14</a> , <a href="#">B32B 3/18</a> )}	3/266	• • {characterised by an apertured layer, the apertures going through the whole thickness of the layer, e.g. expanded metal, perforated layer, slit layer regular cells <a href="#">B32B 3/12</a> }
3/085	• • • {spaced apart pieces on the surface of a layer}	3/28	• • characterised by a layer comprising a deformed thin sheet {, i.e. the layer having its entire thickness deformed out of the plane}, e.g. corrugated, crumpled ( <a href="#">B32B 29/08</a> takes precedence)
		3/30	• • characterised by a layer formed with recesses or projections, e.g. {hollows, grooves, protuberances, ribs (apertured layer <a href="#">B32B 3/266</a> ; layer with cavities or internal voids <a href="#">B32B 3/26</a> )}

- 5/00 Layered products characterised by the non-homogeneity or physical structure {, i.e. comprising a fibrous, filamentary, particulate or foam layer; Layered products characterised by having a layer differing constitutionally or physically in different parts}**
- NOTE**
- In this group, fibres, filaments, granules, or powder forming or included in a layer may be impregnated, bonded together, or embedded in a substance such as synthetic resin. If the substance of the fibres, or the like, or the impregnating, bonding, or embedding substance, is important it is classified in the relevant group for the substance.
- 5/02** . characterised by structural features of a {fibrous or filamentary layer (layer formed of metallic wires [B32B 15/02](#); layer formed of natural mineral fibres [B32B 19/02](#); layer formed of wood fibres [B32B 21/02](#); coated or impregnated fibrous or filamentary layer [B32B 2255/02](#) or [B32B 2260/021](#))}
- NOTES**
1. This group covers, in addition to filamentary and fibrous layers as defined in Note (4) following the title of this subclass, layers of substances having an intrinsic fibrous nature (e.g. paper, wood), if the fibrous nature is important and the particular substance is not important.
  2. {When classifying in group [B32B 5/02](#), the chemical composition of the fibres is further classified by using the indexing codes [B32B 2262/00](#) - [B32B 2262/14](#), whenever appropriate.}
- 5/022** . . {Non-woven fabric}
- 5/024** . . {Woven fabric}
- 5/026** . . {Knitted fabric}
- 5/028** . . {Net structure, e.g. spaced apart filaments bonded at the crossing points}
- 5/04** . . characterised by a layer being specifically extensible by reason of its structure or arrangement {, e.g. by reason of the chemical nature of the fibres or filaments}
- 5/06** . . characterised by a fibrous {or filamentary} layer {mechanically connected, e.g. by needling, sewing, stitching, hydroentangling, hook and loop-type fasteners} to another layer, e.g. of fibres, of paper
- 5/08** . . the fibres or filaments of a layer being of different substances {, e.g. conjugate fibres, mixture of different fibres}
- 5/10** . . characterised by a fibrous {or filamentary} layer reinforced with filaments
- 5/12** . . characterised by the relative arrangement of fibres or filaments of {different layers, e.g. the fibres or filaments being parallel or perpendicular to each other}
- 5/14** . characterised by a layer differing constitutionally or physically in different parts, e.g. denser near its faces
- 5/142** . . {Variation across the area of the layer}
- 5/145** . . {Variation across the thickness of the layer}
- 5/147** . . {by treatment of the layer}
- 5/16** . characterised by features of a layer formed of particles, e.g. chips, powder {, granules ([B32B 21/02](#) takes precedence; layers formed of natural mineral particles [B32B 19/00](#); coated or impregnated particulate layers [B32B 2255/04](#) or [B32B 2260/025](#))}
- 5/18** . characterised by features of a layer {of} foamed material
- 5/20** . . foamed in situ
- 5/22** . characterised by the presence of two or more layers which {are next to each other and are fibrous, filamentary, formed of particles or foamed ([B32B 19/06](#), [B32B 19/048](#) [B32B 19/047](#), [B32B 29/005](#) - [B32B 29/04](#) take precedence)}
- 5/24** . . one layer being a fibrous or filamentary layer
- 5/245** . . . {another layer next to it being a foam layer}
- 5/26** . . . another layer {next to it also being fibrous or filamentary (relative arrangement of fibres or filaments of different layers [B32B 5/12](#); all layers being fibrous or filamentary [B32B 2250/20](#); two or more impregnated fibrous or filamentary layers [B32B 2260/023](#))}
- 5/28** . . . impregnated with or embedded in a plastic substance {(not used)}
- 5/30** . . one layer {being formed of particles, e.g. chips,} granules, powder
- 5/32** . . {at least two layers being foamed and next to each other (all layers being foamed [B32B 2250/22](#))}
- 7/00 Layered products characterised by the relation between layers; Layered products characterised by the relative orientation of features between layers, or by the relative values of a measurable parameter between layers, i.e. products comprising layers having different physical, chemical or physicochemical properties; Layered products characterised by the interconnection of layers**
- 7/02** . Physical, chemical or physicochemical properties
- WARNING**
- Group [B32B 7/02](#) is impacted by reclassification into groups [B32B 7/022](#), [B32B 7/023](#), [B32B 7/025](#), [B32B 7/027](#), and [B32B 7/028](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 7/022** . . Mechanical properties
- WARNING**
- Groups [B32B 7/022](#), [B32B 7/023](#), [B32B 7/025](#), [B32B 7/027](#), and [B32B 7/028](#) are incomplete pending reclassification of documents from group [B32B 7/02](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 7/023** . . Optical properties
- 7/025** . . Electric or magnetic properties
- 7/027** . . Thermal properties
- 7/028** . . . Heat-shrinkability

- 7/03 . with respect to the orientation of features ([direction of fibres or filaments B32B 5/12](#))

**WARNING**

Group [B32B 7/03](#) is impacted by reclassification into group [B32B 7/035](#).

Groups [B32B 7/03](#) and [B32B 7/035](#) should be considered in order to perform a complete search.

- 7/035 . . using arrangements of stretched films, e.g. of mono-axially stretched films arranged alternately

**WARNING**

Group [B32B 7/035](#) is incomplete pending reclassification of documents from group [B32B 7/03](#).

Groups [B32B 7/03](#) and [B32B 7/035](#) should be considered in order to perform a complete search.

- 7/04 . Interconnection of layers
- 7/05 . . the layers not being connected over the whole surface, e.g. discontinuous connection or patterned connection ([using interposed adhesives or bonding materials applied in spaced arrangements B32B 7/14](#))
- 7/06 . . permitting easy separation
- 7/08 . . by mechanical means

**WARNING**

Group [B32B 7/08](#) is impacted by reclassification into group [B32B 7/09](#).

Groups [B32B 7/08](#) and [B32B 7/09](#) should be considered in order to perform a complete search.

- 7/09 . . . by stitching, needling or sewing ([by needling fibrous layers B32B 5/06](#))

**WARNING**

Group [B32B 7/09](#) is incomplete pending reclassification of documents from group [B32B 7/08](#).

Groups [B32B 7/08](#) and [B32B 7/09](#) should be considered in order to perform a complete search.

- 7/10 . . at least one layer having inter-reactive properties
- 7/12 . . using interposed adhesives or interposed materials with bonding properties
- 7/14 . . . applied in spaced arrangements, e.g. in stripes

**Layered products characterised by particular substances used****NOTE**

In groups [B32B 9/00](#) - [B32B 29/00](#), the following expressions are used with the meanings indicated:

- "specific substance" covers specified alternative substances if they are all covered by a single main group;
- "particulate layer" means a layer of particles, e.g. chips, chopped fibres, powder;

- {"essentially" means that if an alteration or removal of such a layer occurred it would alter the scope of the invention}

**9/00 Layered products comprising a {layer of a} particular substance not covered by groups [B32B 11/00](#) - [B32B 29/00](#)**

- 9/002 . {comprising natural stone or artificial stone}
- 9/005 . {comprising one layer of ceramic material, e.g. porcelain, ceramic tile ([layered products with at least two ceramic layers composed mainly of ceramic B32B 18/00](#))}
- 9/007 . . {comprising carbon, e.g. graphite, composite carbon}
- 9/02 . comprising animal or vegetable substances {, e.g. cork, bamboo, starch}
- 9/025 . . {comprising leather}
- 9/04 . comprising such {particular} substance as the main or only constituent of a layer, {which is} next to another layer of {the same or of} a {different material ([next to a glass layer B32B 17/06](#); [layered products with at least two ceramic layers composed mainly of ceramic B32B 18/00](#))}
- 9/041 . . {of metal}
- 9/042 . . {of wood}
- 9/043 . . {of natural rubber or synthetic rubber}
- 9/045 . . {of synthetic resin}
- 9/046 . . {of foam}
- 9/047 . . {made of fibres or filaments}
- 9/048 . . {made of particles}
- 9/06 . . of paper or cardboard

**11/00 Layered products comprising {a layer of} bituminous or tarry substances**

- 11/02 . with fibres or particles {being present as additives in the layer}
- 11/04 . comprising such {bituminous or tarry} substance as the main or only constituent of a layer, {which is} next to another layer of {the same or of} a {different material ([next to a glass layer B32B 17/06](#))}
- 11/042 . . {of wood}
- 11/044 . . {of natural rubber or synthetic rubber}
- 11/046 . . {of synthetic resin}
- 11/048 . . {of foam}
- 11/06 . . of paper or cardboard
- 11/08 . . of metal
- 11/10 . next to a fibrous or filamentary layer
- 11/12 . next to a particulate layer

**13/00 Layered products comprising a {a layer of} water-setting substance, e.g. concrete, plaster, asbestos cement, or like builders' material**

- 13/02 . with fibres or particles {being present as additives in the layer}
- 13/04 . comprising such {water setting} substance as the main or only constituent of a layer, {which is} next to another layer of {the same or of} a {different material ([next to a glass layer B32B 17/06](#))}
- 13/042 . . {of natural rubber or synthetic rubber}
- 13/045 . . {of foam}
- 13/047 . . {made of particles}
- 13/06 . . of metal
- 13/08 . . of paper or cardboard
- 13/10 . . of wood; of wood particle board
- 13/12 . . of synthetic resin

- 13/14 . . . next to a fibrous or filamentary layer
- 15/00 Layered products comprising {a layer of} metal**
- 15/01 . . . all layers being exclusively metallic {(making layered metal workpieces by pressure cladding [B23K 20/22](#); making coatings with a metallic material characterised by its composition [C23C 30/00](#))}
- 15/011 . . . {all layers being formed of iron alloys or steels}
- 15/012 . . . {one layer being formed of an iron alloy or steel, another layer being formed of aluminium or an aluminium alloy}
- 15/013 . . . {one layer being formed of an iron alloy or steel, another layer being formed of a metal other than iron or aluminium}
- 15/015 . . . {the said other metal being copper or nickel or an alloy thereof}
- 15/016 . . . {all layers being formed of aluminium or aluminium alloys}
- 15/017 . . . {one layer being formed of aluminium or an aluminium alloy, another layer being formed of an alloy based on a non ferrous metal other than aluminium}
- 15/018 . . . {one layer being formed of a noble metal or a noble metal alloy}
- 15/02 . . . {Layer formed of wires, e.g. mesh}
- 15/04 . . . comprising metal as the main or only constituent of a layer, {which is} next to another layer of {the same or of} a {different material (next to a bituminous or tarry layer [B32B 11/08](#); next to a water-setting substance layer [B32B 13/06](#); next to a glass layer [B32B 17/061](#); next to a cellulosic plastic layer [B32B 23/042](#))}
- 15/043 . . . {of metal ([B32B 15/01](#) takes precedence)}
- 15/046 . . . {of foam}
- 15/06 . . . of {natural rubber or synthetic} rubber
- 15/08 . . . of synthetic resin
- 15/082 . . . comprising vinyl resins; comprising acrylic resins
- 15/085 . . . comprising polyolefins
- 15/088 . . . comprising polyamides
- 15/09 . . . comprising polyesters
- 15/092 . . . comprising epoxy resins
- 15/095 . . . comprising polyurethanes
- 15/098 . . . comprising condensation resins of aldehydes, e.g. with phenols, ureas or melamines
- 15/10 . . . of wood
- 15/12 . . . of paper or cardboard
- 15/14 . . . next to a fibrous or filamentary layer
- 15/16 . . . next to a particulate layer
- 15/18 . . . comprising iron or steel {([B32B 15/011](#), [B32B 15/012](#) and [B32B 15/013](#) take precedence)}
- 15/20 . . . comprising aluminium or copper {([B32B 15/016](#) and [B32B 15/017](#) take precedence)}
- 17/00 Layered products essentially comprising sheet glass, or glass, slag, or like fibres**
- NOTE**
- {In this group, a layer of organic glass is not considered as a glass layer but as a synthetic resin layer.}
- 17/02 . . . in the form of fibres or filaments
- 17/04 . . . bonded with or embedded in a plastic substance

- 17/06 . . . comprising glass as the main or only constituent of a layer, next to another layer of a specific {material}
- 17/061 . . . {of metal}
- 17/062 . . . {of wood}
- 17/063 . . . {of rubber}
- 17/064 . . . {synthetic resin ([B32B 17/10](#) takes precedence)}
- (Frozen)
- WARNING**
- Group [B32B 17/064](#) is no longer used for the classification of documents as of January 1, 2021.
- The content of this group is being reclassified into groups [B32B 17/10](#) - [B32B 17/1099](#).
- Groups [B32B 17/064](#) and [B32B 17/10](#) - [B32B 17/1099](#) should be considered in order to perform a complete search.
- 17/065 . . . {of paper or cardboard}
- 17/066 . . . {of foam}
- 17/067 . . . {of fibres or filaments}
- 17/068 . . . {of particles}
- 17/069 . . . {of intumescent material ([B32B 17/10311](#) takes precedence)}
- 17/08 . . . of cellulosic plastic substance {or gelatin}
- 17/10 . . . of synthetic resin

**WARNING**

Group [B32B 17/10](#) is impacted by reclassification into groups [B32B 17/10005](#) - [B32B 17/1099](#).

Groups [B32B 17/10](#) and [B32B 17/10005](#) - [B32B 17/1099](#) should be considered in order to perform a complete search.

- 17/10005 . . . {laminated safety glass or glazing}

**NOTE**

{In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [B32B](#).}

**WARNING**

Groups [B32B 17/10005](#) - [B32B 17/1099](#) are incomplete pending reclassification of documents from groups [B32B 17/064](#) and [B32B 17/10](#).

All groups listed in this warning should be considered in order to perform a complete search.

- 17/10009 . . . . . {characterized by the number, the constitution or treatment of glass sheets}
- 17/10018 . . . . . {comprising only one glass sheet}
- 17/10027 . . . . . {the glass sheet not being an outer layer}
- 17/10036 . . . . . {comprising two outer glass sheets}
- 17/10045 . . . . . {with at least one intermediate layer consisting of a glass sheet}
- 17/10055 . . . . . {with at least one intermediate air space}
- 17/10064 . . . . . {comprising at least two glass sheets, only one of which being an outer layer}



17/10073	. . . . .	{comprising at least two glass sheets, neither of which being an outer layer}	17/10412	. . . . .	{for reinforcement}
17/10082	. . . . .	{Properties of the bulk of a glass sheet}	17/10422	. . . . .	{for aesthetic reasons}
17/10091	. . . . .	{thermally hardened}	17/10431	. . . . .	{Specific parts for the modulation of light incorporated into the laminated safety glass or glazing}
17/101	. . . . .	{having a predetermined coefficient of thermal expansion [CTE]}	17/1044	. . . . .	{Invariable transmission}
17/1011	. . . . .	{having predetermined tint or excitation purity}	17/10449	. . . . .	{Wavelength selective transmission}
17/10119	. . . . .	{having a composition deviating from the basic composition of soda-lime glass, e.g. borosilicate}	17/10458	. . . . .	{Polarization selective transmission}
17/10128	. . . . .	{Treatment of at least one glass sheet}	17/10467	. . . . .	{Variable transmission}
17/10137	. . . . .	{Chemical strengthening}	17/10477	. . . . .	{thermochromic}
17/10146	. . . . .	{Face treatment, e.g. etching, grinding or sand blasting}	17/10486	. . . . .	{photochromic}
17/10155	. . . . .	{Edge treatment or chamfering}	17/10495	. . . . .	{optoelectronic, i.e. optical valve}
17/10165	. . . . .	{Functional features of the laminated safety glass or glazing}	17/10504	. . . . .	{Liquid crystal layer}
17/10174	. . . . .	{Coatings of a metallic or dielectric material on a constituent layer of glass or polymer}	17/10513	. . . . .	{Electrochromic layer}
17/10183	. . . . .	{being not continuous, e.g. in edge regions}	17/10522	. . . . .	{Electrophoretic layer}
17/10192	. . . . .	{patterned in the form of columns or grids}	17/10532	. . . . .	{Suspended particle layer}
17/10201	. . . . .	{Dielectric coatings}	17/10541	. . . . .	{comprising a light source or a light guide}
17/10211	. . . . .	{Doped dielectric layer, electrically conductive, e.g. SnO <sub>2</sub> :F}	17/1055	. . . . .	{characterized by the resin layer, i.e. interlayer}
17/1022	. . . . .	{Metallic coatings}	17/10559	. . . . .	{Shape of the cross-section}
17/10229	. . . . .	{Metallic layers sandwiched by dielectric layers}	17/10568	. . . . .	{varying in thickness}
17/10238	. . . . .	{in the form of particles}	17/10577	. . . . .	{Surface roughness}
17/10247	. . . . .	{Laminated safety glass or glazing containing decorations or patterns for aesthetic reasons (containing metal wires for aesthetic reasons <a href="#">B32B 17/10422</a> )}	17/10587	. . . . .	{created by embossing}
17/10256	. . . . .	{created by printing techniques}	17/10596	. . . . .	{created by melt fracture}
17/10266	. . . . .	{on glass pane}	17/10605	. . . . .	{Type of plasticiser}
17/10275	. . . . .	{on interlayer}	17/10614	. . . . .	{comprising particles for purposes other than dyeing}
17/10284	. . . . .	{on intermediate layer}	17/10623	. . . . .	{Whitening agents reflecting visible light}
17/10293	. . . . .	{Edge features, e.g. inserts or holes}	17/10633	. . . . .	{Infrared radiation absorbing or reflecting agents}
17/10302	. . . . .	{Edge sealing}	17/10642	. . . . .	{Thermally conductive agents}
17/10311	. . . . .	{Intumescent layers for fire protection}	17/10651	. . . . .	{comprising colorants, e.g. dyes or pigments}
17/10321	. . . . .	{Laminated safety glass or glazing containing liquid layers}	17/1066	. . . . .	{imparting a tint in certain regions only, i.e. shade band}
17/1033	. . . . .	{Laminated safety glass or glazing containing temporary protective coatings or layers}	17/10669	. . . . .	{Luminescent agents}
17/10339	. . . . .	{Specific parts of the laminated safety glass or glazing being colored or tinted (tinted glass sheet <a href="#">B32B 17/1011</a> ; tinted interlayer <a href="#">B32B 17/10651</a> )}	17/10678	. . . . .	{comprising UV absorbers or stabilizers, e.g. antioxidants}
17/10348	. . . . .	{comprising an obscuration band}	17/10688	. . . . .	{Adjustment of the adherence to the glass layers}
17/10357	. . . . .	{comprising a tinted intermediate film}	17/10697	. . . . .	{being cross-linked}
17/10366	. . . . .	{Reinforcements of the laminated safety glass or glazing against impact or intrusion (containing metal wires for reinforcement <a href="#">B32B 17/10412</a> )}	17/10706	. . . . .	{being photo-polymerized}
17/10376	. . . . .	{Laminated safety glass or glazing containing metal wires}	17/10715	. . . . .	{containing polyether}
17/10385	. . . . .	{for ohmic resistance heating}	17/10724	. . . . .	{containing polyamide}
17/10394	. . . . .	{Alarm wires}	17/10733	. . . . .	{containing epoxy}
17/10403	. . . . .	{for radiation shielding}	17/10743	. . . . .	{containing acrylate (co)polymers or salts thereof}
			17/10752	. . . . .	{containing polycarbonate}
			17/10761	. . . . .	{containing vinyl acetal}
			17/1077	. . . . .	{containing polyurethane}
			17/10779	. . . . .	{containing polyester}
			17/10788	. . . . .	{containing ethylene vinylacetate}
			17/10798	. . . . .	{containing silicone}
			17/10807	. . . . .	{Making laminated safety glass or glazing; Apparatus therefor}
			17/10816	. . . . .	{by pressing}
			17/10825	. . . . .	{Isostatic pressing, i.e. using non rigid pressure-exerting members against rigid parts}
			17/10834	. . . . .	{using a fluid}

17/10844	. . . . . {using a membrane between the layered product and the fluid}	21/04	. comprising wood as the main or only constituent of a layer, {which is} next to another layer of {the same or of} a {different material (next to a layer of a particular substance <a href="#">B32B 9/042</a> ; next to a bituminous or tarry layer <a href="#">B32B 11/042</a> ; next to a water setting substance layer <a href="#">B32B 13/10</a> ; next to a metal layer <a href="#">B32B 15/10</a> ; next to a glass layer <a href="#">B32B 17/062</a> ; next to a layer formed of natural mineral fibres or particles <a href="#">B32B 19/042</a> ; next to a cellulosic plastic layer <a href="#">B32B 23/044</a> )}
17/10853	. . . . . {the membrane being bag-shaped}		
17/10862	. . . . . {using pressing-rolls}		
17/10871	. . . . . {in combination with particular heat treatment}		
17/1088	. . . . . {by superposing a plurality of layered products}		
17/10889	. . . . . {shaping the sheets, e.g. by using a mould ( <a href="#">B32B 17/10816</a> takes precedence)}	21/042	. . {of wood ( <a href="#">B32B 21/13</a> takes precedence)}
17/10899	. . . . . {by introducing interlayers of synthetic resin}	21/045	. . {of natural rubber or synthetic rubber}
17/10908	. . . . . {in liquid form}	21/047	. . {of foam}
17/10917	. . . . . {between two pre-positioned glass layers}	21/06	. . of paper or cardboard
17/10926	. . . . . {by spraying}	21/08	. . of synthetic resin
17/10935	. . . . . {as a preformed layer, e.g. formed by extrusion}	21/10	. Next to a fibrous or filamentary layer
17/10944	. . . . . {in powder form}	21/12	. next to a particulate layer
17/10954	. . . . . {by using an aligning laminating device}	21/13	. all layers being exclusively wood
17/10963	. . . . . {specially adapted for repairing the layered products}	21/14	. comprising wood board or veneer
17/10972	. . . . . {Degassing during the lamination ( <a href="#">B32B 17/10816</a> takes precedence)}	<b>23/00</b>	<b>Layered products comprising {a layer of} cellulosic plastic substances {, i.e. substances obtained by chemical modification of cellulose, e.g. cellulose ethers, cellulose esters, viscose}</b>
17/10981	. . . . . {Pre-treatment of the layers}	23/02	. in the form of fibres or filaments {(not used)}
17/1099	. . . . . {After-treatment of the layered product, e.g. cooling}	23/04	. comprising such {cellulosic plastic} substance as the main or only constituent of a layer, {which is} next to another layer of {the same or of} a {different material (next to a glass layer <a href="#">B32B 17/08</a> )}
<b>18/00</b>	<b>Layered products essentially comprising ceramics, e.g. refractory products</b>	23/042	. . {of metal}
	<b>NOTE</b>	23/044	. . {of wood}
	{In group <a href="#">B32B 18/00</a> , features relating to interlayers, additional compositional information or further processing are indexed with symbols chosen from <a href="#">C04B 2237/00</a> - <a href="#">C04B 2237/88</a> }	23/046	. . {of natural rubber or synthetic rubber}
<b>19/00</b>	<b>Layered products comprising {a layer of} natural mineral fibres or particles, e.g. asbestos, mica</b>	23/048	. . {of foam}
19/02	. {the layer of fibres or particles being impregnated or} embedded in a plastic substance	23/06	. . of paper or cardboard
19/04	. next to another layer of {the same or of} a {different material (next to a glass layer <a href="#">B32B 17/067</a> )}	23/08	. . of synthetic resin
19/041	. . {of metal}	23/10	. next to a fibrous or filamentary layer
19/042	. . {of wood}	23/12	. next to a particulate layer
19/043	. . {of natural rubber or synthetic rubber}	23/14	. characterised by containing special compounding ingredients
19/045	. . {of synthetic resin}	23/16	. . Modifying agents
19/046	. . {of paper or cardboard}	23/18	. . Fillers
19/047	. . {of foam}	23/20	. comprising esters
19/048	. . {made of particles}	23/22	. comprising ethers
19/06	. next to a fibrous or filamentary layer	<b>25/00</b>	<b>Layered products comprising {a layer of} natural or synthetic rubber {(fibrous or filamentary layer made of a natural or synthetic rubber <a href="#">B32B 5/02</a>; particulate layer made of a natural or synthetic rubber <a href="#">B32B 5/16</a>; foamed layer made of a natural or synthetic rubber <a href="#">B32B 5/18</a>)}</b>
19/08	. comprising asbestos	25/02	. with fibres or particles {being present as additives in the layer}
<b>21/00</b>	<b>Layered products comprising {a layer of} wood, e.g. wood board, veneer, wood particle board</b>	25/04	. comprising rubber as the main or only constituent of a layer, {which is} next to another layer of {the same or of} a {different material (next to a layer of a particular substance <a href="#">B32B 9/043</a> ; next to a bituminous or tarry layer <a href="#">B32B 11/044</a> ; next to a water setting substance layer <a href="#">B32B 13/042</a> ; next to a metal layer <a href="#">B32B 15/06</a> ; next to a glass layer <a href="#">B32B 17/063</a> ; next to a layer formed of natural mineral fibres or particles <a href="#">B32B 19/043</a> ; next to a wood layer <a href="#">B32B 21/045</a> ; next to a cellulosic plastic layer <a href="#">B32B 23/046</a> )}
21/02	. {the layer being formed} of fibres, chips, or particles {, e.g. MDF, HDF, OSB, chipboard, particle board, hardboard}	25/042	. . {of natural rubber or synthetic rubber}
		25/045	. . {of foam}

- 25/047 . . {of particles}
- 25/06 . . of paper or cardboard
- 25/08 . . of synthetic resin
- 25/10 . next to a fibrous or filamentary layer
- 25/12 . comprising natural rubber
- 25/14 . comprising {synthetic rubber copolymers (B32B 25/18 and B32B 25/20 take precedence)}
- 25/16 . comprising polydienes {homopolymers} or polyhalodienes {homopolymers (B32B 25/12 takes precedence)}
- 25/18 . comprising butyl or halobutyl rubber
- 25/20 . comprising silicone rubber
- 27/00 Layered products comprising {a layer of} synthetic resin {(fibrous or filamentary layer made of a synthetic resin B32B 5/02; particulate layer made of a synthetic resin B32B 5/16; foamed layer made of a synthetic resin B32B 5/18)}**

**NOTE**

This group covers all synthetic resins except those covered by B32B 25/00 or B32B 23/00

- 27/02 . in the form of fibres or filaments {(not used)}
- 27/04 . as impregnant, bonding, or embedding substance {(not used)}
- 27/06 . as the main or only constituent of a layer, {which is} next to another layer of {the same or of} a {different material (next to a layer of a particular substance B32B 9/045; next to a bituminous or tarry layer B32B 11/046; next to a water setting substance layer B32B 13/12; next to a metal layer B32B 15/08; next to a glass layer B32B 17/10; next to a layer formed of natural mineral fibres or particles B32B 19/045; next to a wood layer B32B 21/08; next to a cellulosic plastic layer B32B 23/08; next to a natural or synthetic rubber layer B32B 25/08)}
- 27/065 . . {of foam}
- 27/08 . . of synthetic resin
- 27/10 . . of paper or cardboard
- 27/12 . next to a fibrous or filamentary layer
- 27/14 . next to a particulate layer
- 27/16 . specially treated, e.g. irradiated
- 27/18 . characterised by the use of special additives
- 27/20 . . using fillers, pigments, thixotroping agents
- 27/205 . . . {the fillers creating voids or cavities, e.g. by stretching}
- 27/22 . . using plasticisers
- 27/24 . . using solvents or swelling agents
- 27/26 . . using curing agents
- 27/28 . comprising synthetic resins not wholly covered by any one of the sub-groups {B32B 27/30 - B32B 27/42}
- 27/281 . . {comprising polyimides}
- 27/283 . . {comprising polysiloxanes}
- 27/285 . . {comprising polyethers}
- 27/286 . . {comprising polysulphones; polysulfides}
- 27/288 . . {comprising polyketones}
- 27/30 . comprising vinyl {(co)polymers; comprising acrylic (co)polymers}
- 27/302 . . {comprising aromatic vinyl (co)polymers, e.g. styrenic (co)polymers}
- 27/304 . . {comprising vinyl halide (co)polymers, e.g. PVC, PVDC, PVF, PVDF}

- 27/306 . . {comprising vinyl acetate or vinyl alcohol (co)polymers}
- 27/308 . . {comprising acrylic (co)polymers}
- 27/32 . comprising polyolefins {(comprising vinyl (co)polymers or acrylic (co)polymers B32B 27/30)}
- 27/322 . . {comprising halogenated polyolefins, e.g. PTFE}
- 27/325 . . {comprising polycycloolefins}
- 27/327 . . {comprising polyolefins obtained by a metallocene or single-site catalyst}
- 27/34 . comprising polyamides
- 27/36 . comprising polyesters
- 27/365 . . {comprising polycarbonates}
- 27/38 . comprising epoxy resins
- 27/40 . comprising polyurethanes
- 27/42 . comprising condensation resins of aldehydes, e.g. with phenols, ureas or melamines

**29/00 Layered products comprising {a layer of} paper or cardboard**

- 29/002 . {as the main or only constituent of a layer, which is next to another layer of the same or of a different material (next to a layer of a particular substance B32B 9/06; next to a bituminous or tarry layer B32B 11/06; next to a water-setting substance layer B32B 13/08; next to a metal layer B32B 15/12; next to a glass layer B32B 17/065; next to a layer formed of natural mineral fibres or particles B32B 19/046; next to a wood layer B32B 21/06; next to a cellulosic plastic layer B32B 23/06; next to a natural or synthetic rubber layer B32B 25/06; next to a synthetic resin layer B32B 27/10)}
- 29/005 . . {next to another layer of paper or cardboard layer}
- 29/007 . . {next to a foam layer}
- 29/02 . next to a fibrous or filamentary layer
- 29/04 . next to a particulate layer
- 29/06 . specially treated, e.g. surfaced, parchmentised
- 29/08 . Corrugated paper or cardboard

**33/00 Layered products characterised by particular properties or particular surface features, e.g. particular surface coatings; Layered products designed for particular purposes not covered by another single class****Methods or apparatus for making layered products; Treatment of the layers or of the layered products****NOTE**

In groups B32B 37/00{ , B32B 38/00, B32B 41/00 } and B32B 39/00, the following expressions are used with the meaning indicated:

- {"lay-up" is considered to be the action of combining separate layers, one on top of the other, in order to form a half-product for entering the laminating process}
- "laminating" means the action of combining previously unconnected {but possibly laid up} layers to become one product whose layers will remain together;
- "partial laminating" occurs when one layer does not fully cover a surface of another layer, whereby the layer with the greater surface area is laminated on only part of its surface;



- "adhesive" means a layer, or part of a layer, applied in any state or in any manner which is incorporated for the purpose of bonding.
- 37/00 Methods or apparatus for laminating, e.g. by curing or by ultrasonic bonding**
  - 37/0007 . {involving treatment or provisions in order to avoid deformation or air inclusion, e.g. to improve surface quality}
  - 37/0015 . . {to avoid warp or curl}
  - 37/0023 . . {around holes, apertures or channels present in at least one layer}
  - 37/003 . . {to avoid air inclusion}
  - 37/0038 . {involving application of liquid to the layers prior to lamination, e.g. wet laminating (B32B 37/12 takes precedence)}
  - 37/0046 . {characterised by constructional aspects of the apparatus}
  - 37/0053 . . {Constructional details of laminating machines comprising rollers; Constructional features of the rollers}
  - 2037/0061 . . {the apparatus being an office laminator}
  - 2037/0069 . . {the apparatus being originally designed for another function, e.g. printer, photocopier}
  - 37/0076 . {characterised in that the layers are not bonded on the totality of their surfaces}
  - 37/0084 . . {Point bonding}
  - 2037/0092 . {in which absence of adhesives is explicitly presented as an advantage}
  - 37/02 . characterised by a sequence of laminating steps, e.g. by adding new layers at consecutive laminating stations
  - 37/025 . . {Transfer laminating}
  - 37/04 . characterised by the partial melting of at least one layer
  - 37/06 . characterised by the heating method
  - 37/065 . . {resulting in the laminate being partially bonded (B32B 37/0076 takes precedence)}
  - 37/08 . characterised by the cooling method
  - 37/085 . . {Quenching}
  - 37/10 . characterised by the pressing technique, e.g. using action of vacuum or fluid pressure
  - 37/1009 . . {using vacuum and fluid pressure}
  - 37/1018 . . {using only vacuum}
  - 37/1027 . . {Pressing using at least one press band}
  - 37/1036 . . . {Pressing between one press band and a cylinder}
  - 37/1045 . . {Intermittent pressing, e.g. by oscillating or reciprocating motion of the pressing means (B32B 37/0076 takes precedence)}
  - 37/1054 . . {Regulating the dimensions of the laminate, e.g. by adjusting the nip or platen gap}
  - 2037/1063 . . {using an electrostatic force}
  - 2037/1072 . . {using a fluid jet}
  - 2037/1081 . . {using a magnetic force}
  - 2037/109 . . {using a squeegee}
  - 37/12 . characterised by using adhesives
  - 37/1207 . . {Heat-activated adhesive (B32B 37/04 takes precedence)}
  - 2037/1215 . . . {Hot-melt adhesive}
  - 2037/1223 . . . . {film-shaped}
  - 2037/123 . . . . {net-shaped}
  - 2037/1238 . . . . {in the form of powder}
  - 2037/1253 . . {curable adhesive}
  - 2037/1261 . . . . {moisture curable}
  - 2037/1269 . . {multi-component adhesive}
  - 2037/1276 . . {water-based adhesive}
  - 37/1284 . . {Application of adhesive}
  - 37/1292 . . . . {selectively, e.g. in stripes, in patterns (B32B 37/0076 takes precedence)}
  - 37/14 . characterised by the properties of the layers
  - 37/142 . . {Laminating of sheets, panels or inserts, e.g. stiffeners, by wrapping in at least one outer layer, or inserting into a preformed pocket}
  - 37/144 . . {using layers with different mechanical or chemical conditions or properties, e.g. layers with different thermal shrinkage, layers under tension during bonding (constructional features for tensioning B32B 38/1825)}
  - 37/146 . . {whereby one or more of the layers is a honeycomb structure}
  - 2037/148 . . {whereby layers material is selected in order to facilitate recycling of the laminate}
  - 37/15 . . with at least one layer being manufactured and immediately laminated before reaching its stable state, e.g. in which a layer is extruded and laminated while in semi-molten state
  - 37/153 . . . . {at least one layer is extruded and immediately laminated while in semi-molten state}
  - 37/156 . . . . {at least one layer is calendered and immediately laminated}
  - 37/16 . . with all layers existing as coherent layers before laminating
  - 37/18 . . . . involving the assembly of discrete sheets or panels only
  - 37/182 . . . . . {one or more of the layers being plastic}
  - 37/185 . . . . . {Laminating sheets, panels or inserts between two discrete plastic layers}
  - 37/187 . . . . . {the layers being placed in a carrier before going through the lamination process}
  - 37/20 . . . . involving the assembly of continuous webs only
  - 37/203 . . . . . {One or more of the layers being plastic}
  - 37/206 . . . . . {Laminating a continuous layer between two continuous plastic layers}
  - 37/22 . . . . involving the assembly of both discrete and continuous layers
  - 37/223 . . . . . {One or more of the layers being plastic}
  - 37/226 . . . . . {Laminating sheets, panels or inserts between two continuous plastic layers}
  - 37/24 . . with at least one layer not being coherent before laminating, e.g. made up from granular material sprinkled onto a substrate (B32B 37/15 takes precedence)
  - 2037/243 . . . . {Coating}
  - 2037/246 . . . . {Vapour deposition}
  - 37/26 . . with at least one layer which influences the bonding during the lamination process, e.g. release layers or pressure equalising layers
  - 2037/262 . . . . {Partition plates or sheets for separating several laminates pressed simultaneously}
  - 2037/264 . . . . {Pressure equalizing layers}
  - 2037/266 . . . . {Cushioning layers}
  - 2037/268 . . . . {Release layers}
  - 37/28 . involving assembly of non-flat intermediate products which are flattened at a later step, e.g. tubes

37/30	Partial laminating	2038/166	. . . {Removing moisture}
<b>38/00</b>	<b>Ancillary operations in connection with laminating processes</b>	2038/168	. . . {Removing solvent}
	<b>NOTE</b>	38/18	Handling of layers or the laminate
	{In this group, the following expression is used with the meaning indicated:	38/1808	. . {characterised by the laying up of the layers}
	• "in connection with laminating processes"	38/1816	. . . {Cross feeding of one or more of the layers}
	means ancillary operations are carried out either	38/1825	. . {characterised by the control or constructional features of devices for tensioning, stretching or registration}
	a. as steps of the lamination processes, or	38/1833	. . . {Positioning, e.g. registration or centering}
	b. in line with the lamination processes, just before or immediately after.}	38/1841	. . . . {during laying up}
38/0004	. {Cutting, tearing or severing, e.g. bursting; Cutter details (cutting in general <a href="#">B26D</a> ; laminating combined with punching or perforating <a href="#">B32B 38/04</a> ; removing all or part of the layers <a href="#">B32B 38/10</a> ; cutting in combination with laying up and registration <a href="#">B32B 38/185</a> takes precedence)}	38/185	. . . . . {combined with the cutting of one or more layers}
38/0008	. {Electrical discharge treatment, e.g. corona, plasma treatment; wave energy or particle radiation (heat treatment <a href="#">B32B 38/0036</a> )}	38/1858	. . {using vacuum}
38/0012	. {Mechanical treatment, e.g. roughening, deforming, stretching}	38/1866	. . {conforming the layers or laminate to a convex or concave profile}
2038/0016	. . {Abrading}	38/1875	. . {Tensioning}
2038/002	. . {Sandblasting}	38/1883	. . {Detensioning}
2038/0024	. . {Crushing}	2038/1891	. . {Using a robot for handling the layers}
2038/0028	. . {Stretching, elongating}	<b>39/00</b>	<b>Layout of apparatus or plants, e.g. modular laminating systems</b>
38/0032	. {increasing porosity ( <a href="#">B32B 38/04</a> takes precedence)}	<b>41/00</b>	<b>Arrangements for controlling or monitoring lamination processes; Safety arrangements</b>
38/0036	. {Heat treatment (for heating or cooling of layers during lamination <a href="#">B32B 37/06</a> , <a href="#">B32B 37/08</a> )}	41/02	. Safety arrangements
38/004	. . {by physically contacting the layers, e.g. by the use of heated platens or rollers}	2041/04	. {Detecting wrong registration, misalignment, deviation, failure}
2038/0044	. . {for creating local stresses}	2041/06	. {Starting the lamination machine or method}
2038/0048	. . {Annealing, relaxing}	<b>43/00</b>	<b>Operations specially adapted for layered products and not otherwise provided for, e.g. repairing; Apparatus therefor</b>
2038/0052	. {Other operations not otherwise provided for}	43/003	. {Cutting}
2038/0056	. . {Moistening}	43/006	. {Delaminating}
2038/006	. . {Relieving internal or residual stresses}	<b>Layer arrangements; Coating, impregnation or embedding of layers; Composition of fibres, particles or foam present on a layer; Resin or rubber layer containing a blend of polymers or recycled material</b>	
2038/0064	. . {Smoothing, polishing, making a glossy surface}	<b>2250/00</b>	<b>Layers arrangement</b>
2038/0068	. . {Changing crystal orientation}	2250/02	. 2 layers
2038/0072	. . {Orienting fibers}	2250/03	. 3 layers
2038/0076	. . {Curing, vulcanising, cross-linking}	2250/04	. 4 layers
2038/008	. . {Sewing, stitching}	2250/05	. 5 or more layers
2038/0084	. . {Foaming}	2250/20	. All layers being fibrous or filamentary
2038/0088	. . {Expanding, swelling}	2250/22	. All layers being foamed
2038/0092	. . {Metallizing}	2250/24	. All layers being polymeric
2038/0096	. . {Riveting}	2250/242	. . All polymers belonging to those covered by group <a href="#">B32B 27/32</a>
38/04	. Punching, slitting or perforating	2250/244	. . All polymers belonging to those covered by group <a href="#">B32B 27/36</a>
2038/042	. . {Punching}	2250/246	. . All polymers belonging to those covered by groups <a href="#">B32B 27/32</a> and <a href="#">B32B 27/30</a>
2038/045	. . {Slitting}	2250/248	. . All polymers belonging to those covered by group <a href="#">B32B 25/00</a>
2038/047	. . {Perforating}	2250/26	. All layers being made of paper or paperboard
38/06	. Embossing	2250/40	. Symmetrical or sandwich layers, e.g. ABA, ABCBA, ABCCBA
38/08	. Impregnating	2250/42	. Alternating layers, e.g. ABAB(C), AABBAABB(C)
38/10	. Removing layers, or parts of layers, mechanically or chemically	2250/44	. Number of layers variable across the laminate
38/105	. . {on edges}		
38/12	. Deep-drawing		
38/14	. Printing or colouring		
38/145	. . {Printing}		
38/16	. Drying; Softening; Cleaning		
38/162	. . {Cleaning}		
38/164	. . {Drying}		

<b>2255/00</b>	<b>Coating on the layer surface</b>		
	<b>NOTE</b>		
	This group is for classification of coatings on a layered product. Specific details of coatings or processes thereof can be found in <a href="#">C08J 7/00</a> , <a href="#">B05D</a> , <a href="#">C09D</a> , <a href="#">C09J</a> , <a href="#">C23C</a> or <a href="#">D06M</a> .		
2255/02	. on fibrous or filamentary layer	2262/06	. Vegetal fibres
2255/04	. on a particulate layer	2262/062	. . Cellulose fibres, e.g. cotton
2255/06	. on metal layer	2262/065	. . . Lignocellulosic fibres, e.g. jute, sisal, hemp, flax, bamboo
2255/062	. . metal layer being a foamed layer	2262/067	. . . Wood fibres
2255/08	. on wood layer	2262/08	. Animal fibres, e.g. hair, wool, silk
2255/10	. on synthetic resin layer or on natural or synthetic rubber layer	2262/10	. Inorganic fibres ( <a href="#">layered products comprising a layer of natural mineral fibres B32B 19/00</a> )
2255/102	. . synthetic resin or rubber layer being a foamed layer	2262/101	. . Glass fibres
2255/12	. on paper layer	2262/103	. . Metal fibres
2255/20	. Inorganic coating	2262/105	. . Ceramic fibres
2255/205	. . Metallic coating	2262/106	. . Carbon fibres, e.g. graphite fibres
2255/24	. Organic non-macromolecular coating	2262/108	. . Rockwool fibres
2255/26	. Polymeric coating	2262/12	. Conjugate fibres, e.g. core/sheath, side-by-side
2255/28	. Multiple coating on one surface	2262/14	. Mixture of at least two fibres made of different materials
<b>2260/00</b>	<b>Layered product comprising an impregnated, embedded, or bonded layer wherein the layer comprises an impregnation, embedding, or binder material</b>	<b>2264/00</b>	<b>Composition or properties of particles which form a particulate layer or are present as additives</b>
2260/02	. Composition of the impregnated, bonded or embedded layer	2264/02	. Synthetic macromolecular particles
2260/021	. . Fibrous or filamentary layer ( <a href="#">layers of natural mineral fibres or particles being impregnated in a plastic substance B32B 19/02</a> )	2264/0207	. . Particles made of materials belonging to <a href="#">B32B 25/00</a>
2260/023	. . . Two or more layers	2264/0214	. . Particles made of materials belonging to <a href="#">B32B 27/00</a>
2260/025	. . Particulate layer ( <a href="#">layers of natural mineral fibres or particles being impregnated in a plastic substance B32B 19/02</a> )	2264/0221	. . . Thermoplastic elastomer particles
2260/026	. . Wood layer	2264/0228	. . . Vinyl resin particles, e.g. polyvinyl acetate, polyvinyl alcohol polymers or ethylene-vinyl acetate copolymers
2260/028	. . Paper layer	2264/0235	. . . . Aromatic vinyl resin, e.g. styrenic (co)polymers
2260/04	. Impregnation, embedding, or binder material	2264/0242	. . . . Vinyl halide, e.g. PVC, PVDC, PVF or PVDF (co)polymers
2260/042	. . Bituminous or tarry substance	2264/025	. . . Acrylic resin particles, e.g. polymethyl methacrylate or ethylene-acrylate copolymers
2260/044	. . Water-setting substance, e.g. concrete, plaster	2264/0257	. . . Polyolefin particles, e.g. polyethylene or polypropylene homopolymers or ethylene-propylene copolymers
2260/046	. . Synthetic resin	2264/0264	. . . Polyamide particles
2260/048	. . Natural or synthetic rubber	2264/0271	. . . . Aromatic polyamide particles
<b>2262/00</b>	<b>Composition of fibres which form a fibrous or filamentary layer or are present as additives</b>	2264/0278	. . . Polyester particles
2262/02	. Synthetic macromolecular fibres	2264/0285	. . . . PET or PBT
2262/0207	. . Elastomeric fibres	2264/0292	. . . Polyurethane particles
2262/0215	. . . Thermoplastic elastomer fibers	2264/04	. Cellulosic particles, e.g. rayon
2262/0223	. . Vinyl resin fibres	2264/06	. Vegetal particles
2262/023	. . . Aromatic vinyl resin, e.g. styrenic (co)polymers	2264/062	. . Cellulose particles, e.g. cotton
2262/0238	. . . Vinyl halide, e.g. PVC, PVDC, PVF, PVDF	2264/065	. . . Lignocellulosic particles, e.g. jute, sisal, hemp, flax, bamboo
2262/0246	. . Acrylic resin fibres	2264/067	. . . Wood particles
2262/0253	. . Polyolefin fibres ( <a href="#">vinyl or acrylic copolymers B32B 2262/0223</a> or <a href="#">B32B 2262/0246</a> )	2264/08	. Animal particles, e.g. leather
2262/0261	. . Polyamide fibres	2264/10	. Inorganic particles
2262/0269	. . . Aromatic polyamide fibres	2264/101	. . Glass
2262/0276	. . Polyester fibres	2264/102	. . Oxide or hydroxide
2262/0284	. . . Polyethylene terephthalate [PET] or polybutylene terephthalate [PBT]	2264/1021	. . . Silica
2262/0292	. . Polyurethane fibres	2264/1022	. . . Titania
2262/04	. Cellulosic plastic fibres, e.g. rayon	2264/1023	. . . Alumina
		2264/1024	. . . Zirconia
		2264/1025	. . . Zinc oxide
		2264/1026	. . . Mica
		2264/1027	. . . Clay
		2264/104	. . Oxysalt, e.g. carbonate, sulfate, phosphate or nitrate particles
		2264/105	. . Metal
		2264/1051	. . . Silver or gold

2264/1052	. . . Aluminum
2264/1053	. . . Alkali metal
2264/1054	. . . Alkaline earth metal
2264/1055	. . . Copper or nickel
2264/1056	. . . Iron or steel
2264/1057	. . . Chromium
2264/1058	. . . Titanium
2264/1059	. . . Zinc
2264/107	. . Ceramic
2264/108	. . . Carbon, e.g. graphite particles
2264/12	. Mixture of at least two particles made of different materials
2264/20	. Particles characterised by shape
2264/201	. . Flat or platelet-shaped particles, e.g. flakes
2264/202	. . Solid spheres
2264/203	. . Expanded, porous or hollow particles
2264/2031	. . . Porous particles
2264/2032	. . . Hollow spheres
2264/204	. . Rod- or needle-shaped particles
2264/30	. Particles characterised by physical dimension
2264/301	. . Average diameter smaller than 100 nm
2264/302	. . Average diameter in the range from 100 nm to 1000 nm
2264/303	. . Average diameter greater than 1µm
2264/304	. . Particle length
2264/305	. . Particle size distribution, e.g. unimodal size distribution
2264/306	. . . Multimodal particle size distribution
2264/3065	. . . . bimodal size distribution
2264/307	. . Surface area of particles
2264/308	. . Aspect ratio of particles
2264/40	. Pretreated particles
2264/401	. . with inorganic substances
2264/402	. . with organic substances
2264/4021	. . . with silicon-containing compounds
2264/403	. . coated or encapsulated
2264/50	. Particles characterised by their position or distribution in a layer
2264/501	. . homogeneously distributed
2264/502	. . distributed in a gradient manner
2264/503	. . distributed in a predetermined pattern in a thickness direction
2264/504	. . distributed in a predetermined pattern in a direction perpendicular to the thickness
<b>2266/00</b>	<b>Composition of foam</b>
2266/02	. Organic
2266/0207	. . Materials belonging to <a href="#">B32B 25/00</a>
2266/0214	. . Materials belonging to <a href="#">B32B 27/00</a>
2266/0221	. . . Vinyl resin
2266/0228	. . . . Aromatic vinyl resin, e.g. styrenic (co)polymers
2266/0235	. . . . Vinyl halide, e.g. PVC, PVDC, PVF, PVDF
2266/0242	. . . Acrylic resin
2266/025	. . . Polyolefin ( <a href="#">vinyl or acrylic copolymers B32B 2266/0221, B32B 2266/0242</a> )
2266/0257	. . . Polyamide
2266/0264	. . . Polyester
2266/0271	. . . Epoxy resin
2266/0278	. . . Polyurethane
2266/0285	. . . Condensation resins of aldehydes, e.g. with phenols, ureas, melamines

2266/0292	. . . Thermoplastic elastomer
2266/031	. . Bituminous or tarry material
2266/04	. Inorganic
2266/045	. . Metal
2266/049	. . Water-setting material, e.g. concrete, plaster or asbestos cement
2266/053	. . Mineral element, e.g. asbestos or mica
2266/057	. . Silicon-containing material, e.g. glass
2266/06	. Open cell foam
2266/08	. Closed cell foam
2266/10	. characterised by the foam pores
2266/102	. . Nanopores, i.e. with average diameter smaller than 0.1 µm
2266/104	. . Micropores, i.e. with average diameter in the range from 0.1 µm to 0.1 mm
2266/106	. . Unimodal pore distribution
2266/108	. . Bimodal pore distribution
2266/12	. Gel
2266/122	. . Hydrogel, i.e. a gel containing an aqueous composition
2266/124	. . Organogel, i.e. a gel containing an organic composition
2266/126	. . Aerogel, i.e. a supercritically dried gel
2266/128	. . Xerogel, i.e. an air dried gel
2266/14	. Adhesive foam

**2270/00 Resin or rubber layer containing a blend of at least two different polymers**

**2272/00 Resin or rubber layer comprising scrap, waste or recycling material**

**2274/00 Thermoplastic elastomer material** ([thermoplastic elastomer fibres B32B 2262/0215](#), [thermoplastic elastomer particles B32B 2264/0221](#), [thermoplastic elastomer foam B32B 2266/0292](#))

#### Condition, form, state or properties of the layers or laminate

<b>2305/00</b>	<b>Condition, form or state of the layers or laminate</b>
2305/02	. Cellular or porous
2305/022	. . Foam
2305/024	. . Honeycomb
2305/026	. . Porous
2305/028	. . Hollow fillers; Syntactic material
2305/07	. Parts immersed or impregnated in a matrix
2305/073	. . partially
2305/076	. . Prepregs
2305/08	. Reinforcements
2305/10	. Fibres of continuous length
2305/18	. . Fabrics, textiles
2305/182	. . . knitted
2305/184	. . . Braided fabrics
2305/186	. . . Knitted fabrics
2305/188	. . . Woven fabrics
2305/20	. . in the form of a non-woven mat
2305/22	. Fibres of short length
2305/24	. . Whiskers
2305/28	. . in the form of a mat
2305/30	. Fillers, e.g. particles, powders, beads, flakes, spheres, chips
2305/34	. Inserts
2305/342	. . Chips
2305/345	. . Heating elements



2305/347	. . Security elements
2305/38	. Meshes, lattices or nets
2305/54	. Filled microcapsules
2305/55	. Liquid crystals
2305/70	. Scrap or recycled material
2305/72	. Cured, e.g. vulcanised, cross-linked
2305/74	. Partially cured
2305/77	. Uncured, e.g. green
2305/80	. Sintered
<b>2307/00</b>	<b>Properties of the layers or laminate</b>
2307/10	. having particular acoustical properties
2307/102	. . Insulating
2307/20	. having particular electrical or magnetic properties, e.g. piezoelectric
2307/202	. . Conductive
2307/204	. . Di-electric
2307/206	. . Insulating
2307/208	. . Magnetic, paramagnetic
2307/21	. . Anti-static
2307/212	. . Electromagnetic interference shielding
2307/30	. having particular thermal properties
2307/302	. . Conductive
2307/304	. . Insulating
2307/306	. . Resistant to heat
2307/3065	. . . Flame resistant or retardant, fire resistant or retardant
2307/308	. . Heat stability ( <a href="#">dimensional stability B32B 2307/734</a> )
2307/31	. . Heat sealable
2307/40	. having particular optical properties ( <a href="#">light or UV resistant B32B 2307/71</a> )
2307/402	. . Coloured
2307/4023	. . . on the layer surface, e.g. ink
2307/4026	. . . within the layer by addition of a colorant, e.g. pigments, dyes
2307/404	. . . Multi-coloured
2307/406	. . Bright, glossy, shiny surface
2307/408	. . Matt, dull surface
2307/409	. . Iridescent, pearlescent surface
2307/41	. . Opaque
2307/412	. . Transparent
2307/414	. . Translucent
2307/416	. . Reflective
2307/418	. . Refractive
2307/42	. . Polarizing, birefringent, filtering
2307/422	. . Luminescent, fluorescent, phosphorescent
2307/50	. having particular mechanical properties
2307/51	. . Elastic
2307/514	. . Oriented
2307/516	. . . mono-axially
2307/518	. . . bi-axially
2307/52	. . . multi-axially
2307/536	. . Hardness
2307/538	. . Roughness
2307/54	. . Yield strength; Tensile strength
2307/542	. . Shear strength
2307/544	. . Torsion strength; Torsion stiffness
2307/546	. . Flexural strength; Flexion stiffness
2307/548	. . Creep
2307/552	. . Fatigue strength
2307/554	. . Wear resistance

2307/558	. . Impact strength, toughness
2307/56	. . Damping, energy absorption
2307/58	. . Cuttability
2307/581	. . . Resistant to cut
2307/582	. . Tearability
2307/5825	. . . Tear resistant
2307/584	. . Scratch resistance
2307/70	. Other properties
2307/702	. . Amorphous
2307/704	. . Crystalline
2307/706	. . Anisotropic
2307/708	. . Isotropic
2307/71	. . Resistant to light or to UV
2307/712	. . Weather resistant
2307/714	. . Inert, i.e. inert to chemical degradation, corrosion
2307/7145	. . . Rot proof, resistant to bacteria, mildew, mould, fungi
2307/716	. . Degradable
2307/7163	. . . Biodegradable
2307/7166	. . . Water-soluble, water-dispersible
2307/718	. . Weight, e.g. weight per square meter
2307/72	. . Density
2307/722	. . . Non-uniform density
2307/724	. . Permeability to gases, adsorption
2307/7242	. . . Non-permeable
2307/7244	. . . . Oxygen barrier
2307/7246	. . . . Water vapor barrier
2307/7248	. . . . Odour barrier
2307/726	. . Permeability to liquids, absorption
2307/7265	. . . Non-permeable
2307/728	. . Hydrophilic
2307/73	. . Hydrophobic
2307/732	. . Dimensional properties
2307/734	. . . Dimensional stability
2307/736	. . . . Shrinkable
2307/738	. . Thermoformability
2307/74	. . Oxygen absorber
2307/744	. . Non-slip, anti-slip
2307/746	. . Slipping, anti-blocking, low friction
2307/748	. . Releasability
2307/75	. . Printability
2307/752	. . Corrosion inhibitor
2307/754	. . Self-cleaning
2307/756	. . Refurbishable, i.e. marks or scratches can be removed
2307/758	. . Odour absorbent
2307/762	. . Self-repairing, self-healing
2307/764	. . Insect repellent

**Operating procedures; Apparatus details**

<b>2309/00</b>	<b>Parameters for the laminating or treatment process; Apparatus details</b>
2309/02	. Temperature
2309/022	. . Temperature vs pressure profiles
2309/025	. . Temperature vs time profiles
2309/027	. . Ambient temperature
2309/04	. Time
2309/06	. Angles
2309/08	. Dimensions, e.g. volume
2309/10	. . linear, e.g. length, distance, width
2309/105	. . . Thickness

- 2309/12 . Pressure
- 2309/125 . . Pressure vs time profiles
- 2309/14 . Velocity, e.g. feed speeds
- 2309/16 . Tension
- 2309/60 . In a particular environment
- 2309/62 . . Inert
- 2309/64 . . Sterile
- 2309/65 . . Dust free, e.g. clean room
- 2309/66 . . Fluid other than air
- 2309/68 . . Vacuum
- 2309/70 . Automated, e.g. using a computer or microcomputer
- 2309/72 . . For measuring or regulating, e.g. systems with feedback loops

#### **2310/00 Treatment by energy or chemical effects**

- 2310/021 . using electrical effects ([B32B 2310/08](#) and [B32B 2310/12](#) take precedence)
- 2310/022 . . Electrical resistance
- 2310/024 . . Peltier effect
- 2310/025 . . Electrostatic charges
- 2310/027 . using friction
- 2310/028 . using vibration, e.g. sonic or ultrasonic
- 2310/04 . using liquids, gas or steam
- 2310/0409 . . using liquids
- 2310/0418 . . . other than water
- 2310/0427 . . . Liquified gases
- 2310/0436 . . . Oil
- 2310/0445 . . using gas or flames ([B32B 2310/0427](#) takes precedence)
- 2310/0454 . . . Hot air
- 2310/0463 . . . other than air
- 2310/0472 . . . . inert gas
- 2310/0481 . . . . Ozone
- 2310/049 . . using steam or damp
- 2310/08 . by wave energy or particle radiation
- 2310/0806 . . using electromagnetic radiation
- 2310/0812 . . . using induction
- 2310/0818 . . . . using eddy currents
- 2310/0825 . . . using IR radiation
- 2310/0831 . . . using UV radiation
- 2310/0837 . . . using actinic light
- 2310/0843 . . . using laser
- 2310/085 . . . using X-ray
- 2310/0856 . . . using gamma-ray
- 2310/0862 . . . using microwave
- 2310/0868 . . . using radio frequency
- 2310/0875 . . using particle radiation
- 2310/0881 . . . using ion-radiation, e.g. alpha-rays
- 2310/0887 . . . using electron radiation, e.g. beta-rays
- 2310/0893 . . . using neutron radiation
- 2310/12 . using dielectric properties
- 2310/14 . Corona, ionisation, electrical discharge, plasma treatment

#### **Inorganic materials used for the layers, laminate or apparatus components**

##### **2311/00 Metals, their alloys or their compounds**

##### **NOTE**

Alloys and compounds of specific metals are indexed with the same indexing code as the specific metals

- 2311/005 . Shape memory alloys
- 2311/02 . Noble metals
- 2311/04 . . Gold
- 2311/06 . . Platinum
- 2311/08 . . Silver
- 2311/09 . . Palladium
- 2311/10 . Mercury
- 2311/12 . Copper
- 2311/14 . Lead
- 2311/16 . Tin
- 2311/18 . Titanium
- 2311/20 . Zinc
- 2311/22 . Nickel or cobalt
- 2311/24 . Aluminium
- 2311/30 . Iron, e.g. steel

##### **2313/00 Elements other than metals**

- 2313/02 . Boron
- 2313/04 . Carbon

##### **2315/00 Other materials containing non-metallic inorganic compounds not provided for in groups [B32B 2311/00](#) - [B32B 2313/04](#)**

- 2315/02 . Ceramics
- 2315/06 . Concrete
- 2315/08 . Glass
- 2315/085 . . Glass fiber cloth or fabric
- 2315/10 . Mica
- 2315/12 . Asbestos
- 2315/14 . Mineral wool
- 2315/16 . Clay
- 2315/18 . Plaster

##### **Other natural products or their composites used for the layers, laminate or apparatus components not provided for in groups [B32B 2311/00](#) - [B32B 2315/18](#) and [B32B 2319/00](#) - [B32B 2398/20](#)**

##### **2317/00 Animal or vegetable based**

- 2317/02 . Cork
- 2317/04 . Linoleum
- 2317/06 . Bone; Horn; Ivory
- 2317/08 . Natural leather
- 2317/10 . Natural fibres, e.g. wool, cotton
- 2317/12 . Paper, e.g. cardboard
- 2317/122 . . Kraft paper
- 2317/125 . . impregnated with thermosetting resin
- 2317/127 . . Corrugated cardboard
- 2317/16 . Wood, e.g. woodboard, fibreboard, woodchips
- 2317/18 . Cellulose, modified cellulose or cellulose derivatives, e.g. viscose ([B32B 2317/10](#), [B32B 2317/12](#), [B32B 2317/16](#) take precedence)
- 2317/20 . Starch
- 2317/22 . Natural rubber ([synthetic rubber B32B 2319/00](#))
- 2317/24 . Oil ([B32B 2318/02](#) takes precedence)

##### **2318/00 Mineral based**

- 2318/02 . Oil
- 2318/04 . Stone

**Organic materials used for the layers, laminate or apparatus components****2319/00** Synthetic rubber ([natural rubber B32B 2317/22](#))**NOTE**

In groups [B32B 2319/00](#) - [B32B 2386/00](#), C-Sets are used. Detailed information about C-Sets construction and the associated syntax rules is found in the Definitions.

**2323/00** Polyalkenes

- 2323/04 . Polyethylene
- 2323/043 . . HDPE, i.e. high density polyethylene
- 2323/046 . . LDPE, i.e. low density polyethylene
- 2323/10 . Polypropylene
- 2323/16 . EPDM, i.e. ethylene propylene diene monomer

**2325/00** Polymers of vinyl-aromatic compounds, e.g. polystyrene**2327/00** Polyvinylhalogenides

- 2327/06 . PVC, i.e. polyvinylchloride
- 2327/12 . containing fluorine
- 2327/18 . . PTFE, i.e. polytetrafluoroethylene

**2329/00** Polyvinylalcohols, polyvinylethers, polyvinylaldehydes, polyvinylketones or polyvinylketals

- 2329/04 . Polyvinylalcohol
- 2329/06 . PVB, i.e. polyvinylbutyral

**2331/00** Polyvinylesters

- 2331/04 . Polymers of vinyl acetate, e.g. PVA

**2333/00** Polymers of unsaturated acids or derivatives thereof

- 2333/04 . Polymers of esters
- 2333/08 . . Polymers of acrylic acid esters, e.g. PMA, i.e. polymethylacrylate
- 2333/12 . . Polymers of methacrylic acid esters, e.g. PMMA, i.e. polymethylmethacrylate

**2355/00** Specific polymers obtained by polymerisation reactions only involving carbon-to-carbon unsaturated bonds, not provided for in a single one of index codes [B32B 2323/00](#) - [B32B 2333/00](#)

- 2355/02 . ABS polymers, i.e. acrylonitrile-butadiene-styrene polymers

**2361/00** Phenoplast, aminoplast**2363/00** Epoxy resins**2367/00** Polyesters, e.g. PET, i.e. polyethylene terephthalate**2369/00** Polycarbonates**2371/00** Polyethers, e.g. PEEK, i.e. polyether-etherketone; PEK, i.e. polyetherketone**2375/00** Polyureas; Polyurethanes**2377/00** Polyamides**2379/00** Other polymers having nitrogen, with or without oxygen or carbon only, in the main chain

- 2379/08 . Polyimides

**2383/00** Polysiloxanes**2386/00** Specific polymers obtained by polycondensation or polyaddition not provided for in a single one of index codes [B32B 2363/00](#) - [B32B 2383/00](#)**2391/00** Waxes**2395/00** Bituminous material, e.g. tar, asphalt**2398/00** Unspecified macromolecular compounds

- 2398/10 . Thermosetting resins
- 2398/20 . Thermoplastics

**Particular articles****NOTE**

Parts of specific articles are indexed with the same indexing codes as the articles

**2405/00** Adhesive articles, e.g. adhesive tapes ([labels B32B 2519/00](#))**2410/00** Agriculture-related articles**2413/00** Belts ([conveyor belts B32B 2433/02](#); [drive belts B32B 2433/04](#))**2419/00** Buildings or parts thereof ([walls, panels B32B 2607/00](#))

- 2419/02 . Bricks
- 2419/04 . Tiles for floors or walls ([tiles for roofs B32B 2419/06](#))
- 2419/06 . Roofs, roof membranes

**2425/00** Cards, e.g. identity cards, credit cards**2429/00** Carriers for sound or information

- 2429/02 . Records or discs

**2432/00** Cleaning articles, e.g. mops, wipes ([personal care B32B 2555/00](#))**2433/00** Closed loop articles

- 2433/02 . Conveyor belts
- 2433/04 . Driving belts

**2435/00** Closures, end caps, stoppers

- 2435/02 . for containers

**2437/00** Clothing ([anti-ballistic clothing B32B 2571/02](#))

- 2437/02 . Gloves, shoes
- 2437/04 . Caps, helmets

**2439/00** Containers; Receptacles ([closures therefor B32B 2435/00](#))

- 2439/02 . Open containers
- 2439/06 . . Bags, sacks, sachets
- 2439/40 . Closed containers
- 2439/46 . . Bags
- 2439/60 . . Bottles
- 2439/62 . . Boxes, cartons, cases
- 2439/66 . . Cans, tins
- 2439/70 . Food packaging
- 2439/80 . Medical packaging

**2451/00** Decorative or ornamental articles ([wall paper B32B 2607/02](#))**2457/00** Electrical equipment

- 2457/04 . Insulators
- 2457/08 . PCBs, i.e. printed circuit boards

2457/10	. Batteries	2605/18	. Aircraft ( <a href="#">blades, propellers B32B 2603/00</a> )
2457/12	. Photovoltaic modules	<b>2607/00</b>	<b>Walls, panels</b>
2457/14	. Semiconductor wafers	2607/02	. Wall papers, wall coverings
2457/16	. Capacitors		
2457/18	. Fuel cells		
2457/20	. Displays, e.g. liquid crystal displays, plasma displays		
2457/202	. . LCD, i.e. liquid crystal displays		
2457/204	. . Plasma displays		
2457/206	. . Organic displays, e.g. OLED		
2457/208	. . Touch screens		
<b>2459/00</b>	<b>Nets, e.g. camouflage nets</b>		
<b>2471/00</b>	<b>Floor coverings (<a href="#">B32B 2419/04</a> takes precedence)</b>		
2471/02	. Carpets		
2471/04	. Mats		
<b>2475/00</b>	<b>Frictional elements</b>		
<b>2479/00</b>	<b>Furniture (<a href="#">upholstery B32B 2601/00</a>)</b>		
<b>2509/00</b>	<b>Household appliances</b>		
2509/10	. Refrigerators or refrigerating equipment		
<b>2519/00</b>	<b>Labels, badges</b>		
2519/02	. RFID tags		
<b>2535/00</b>	<b>Medical equipment, e.g. bandage, prostheses, catheter (<a href="#">medical patches B32B 2556/00</a>)</b>		
<b>2551/00</b>	<b>Optical elements</b>		
2551/08	. Mirrors		
<b>2553/00</b>	<b>Packaging equipment or accessories not otherwise provided for</b>		
2553/02	. Shock absorbing		
2553/023	. . for use in loose form, e.g. dunnage		
2553/026	. . Bubble films		
<b>2554/00</b>	<b>Paper of special types, e.g. banknotes</b>		
<b>2555/00</b>	<b>Personal care</b>		
2555/02	. Diapers or napkins		
<b>2556/00</b>	<b>Patches, e.g. medical patches, repair patches</b>		
<b>2559/00</b>	<b>Photographic equipment or accessories</b>		
<b>2571/00</b>	<b>Protective equipment</b>		
2571/02	. defensive, e.g. armour plates, anti-ballistic clothing ( <a href="#">camouflage nets B32B 2459/00</a> )		
<b>2581/00</b>	<b>Seals; Sealing equipment; Gaskets</b>		
<b>2590/00</b>	<b>Signboards, advertising panels, road signs</b>		
<b>2597/00</b>	<b>Tubular articles, e.g. hoses, pipes</b>		
<b>2601/00</b>	<b>Upholstery</b>		
<b>2603/00</b>	<b>Vanes, blades, propellers, rotors with blades</b>		
<b>2605/00</b>	<b>Vehicles</b>		
2605/003	. Interior finishings		
2605/006	. Transparent parts made from plastic material, e.g. windows		
2605/08	. Cars		
2605/10	. Trains		
2605/12	. Ships		
2605/16	. Submarines		