CPC - COOPERATIVE PATENT CLASSIFICATION

B PERFORMING OPERATIONS; TRANSPORTING
(NOTES omitted)

SHAPING

B31 MAKING ARTICLES OF PAPER, CARDBOARD OR MATERIAL WORKED IN A MANNER ANALOGOUS TO PAPER; WORKING PAPER, CARDBOARD OR MATERIAL WORKED IN A MANNER ANALOGOUS TO PAPER
(NOTES omitted)

B31F MECHANICAL WORKING OR DEFORMATION OF PAPER, CARDBOARD OR MATERIAL WORKED IN A MANNER ANALOGOUS TO PAPER (making layered products not composed wholly of paper or cardboard B32B)

1/00 Mechanical deformation without removing material, e.g. in combination with laminating
1/0003 . . { Shaping by bending, folding, twisting, straightening, flattening or rim-rolling; Shaping by bending, folding or rim-rolling combined with joining; Apparatus therefor (shaping of tube ends B31F 1/008) }
1/0006 . . . { Bending or folding; Folding edges combined with joining; Reinforcing edges during the folding thereof; (creasing B31F 1/08, crêping paper B31F 1/12, corrugating B31F 1/20; bending and joining B31F 1/0045; reinforcing edges per se B31F 5/08; making wound articles B31C; folding thin material per se B65H 45/00) }
1/0009 . . . { of plates, sheets or webs }
1/0012 . . . . { combined with making folding lines (B31F 1/0022 takes precedence) }
1/0016 . . . . { Folding edges; Folding edges combined with joining; Reinforcing edges during the folding thereof, e.g. by introducing a thread; Folding the edges of a sheathing (B31F 1/0029 takes precedence) }
1/0019 . . . . . { the plates, sheets or webs moving continuously (B31F 5/08 takes precedence) }
1/0022 . . . . . { combined with making folding lines }
1/0025 . . . . . . { Making the folding lines using rotary tools }
1/0029 . . . . . . { Folding edges; Folding edges combined with joining; Reinforcing edges during the folding thereof, e.g. by introducing a thread; Folding the edges of a sheathing }
1/0032 . . . . { of tubes }
1/0035 . . . { Straightening or flattening }
1/0038 . . . { Rim-rolling }
1/0041 . . . { combined with joining }

WARNING
Group B31F 1/0041 is impacted by reclassification into group B31F 5/00.
Groups B31F 1/0041 and B31F 5/00 should be considered in order to perform a complete search.

1/0045 . . . { Bending or folding combined with joining (folding edges combined with joining B31F 1/0016, B31F 1/0029) }
1/0048 . . . . { Bending plates, sheets or webs at right angles to the axis of the article being formed and joining the edges }
1/0051 . . . . . { for making articles of definite length }
1/0054 . . . . . . { using internal forming surfaces, e.g. mandrels }
1/0058 . . . . . . . { Machines therefor having additional mandrels, e.g. mounted on a turntable, or on chains (B31F 1/0064 takes precedence) }
1/0061 . . . . . . { for making articles of indefinite length }
1/0064 . . . . . . . { using internal forming surfaces, on, e.g. mandrels }
1/0067 . . . . . . . . { using only external forming surfaces, e.g. sleeves }
1/007 . . . . . . . . . { for making articles with multilayered walls }
1/0074 . . . . . . . . . { Making essentially non-hollow profiles, e.g. rods, ropes, cords }
1/0077 . . . . { Shaping by methods analogous to moulding, e.g. deep drawing techniques }
1/008 . . . . . { Shaping of tube ends, e.g. flanging, bellying, closing, rim-rolling or corrugating; Fixing elements to tube ends }

WARNING
Group B31F 1/008 is impacted by reclassification into group B31F 5/00.
Groups B31F 1/008 and B31F 5/00 should be considered in order to perform a complete search. should be considered in order to perform a complete search.

1/0083 . . . { Closing }
1/0087 . . . { Rim-rolling }

CPC - 2020.02
Corrugating; Corrugating combined with laminating

Corrugating cylinders; Supporting or positioning means therefor; Drives therefor

Additionaly reinforcing, e.g. by applying resin or wire

Spraying devices, e.g. for moistening purposes; Lubricating devices

Means for bringing the sheet into contact with one of the corrugating rollers after corrugating, but before applying the facer sheet, e.g. by air pressure, suction or pressing fingers

(for bringing a second facer sheet into contact with an already single faced corrugated web)

Additionally reinforcing, e.g. by applying resin or wire

Spraying devices, e.g. for moistening purposes; Lubricating devices

Means for bringing the sheet into contact with one of the corrugating rollers after corrugating, but before applying the facer sheet, e.g. by air pressure, suction or pressing fingers

(for bringing a second facer sheet into contact with an already single faced corrugated web)

Spraying devices, e.g. for moistening purposes; Lubricating devices

Means for bringing the sheet into contact with one of the corrugating rollers after corrugating, but before applying the facer sheet, e.g. by air pressure, suction or pressing fingers

(for bringing a second facer sheet into contact with an already single faced corrugated web)
ATTACHING TOGETHER SHEETS, STRIPS OR WEBs; REINFORCING EDGES

WARNING

Group B31F 5/00 is incomplete pending reclassification of documents from groups B31F 1/0041, B31F 1/008 and B31F 1/009.

Groups B31F 5/00, B31F 1/0041, B31F 1/008 and B31F 1/009 should be considered in order to perform a complete search.

5/001. {by stapling or riveting}
5/003. {by stitching}
5/005. {by folding (rim-rolling B31F 1/0041)}
5/006. {using a strip, e.g. profiled (B31F 5/06 takes precedence)}
5/008. {by friction, e.g. obtained ultrasonic vibrations}
5/02. by crimping or slotting {or perforating}
5/022. . . {using a rotary tool}
5/025. . . {by slotting}
5/027. . . {by perforating, e.g. by folding over the partially cut part}
5/04. . by exclusive use of adhesives
5/06. . by adhesive tape
5/08. . . for reinforcing edges [{ Applying a strip or tape to an edge, e.g. for decorating, for protecting}]
5/085. . . . {combined with folding the strip around the edge, or applying an already folded strip on (folding edges B31F 1/0016, B31F 1/0029)}

7/00 Processes not otherwise provided for

7/002. {tubular articles, e.g. changing the cross-section}
7/004. {Making tubes}
7/006. {edges, e.g. sheet edges}
7/008. {Repairing}
7/002. . Breaking coatings, e.g. on paper or cardboard

2201/00 Mechanical deformation of paper or cardboard without removing material

2201/07. . Embossing
2201/0702. . . by tools working discontinuously
2201/0705. . . Hand operated
2201/0707. . . by tools working continuously
2201/0715. . . The tools being rollers
2201/0717. . . . Methods and means for forming the embossments
2201/072. . . . Laser engraving
2201/0723. . . . Characteristics of the rollers
2201/0725. . . . Hardness
2201/0728. . . . Material
2201/073. . . . Rollers having a multilayered structure
2201/0733. . . . Pattern
2201/0735. . . . Pattern inclined with respect to the axis of the roller
2201/0738. . . . . Cross sectional profile of the embossments
2201/0741. . . . . Roller cooperating with a non-even counter roller
2201/0743. . . . . having a matching profile
2201/0746. . . . . and having a self-centering profile
2201/0748. . . . having a dissimilar profile
2201/0751. . . . . and having a self-centering profile
2201/0753. . . . . Roller supporting, positioning, driving means
2201/0754. . . . . The tools being other than rollers, e.g. belts or plates

2201/0756 . . . Characteristics of the incoming material, e.g. creped, embossed, corrugated
2201/0758 . . . Characteristics of the embossed product
2201/0761 . . . Multi-layered
2201/0764 . . . . the layers being nested
2201/0766 . . . . the layers being superposed tip to tip
2201/0769 . . . . the layers being shifted
2201/0771 . . . . Other aspects of the embossing operations
2201/0774 . . . . Multiple successive embossing operations
2201/0776 . . . . Exchanging embossing tools
2201/0779 . . . . Control
2201/0782 . . . . Layout of the complete embossing machine, of the embossing line
2201/0784 . . . . Auxiliary operations
2201/0787 . . . . Applying adhesive
2201/0789 . . . . Joining plies without adhesive
2201/0792 . . . . Printing
2201/0794 . . . . Cutting
2201/0797 . . . . Perforating