

# ECLA EUROPEAN CLASSIFICATION

## D04B KNITTING

### Notes

1. In this subclass, the groups designating machines, apparatus, devices, or implements include processes characterised by, or dependent on, their use and the products of such processes
2. Knitted products, i.e. fabrics, articles, are classified in this subclass only if they have constructional features which are of interest from the knitting aspect

### **Guide heading:** Weft knitting; Machines therefor

#### **D04B1/00 Weft knitting processes for the production of fabrics or articles not dependent on the use of particular machines; Fabrics or articles defined by such processes**

- D04B1/02 . Pile fabrics or articles having similar surface features
- D04B1/02B . . [N: incorporating loose fibres, e.g. high-pile fabrics or artificial fur] [N1110]
- D04B1/04 . . characterised by thread material
- D04B1/06 . Non-run fabrics or articles
- D04B1/08 . . characterised by thread material
- D04B1/10 . Patterned fabrics or articles
- D04B1/10B . . [N: with stitch pattern (D04B1/06, D04B1/08 take precedence)] [N1110]
- D04B1/10B1 . . . [N: Openwork fabric, e.g. pelerine fabrics] [N1110]
- D04B1/10B2 . . . [N: at a selvedge, e.g. hems or turned welts] [N1110]
- D04B1/10B3 . . . [N: Gussets, e.g. pouches or heel or toe portions] [N1110]
- D04B1/12 . . characterised by thread material
- D04B1/12B . . . [N: with laid-in unlooped yarn, e.g. fleece fabrics (with elastic weft yarn D04B1/18)] [N1110]
- D04B1/12C . . . [N: with colour pattern, e.g. intarsia fabrics] [N1110]
- D04B1/14 . Other fabrics or articles characterised primarily by the use of particular thread materials
- D04B1/16 . . synthetic threads
- D04B1/18 . . elastic threads
- D04B1/20 . . . crimped threads
- D04B1/22 . specially adapted for knitting goods of particular configuration
- D04B1/22B . . [N: Elongated tubular articles of small diameter, e.g. coverings or reinforcements for cables or hoses] [N1110]
- D04B1/24 . . wearing apparel
- D04B1/24A . . . [N: upper parts of panties; pants]

- D04B1/24B . . . [N: Upper torso garments, e.g. sweaters, shirts, leotards] [N1110]
- D04B1/26 . . . stockings
- D04B1/26B . . . . [N: Surgical stockings (of unspecified knit construction and reinforced [A41B11/02](#); of unspecified knit construction and elastic [A61F13/08](#))] [N1110]
- D04B1/28 . . . gloves

#### **D04B3/00 Hand tools or implements**

- D04B3/02 . Needles
- D04B3/04 . Finger protectors; Thread tensioners
- D04B3/06 . Ball holders or receptacles

#### **D04B5/00 Knitting apparatus or machines without needles for domestic use (with needles [D04B7/08](#))**

#### **D04B7/00 Flat-bed knitting machines with independently-movable needles (straight-bar machines with fixed needles [D04B11/00](#))**

- D04B7/02 . with one set of needles
- D04B7/02B . . [N: with stitch-length regulation (cam systems for stitch-length regulation [D04B15/32D](#))]
- D04B7/04 . with two sets of needles
- D04B7/04B . . [N: with stitch-length regulation (cam systems for stitch-length regulation [D04B15/32D](#))]
- D04B7/06 . . for purl work or links-links loop formation
- D04B7/08 . for domestic use
- D04B7/10 . with provision for narrowing or widening to produce fully-fashioned goods
- D04B7/12 . with provision for incorporating pile threads
- D04B7/14 . with provision for incorporating internal threads in laid-in fabrics
- D04B7/16 . for producing fabrics consisting of, or incorporating, elastic threads
- D04B7/18 . . incorporated as weft or inlaid threads
- D04B7/20 . with provision for changing the fabric construction, e.g. from plain to rib-loop fabric
- D04B7/22 . with special provision for commencing goods, e.g. with non-run edges
- D04B7/24 . for producing patterned fabrics
- D04B7/26 . . with colour patterns
- D04B7/28 . . with stitch patterns
- D04B7/30 . specially adapted for knitting goods of particular configuration

- D04B7/32 . . tubular goods
- D04B7/34 . . . gloves
  
- D04B9/00** **Circular knitting machines with independently-movable needles** (with fixed spring or bearded needles [D04B13/00](#))
  
- D04B9/02 . with one set of needles
- D04B9/02B . . [N: with stitch-length regulation (cam systems for stitch-length regulation [D04B15/32D](#))]
- D04B9/04 . . with spring or bearded needles
  
- D04B9/06 . with needle cylinder and dial for ribbed goods
- D04B9/06B . . [N: with stitch-length regulation (cam systems for stitch-length regulation [D04B15/32D](#))]
- D04B9/08 . . for interlock goods
  
- D04B9/10 . with two needle cylinders for purl work or for links-links loop formation
- D04B9/12 . with provision for incorporating pile threads
- D04B9/14 . with provision for incorporating loose fibres, e.g. in high-pile fabrics
- D04B9/16 . with provision for incorporating internal threads in laid-in fabrics
- D04B9/18 . with provision for splicing by incorporating reinforcing threads
- D04B9/20 . with provision for narrowing or widening; with reciprocatory action, e.g. for knitting of flat portions
- D04B9/22 . with provision for changing the fabric construction, e.g. from plain to rib-loop fabric
- D04B9/24 . with special provision for commencing goods, e.g. with non-run edges
- D04B9/26 . for producing patterned fabrics
- D04B9/28 . . with colour patterns
- D04B9/30 . . . by striping
- D04B9/32 . . . . by wrap striping
- D04B9/34 . . . by plating
- D04B9/36 . . . Intarsia work obtained by reciprocatory action
- D04B9/38 . . with stitch patterns
  
- D04B9/40 . with provision for transfer of knitted goods from one machine to another
  
- D04B9/42 . specially adapted for producing goods of particular configuration
- D04B9/44 . . elongated tubular articles of small diameter, e.g. coverings for cables (sheathing electric cables [H01B13/22](#))
- D04B9/46 . . stockings, or portions thereof
- D04B9/48 . . . non-run stockings

- D04B9/50 . . . . micromesh stockings
- D04B9/52 . . . . surgical stockings
- D04B9/54 . . . . welts, e.g. double or turned welts
- D04B9/56 . . . . heel or toe portions
- D04B9/58 . . . . gloves

**D04B11/00** **Straight-bar knitting machines with fixed needles** (flat-bed machines with independently-movable needles [D04B7/00](#))

- D04B11/02 . with one set of needles
- D04B11/02B . . [N: with stitch-length-regulating mechanism]
- D04B11/04 . with two sets of needles
- D04B11/06 . with provision for narrowing or widening to produce fully-fashioned goods
- D04B11/08 . with provision for incorporating pile threads
- D04B11/10 . with provision for incorporating internal threads in laid-in fabrics
- D04B11/12 . for producing fabrics from, or incorporating, elastic threads
- D04B11/14 . with provision for changing the fabric construction, e.g. from plain to rib-loop fabric
- D04B11/16 . with special provision for commencing goods, e.g. with non-run edges
- D04B11/18 . for producing patterned fabrics
- D04B11/20 . . with colour patterns
- D04B11/22 . . with stitch patterns
- D04B11/24 . with provision for transfer of knitted goods from one machine to another
- D04B11/26 . specially adapted for producing goods of particular configuration
- D04B11/28 . . stockings, or portions thereof
- D04B11/30 . . . non-run stockings
- D04B11/32 . . . welts, e.g. double or turned welts
- D04B11/34 . . . heel or toe portions
- D04B11/36 . . other wearing apparel

**D04B13/00** **Circular knitting machines with fixed spring or bearded needles, e.g. loop-wheel machines** (with independently-movable needles [D04B9/00](#))

- D04B13/02 . with horizontal needles

**D04B15/00** **Details of, or auxiliary devices incorporated in, weft knitting machines, restricted to machines of this kind** (details or auxiliary devices not so restricted [D04B35/00](#))

- D04B15/02 . Loop-transfer points

- D04B15/04 . . for straight-bar knitting machines
- D04B15/06 . Sinkers
- D04B15/08 . Needle latch openers; Brushes
- D04B15/10 . Needle beds
- D04B15/12 . . Shogging devices therefor
- D04B15/14 . Needle cylinders
- D04B15/16 . . Driving devices for reciprocatory action
- D04B15/18 . Dials
- D04B15/20 . Needle bars
- D04B15/22 . . Driving devices therefor
- D04B15/24 . Sinker heads; Sinker bars
- D04B15/26 . Slurcocks
- D04B15/28 . Needle pressers
- D04B15/30 . Driving devices for thread-carrier rods
- D04B15/32 . Cam systems or assemblies for operating knitting instruments
- D04B15/32B . . [N: in circular knitting machines with needle cylinder and dial (cam systems specially provided for dials [D04B15/34](#))]
- D04B15/32C . . [N: in circular knitting machines with two opposed needle cylinders]
- D04B15/32D . . [N: for stitch-length regulation]
- D04B15/34 . . for dials
- D04B15/36 . . for flat-bed knitting machines
- D04B15/36B . . . [N: with two needle beds in V-formation]
- D04B15/36B1 . . . . [N: with provision for loop transfer from one needle bed to the other]
- D04B15/36C . . . [N: with two opposed needle beds]
- D04B15/38 . Devices for supplying, feeding, or guiding threads to needles
- D04B15/40 . . Holders or supports for thread packages
- D04B15/42 . . . Frames for assemblies of two or more reels
- D04B15/44 . . Tensioning devices for individual threads
- D04B15/46 . . . for elastic threads
- D04B15/48 . . Thread-feeding devices
- D04B15/48B . . . [N: comprising a rotatable or stationary intermediate storage drum from which the thread is axially and intermittently pulled off; Devices which can be switched between positive feed and intermittent feed] [C0609]
- D04B15/48B2 . . . . [N: Yarn braking means acting on the drum] [N0607]
- D04B15/48B4 . . . . [N: Monitoring reserve quantity] [N0607]
- D04B15/48C . . . [N: in co-operation with stitch-length-regulating mechanism]

- D04B15/50 . . . for elastic threads
- D04B15/52 . . . for straight-bar knitting machines
- D04B15/54 . . Thread guides
- D04B15/56 . . . for flat-bed knitting machines
- D04B15/56B . . . . [N: Associated thread-clamping or thread-severing devices] [N1110]
- D04B15/58 . . . for circular knitting machines; Thread-changing devices
- D04B15/60 . . . . with thread-clamping or -severing devices
- D04B15/61 . . . . . arranged within needle circle
- D04B15/62 . . . . with thread knotters
- D04B15/64 . . . for straight-bar knitting machines
  
- D04B15/66 . Devices for determining or controlling patterns; [N: Programme-control arrangements]
- D04B15/66B . . [N: Driving-gear for programme or pattern devices]
- D04B15/68 . . characterised by the knitting instruments used
- D04B15/70 . . . in flat-bed knitting machines
- D04B15/72 . . . in straight-bar knitting machines
- D04B15/74 . . . Pattern drums[N: (driving-gear therefor [D04B15/66B](#))]
- D04B15/76 . . . Pattern wheels
- D04B15/78 . . . Electrical devices
- D04B15/80 . . characterised by the thread guides used
- D04B15/82 . . characterised by the needle cams used
- D04B15/84 . . Jacquard cards or mechanisms (stamping apparatus therefor [D03C](#))
- D04B15/86 . . . in flat-bed knitting machines
  
- D04B15/88 . Take-up or draw-off devices for knitting products
- D04B15/88B . . [N: for straight-bar knitting machines]
- D04B15/90 . . for flat-bed knitting machines
- D04B15/92 . . pneumatic
  
- D04B15/94 . Driving-gear not otherwise provided for
- D04B15/96 . . in flat-bed knitting machines
- D04B15/98 . . in straight-bar knitting machines
- D04B15/99 . . electrically controlled

**Guide heading:**      **Repairing or unravelling knitted fabrics**

**D04B17/00**            **Repairing knitted fabrics by knitting operations**

- D04B17/02 . by darning
- D04B17/04 . by picking-up dropped stitches

**D04B19/00**            **Unravelling knitted fabrics**

**Guide heading:**     **Warp knitting; Machines therefor****D04B21/00**           **Warp knitting processes for the production of fabrics or articles not dependent on the use of particular machines; Fabrics or articles defined by such processes**

- D04B21/02           .   Pile fabrics or articles having similar surface features
- D04B21/04           .   .   characterised by thread material
- D04B21/06           .   Patterned fabrics or articles ([open-work fabrics D04B21/10](#))
- D04B21/08           .   .   characterised by thread material
- D04B21/10           .   Open-work fabrics
- D04B21/12           .   .   characterised by thread material
- D04B21/14           .   Fabrics characterised by the incorporation by knitting, in one or more thread, fleece, or fabric layers, of reinforcing, binding, or decorative threads; Fabrics incorporating small auxiliary elements, e.g. for decorative purposes ([pile fabrics D04B21/02](#); [non-woven fabrics in general D04H](#))
- D04B21/14B          .   .   [N: with stitches drawn from loose fibres, e.g. web-knitted fabrics] [N1110]
- D04B21/16           .   .   incorporating synthetic threads
- D04B21/16B          .   .   .   [N: with yarns stitched through one or more layers or tows, e.g. stitch-bonded fabrics ([layered products not united by stitch loops B32B5/22](#))] [N1110]
- D04B21/18           .   .   incorporating elastic threads
- D04B21/20           .   specially adapted for knitting articles of particular configuration
- D04B21/20B          .   .   [N: warp knitted yarns] [N1110]
- D04B21/20C          .   .   [N: Elongated tubular articles of small diameter, e.g. coverings or reinforcements for cables or hoses] [N1110]
- D04B21/20D          .   .   [N: Wearing apparel or garment blanks] [N1110]

**D04B23/00**           **Flat warp knitting machines**

- D04B23/02           .   with two sets of needles
- D04B23/04           .   with independently-movable knitting needles
- D04B23/06           .   for producing fabrics consisting of, or incorporating, elastic threads
- D04B23/08           .   with provision for incorporating pile threads
- D04B23/10           .   for knitting through thread, fleece, or fabric layers, or around elongated core material
- D04B23/12           .   with provision for incorporating unlooped wefts extending from selvedge to selvedge
- D04B23/14           .   with provision for incorporating small auxiliary elements, e.g. for decorative purposes
- D04B23/16           .   specially adapted for producing fabrics, or article blanks, of particular form or configuration

- D04B23/18 . . with provision for narrowing or widening
- D04B23/20 . . for producing stocking blanks
- D04B23/22 . with special thread-guiding means
- D04B23/24 . with cut needle presser arrangements to produce patterns
- D04B25/00 Warp knitting machines not otherwise provided for**
- D04B25/02 . Tubular machines
- D04B25/04 . Milanese machines
- D04B25/06 . Galloon crocheting machines
- D04B25/08 . . for producing pile fabrics
- D04B25/10 . . for producing patterned fabrics
- D04B25/12 . . . with independently-movable weft-thread guides controlled by jacquard mechanisms
- D04B25/14 . . specially adapted for producing articles of particular configuration
- D04B27/00 Details of, or auxiliary devices incorporated in, warp knitting machines, restricted to machines of this kind ([details or auxiliary devices not so restricted D04B35/00](#))**
- D04B27/02 . Warp-thread guides
- D04B27/04 . Sinkers
- D04B27/06 . Needle bars; Sinker bars
- D04B27/08 . . Driving devices therefor
- D04B27/10 . Devices for supplying, feeding, or guiding threads to needles
- D04B27/12 . . Tensioning devices for individual threads
- D04B27/14 . . Thread tensioning rod arrangements
- D04B27/16 . . Warp beams; Bearings therefor
- D04B27/18 . . . Warp beam braking devices for thread tensioning
- D04B27/20 . . . Warp beam driving devices
- D04B27/22 . . . . electrically controlled
- D04B27/24 . . Thread guide bar assemblies
- D04B27/26 . . . Shogging devices therefor
- D04B27/28 . . . . with arrangements to reduce the number of members of pattern chains
- D04B27/30 . . . . with driving-gear comprising force-multiplication devices
- D04B27/32 . . . with independently-movable thread guides controlled by jacquard mechanisms
- D04B27/34 . Take-up or draw-off devices for knitted products
- D04B27/36 . . with temples

- Guide heading:** [Crocheting: Apparatus therefor \(galloon crocheting machines for warp knitting D04B25/06\)](#)
- D04B31/00 Crocheting processes for the production of fabrics or articles**
- D04B31/02 . Crocheted strips or threads
- D04B33/00 Crocheting tools or apparatus**
- D04B35/00 Details of, or auxiliary devices incorporated in, knitting machines, not otherwise provided for**
- D04B35/02 . Knitting tools or instruments not provided for in group [D04B15/00](#) or [D04B27/00](#) (needle manufacture [B21G1/00](#))
- D04B35/04 . . Latch needles
- D04B35/06 . . Sliding-tongue needles
- D04B35/08 . . Spring or bearded needles
- D04B35/10 . Indicating, warning, or safety devices, e.g. stop motions
- D04B35/12 . . responsive to thread consumption
- D04B35/14 . . responsive to thread breakage
- D04B35/16 . . . with detectors associated with a series of threads
- D04B35/18 . . responsive to breakage, misplacement, or malfunctioning of knitting instruments
- D04B35/20 . . responsive to defects, e.g. holes, in knitted products
- D04B35/22 . Devices for preparatory treatment of threads
- D04B35/24 . . by moistening or lubricating
- D04B35/26 . . by heating
- D04B35/28 . Devices for lubricating machine parts (in general [F16N](#))
- D04B35/30 . Devices for controlling temperature of machine parts
- D04B35/32 . Devices for removing lint or fluff
- D04B35/34 . Devices for cutting knitted fabrics
- D04B35/36 . Devices for printing, coating, or napping knitted fabrics
- D04B37/00 Auxiliary apparatus or devices for use with knitting machines (Jacquard cards, pattern chains, apparatus for punching same [D03C](#))**
- D04B37/02 . with weft knitting machines
- D04B37/04 . . for inserting or adjusting pattern pins or like elements in pattern drums or wheels
- D04B37/06 . with warp knitting machines

**D04B39/00**

**Miscellaneous knitting processes, apparatus, or machines, not otherwise provided for**

D04B39/02

- . with work carrier in screw form

D04B39/04

- . adapted for combined weft and warp knitting

D04B39/06

- . adapted for combined knitting and weaving

D04B39/08

- . Sewing machines modified for knitting