



PCD 832:2026
ICS: 59.080.30

DRAFT ZANZIBAR NATIONAL STANDARD

Textiles — Stitch types — Classification and terminology

ZANZIBAR BUREAU OF STANDARDS

Foreword

This Draft Zanzibar National Standard has been prepared by Textiles and Leather Standards Technical Committee. In accordance with the Zanzibar Bureau of Standard general procedures, this draft standard is here by presented to the public in order to receive any technical comment concerns.

The ZBS was established under the Standard Act No. 1 of 2011.

In the preparation of this Standard, the reference was made to the following source:

ISO 4915:1991 *Textiles — Stitch types — Classification and terminology*

Technical Committee Representatives

This Draft Zanzibar National Standard was prepared by Textiles and Leather Standards Technical Committee which consists of representatives from the following organizations:

Chief Government Chemist Laboratory Agency (CGCLA)
College of Engineering and Technology (CoET)
Special Department Industrial Unit (SPEDIU)
The State University of Zanzibar (SUZA)
Zanzibar National Chamber of Commerce (ZNCC)
Zanzibar Fisheries and Marine Resources Research Institute (ZAFIRI)
Zanzibar Bureau of Standards (ZBS) – Secretariat

Zanzibar Bureau of Standards (ZBS)
PO Box 1136
Zanzibar
Tel: +255 24 2232225
Fax: +255 24 2232225
E-mail: info@zbs.go.tz
Web: www.zbs.go.tz

Textiles — Stitch types — Classification and terminology

1 Scope

This Draft Zanzibar National Standard classifies, designates, describes and illustrates the various kinds of stitch types used in hand and machine sewn seams.

2 Normative references

No normative reference used in this document.

3 Definitions

For the purposes of this International Standard, the following definitions apply.

3.1

stitches

one unit of conformation resulting from one or more strands or loops of thread intralooping, interlooping or passing into or through material.

NOTE: A stitch may be formed without material, inside material, through material or on material.

3.2

intralooping

passing of a loop of thread through another loop by the same thread.

3.3

interlooping

passing of a loop of thread through another loop formed by a different thread.

3.4

interlacing

passing of a thread over or around another thread or a loop of another thread.

3.5

stitch type

assembly of recurring stitches, relating to the material and which may be characterized by a change in direction. The minimum number of stitches that describe a stitch type is indicated.

3.6

group of threads

number of threads fulfilling an identical function, for example needle or looper.

4 Classification

Stitch types are divided into six classes. The characteristics of the classes are indicated below.

4.1 Class 100 — Chain stitches

In this class, stitch types are formed with one or more needle threads, and are characterized by intralooping. One or more loops of thread are passed through the material and secured by intralooping with a succeeding loop or loops after they are passed through the material.

4.2 Class 200 (originated as hand stitches)

In this class, stitch types which originated as hand stitches are characterized by a single thread, which is passed through the material as a single line of thread and the stitch is secured by the single line of thread passing in and out of the material.

4.3 Class 300 - Lockstitches

In this class, stitch types are formed with two or more groups of threads, and have for a general characteristic the interlacing of the two or more groups. Loops of one group are passed through the material and are secured by the thread or threads of a second group.

4.4 Class 400 - Multi-thread chain stitches

In this class, stitch types are formed with two or more groups of threads, and have for a general characteristic the interlooping of the two 'groups. Loops of one group of threads are passed through the material and are secured by interlacing and interlooping with loops of another group.

4.5 Class 500 - Overedge chain stitches

In this class, stitch types are formed with one or more groups of threads, and have for a general characteristic that loops from at least one group of threads pass around the edge of the material. Loops of one group of threads are passed through the material and are secured by intralooping before succeeding loops are passed through the material, or secured by interlooping with loops of one or more interlooped groups of threads before succeeding loops of the first group are again passed through the material.

4.6 Class 600 - Covering chain stitches

In this class, stitch types are formed with two or more groups of threads, and have for a general characteristic that two of the groups cover both surfaces of the material. Loops of the first group of threads are passed through loops of the third group already cast on the surface of the material and then through the material where they are interlooped with loops of the second group of threads on the underside of the material. The one exception to this procedure is stitch type 601 where only two groups of threads are used and the function of the third group is performed by one of the threads in the first group.

5 Designation

5.1 Stitch types

Stitch type classes are designated and identified by the first digit of 3-digit numerals. Stitch types within each class the second and third digits.

5.2 Combination stitch type

The combination of stitch types shall be represented by the designation of the individual stitch types separated by a full stop, for example 401.502. If the combination stitch type is achieved in one operation, it is to be enclosed in brackets, for example (401.502).

6 Conventions used in the illustrations

The drawing conventions used in the stitch type illustrations (see clause 6) are as follows:

- 6.1** All the illustrations are in perspective for clarity and at an angle chosen to show all threads as clearly as possible.
- 6.2** The direction of successive stitch formation is from right to left.
- 6.3** Each stitch type starts and finishes with only one end of each thread shown, and with the needle threads leaving the material vertically.
- 6.4** All needle threads are clear, all other threads hatched.
- 6.5** All needle threads are numbered 1, 2, 3, . . . , all under threads a, b, c, . . . , all cover threads Z, Y, X,.
- 6.6** The material is shown only where it assists clarity, for example in class 500.

NOTE: In a few cases where the above drawing conventions do not give a clear indication of the stitch, a plan diagram is used.

7 Illustrations

Illustrations are included of the following stitch types:

Class 100

101 105
102 107
103 108
104

Class 300

301 311 321
302 312 322
303 313 323
304 314 324
305 315 325
306 316 326
307 317 327
308 318 328
309 319 329
310 320 351

Class 500

501 511
502 512
503 513
504 514
505 521
506 522
507
508
509
510

Class 200

201 213
202 214
204 215
205 217
206 219
209 220
211

Class 400

401 408 415
402 409 416
403 410 417
404 411
405 412
406 413
407 414

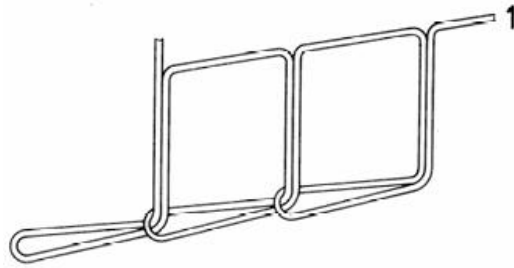
Class 600

601 607
602 608
603 609
604
605
606

NOTE 3: Illustrations show a number of needle penetrations the first of which may not produce a stitch of the stitch type. The written descriptions in all cases refer to the stitches of the stitch type.

Class 100

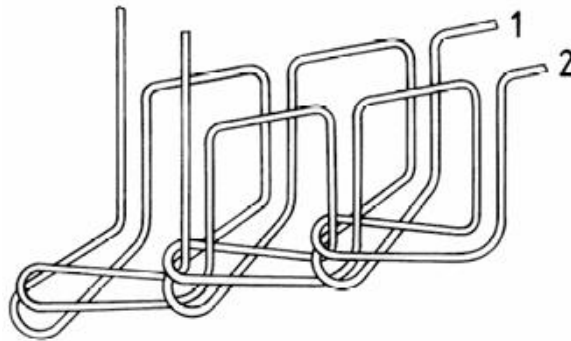
101



This stitch type is formed with one needle thread (1), a loop of which is passed through the material from the needle side and intralooped in the other side.

A minimum of two stitches describes this stitch type.

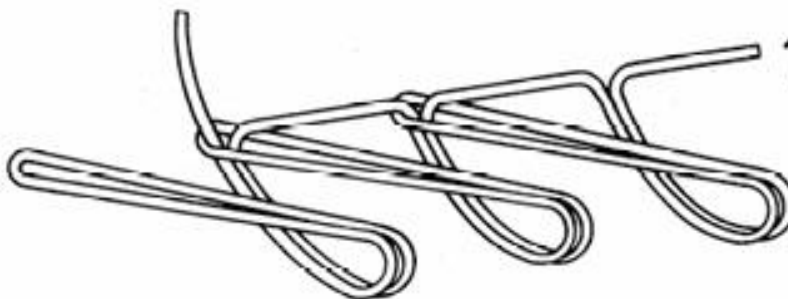
102



This stitch type is formed with two needle threads (1 and 2), loops of which are passed through the material from the needle side. Thread (2) is intralooped with thread (1) on the other side of the material.

A minimum of two stitches describes this stitch type.

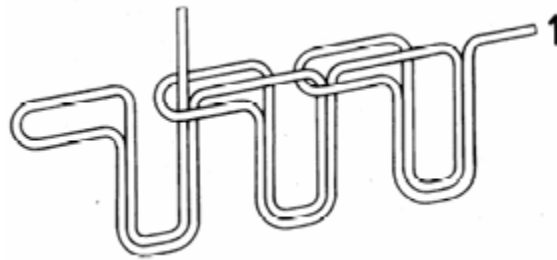
103



This stitch type is formed with one needle thread (1), a loop of which is passed into the material from the needle side, through portions of the material, emerging on the needle side where it is intralooped at the next point of needle penetration.

A minimum of two stitches describes this stitch type.

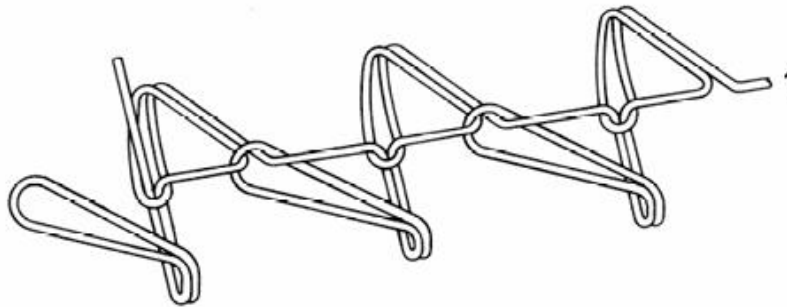
104



This stitch type is formed with one needle thread (1), a loop of which is passed through the material from the needle side., passed back through the material to the needle side at a distance and intralooped on the needle side of the material at the next point of needle penetration.

A minimum of two stitches describes this stitch type

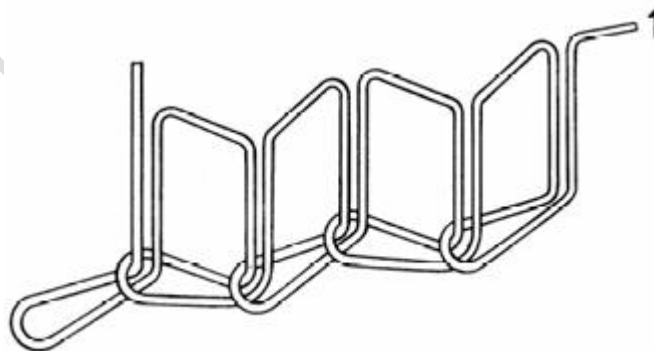
105



This stitch type is formed with one needle thread (1), a loop of which is passed into the material from the needle side, through portions of the material, emerging on the needle side where it is intralooped at the next point of needle penetration on the axis of stitch formation,

A minimum of two stitches describes this stitch type,1

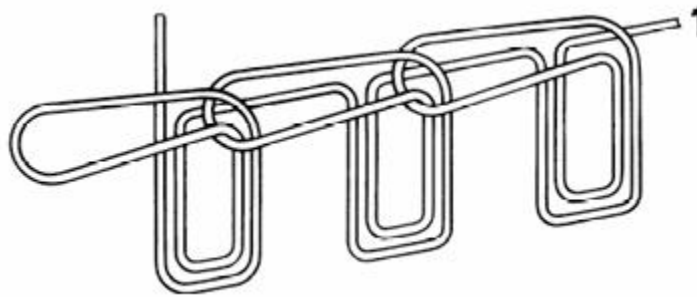
107



This stitch type is formed with one needle thread (1), a loop of which is passed through the material from the needle side and intralooped on the other side. This stitch type is the same as 101 except that successive single stitches form a symmetrical zig-zag pattern.

A minimum of two stitches describes this stitch type.

108

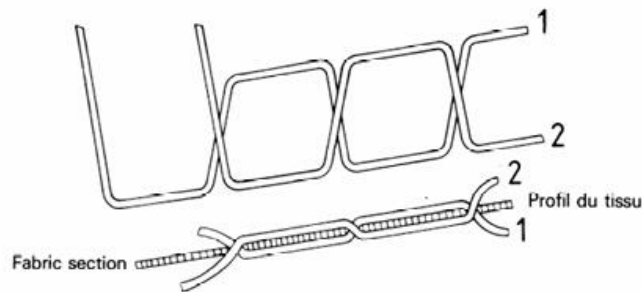


This stitch type is formed with one needle thread (1), a loop of which is passed through the material from the needle side to the other side and passed back through the material to the needle side at a distance. The thread is intralooped where the next loop is passed through the material.

A minimum of two stitches describes this stitch type.

Class 200

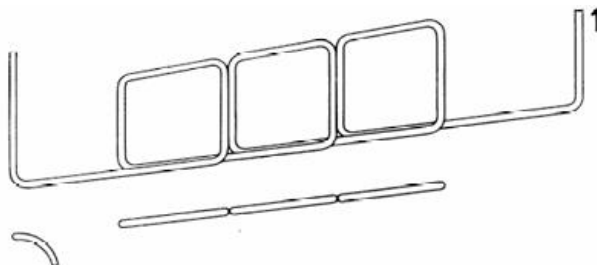
201



This stitch type is formed with two needle threads (1 and 2), which are passed through the material, through the same perforation from opposite directions, without interlacing or interlooping. They are then brought forward a suitable length and passed back through the material, from opposite directions, through another perforation without interlacing or interlooping.

A minimum of two stitches describes this stitch type.

202

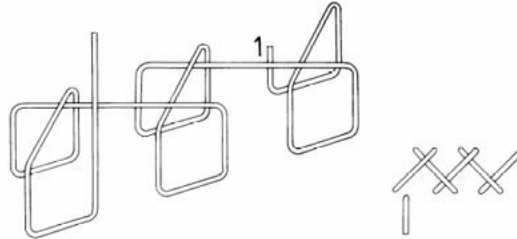


This stitch type is formed with one needle thread (1), which is passed through the material, brought forward a suitable length, passed back through the material and brought back half the initial length before passing

back through the material at the point of emergence of the previous thread. This stitch type is often used at the beginning or end of other stitch formations.

A minimum of two stitches describes this stitch type.

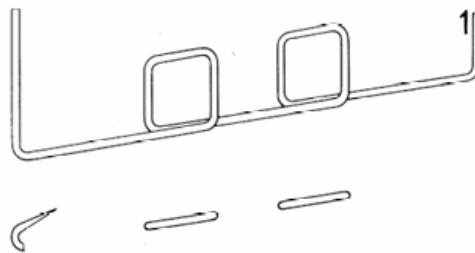
204



This stitch type is formed with one needle thread (1), which is passed through the material, moved diagonally across the material the width of the stitch, passed back through the material and brought back a suitable length before passing again through the material. It is then returned diagonally across the material the width of the stitch, passed through the material and back through the material a similar length behind. This process is repeated to form parallel rows of separated and offset stitches on the needle side and a crisscross pattern on the other side, (When done by hand, this stitch type is normally worked from left to right.)

A minimum of two stitches describes this stitch type.

205



This stitch type is formed with one needle thread (1), which is passed through the material, brought forward a suitable length, passed back through the material and brought back one-third of the initial length before passing again through the material.

A minimum of two stitches describes this stitch type.

206

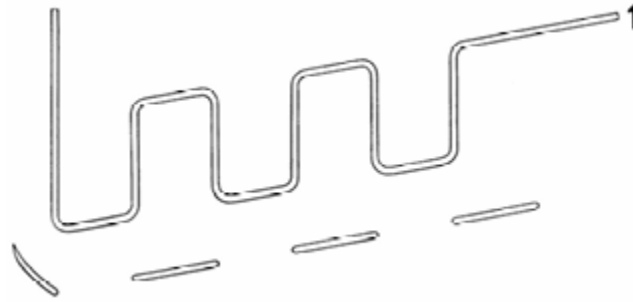


This stitch type is formed with one needle thread (1), which is passed through the material twice, emerging in a position at right-angles to the direction of successive stitch formation, and passing over the thread from the previous stitch forming a loop.

Successive stitches are spaced at chosen intervals and can be worked open or close (When done by hand, this stitch type is normally worked from left to right)

A minimum of two stitches describes this stitch type.

209

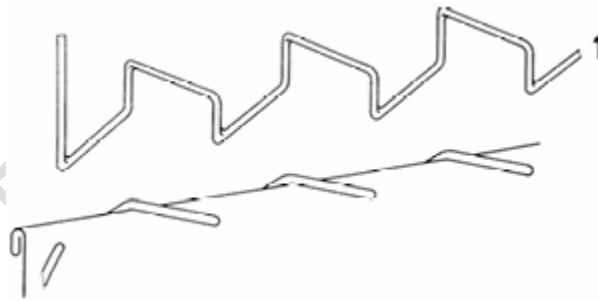


This stitch type is formed with one needle thread (1), which is passed through the material, brought forward a suitable length, and passed back through the material.

The points of needle penetration may be close together and used for gathering material or gauging, or widely spaced, or alternatively with varied spacing.

A minimum of two stitches describes this stitch type.

211



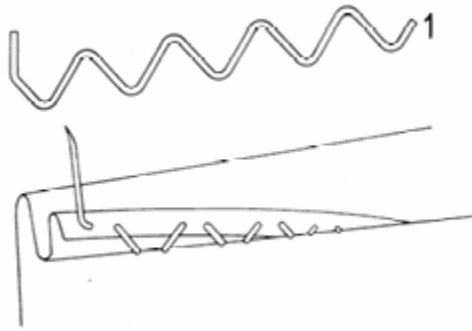
This stitch type is formed with one needle thread (1), which is passed through the material, cast over the rolled edge of the material and brought forward through the material, in line with the previous thread emergence.

This stitch type is used as an edge finish, usually on fine material; when worked from left to right, the main uses of the stitch are for neatening edges, seams, etc.

The stitch type can be worked with variable spacing.

A minimum of two stitches describes this stitch type.

213

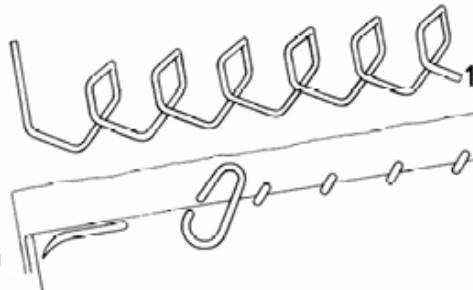


This stitch type is formed with one needle thread (1), which is passed through the single material, passed forward through the turned over edge of the hem (turned back for the purpose), emerging slightly in front, in line with the previous thread penetration and taking up a very small amount of the material; the thread is then brought forward and through the material below the hem to repeat the stitch. Very small amounts of material are taken up.

This stitch type is used when it is particularly desirable that no stitch should finally be visible.

A minimum of two stitches describes this stitch type.

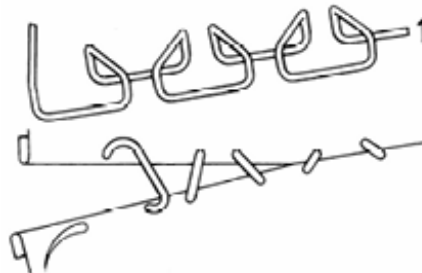
214



This stitch type is formed with one needle thread (1), which is passed through the fold of material and into the single material a short distance above and slightly to the right. The thread is then passed diagonally back through both material layers to a point in line with the previous point of thread emergence. This stitch type is used for sewing one material to another such as linings to garments.

A minimum of two stitches describes this stitch type.

215

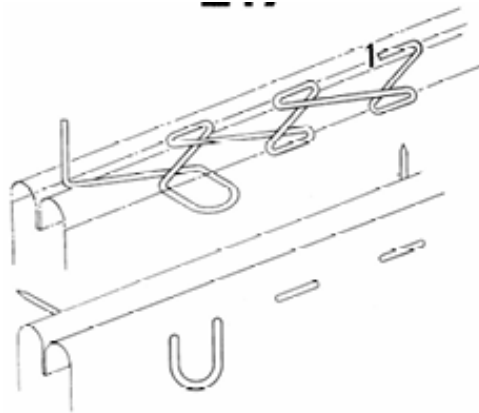


This stitch type is formed with one needle thread (1), which is passed through the folded edge of the material and brought forward suitable length in the fold before emerging from the material. It is then passed through an opposite folded edge of material at a point slightly behind the point of thread emergence.

It is brought forward suitable length in the fold, before emerging from the material. The thread is drawn rather taut.

A minimum of two stitches describes this stitch type.

217

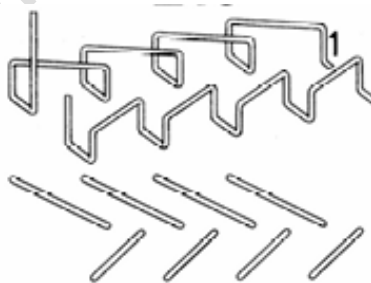


This stitch type is formed with one needle thread (1), which is passed diagonally through the material layers, brought back a suitable length behind the point of emergence, and passed diagonally back through the material, crossing the first diagonal.

This stitch type is seen only as small dints on both sides, and is used for securing edges in tailored garments.

A minimum of two stitches describes this stitch type.

219

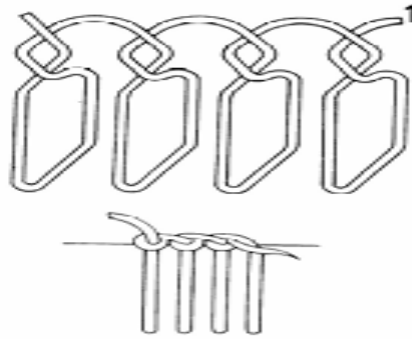


This stitch type is formed with one needle thread (1), which is passed horizontally through the material or through portions of the material and emerges on the same side. All passes of the thread are at an acute angle to the direction of successive needle penetrations, which are in line with the direction of stitching. Alternate rows of stitches are formed in opposite directions and staggered.

This stitch type is used to attach interlinings to the outer materials of collars and lapels in the process of shaping them by the manipulation of these two materials. It is also used to fasten chest canvas to the interlining, the thread always passing completely through the two materials.

A minimum of two stitches describes this stitch type.

220



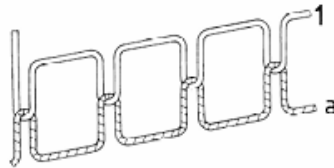
This stitch type is formed with one needle thread (1), which is passed from the material near the cut edge and forward under the material at right-angles to the line of the button-hole, emerging through the material and through a loop of the thread from the previous stitch. The thread is then pulled tight drawing the loop towards the cut edge where the knot is formed.

This stitch is used to finish the cut edges of buttonholes. It may be worked in a variety of ways, from the left or the right, with the thread inserted from below or above and may be worked over a gimp to give a firmer effect.

A minimum of two stitches describes this stitch type.

Class 300

301

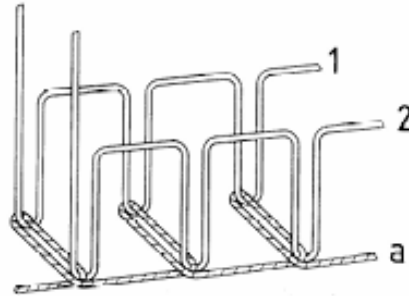


This stitch type is formed with two threads: one needle thread (1), and one bobbin thread (a). A loop of thread (1) is passed through the material from the needle side and is interlaced with thread (a) on the other side. Thread (1) is pulled back so that the interlacing comes midway between the surfaces of the material being sewn.

This stitch type is sometimes produced from a single thread, in which case the first stitch differs from subsequent stitches.

A minimum of two stitches describes this stitch type.

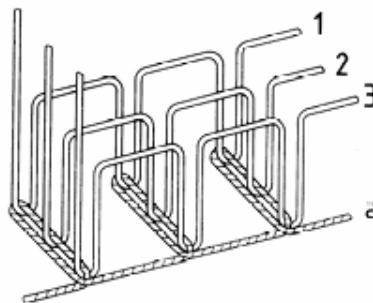
302



This stitch type is formed with three threads: two needle threads (1 and 2) and one bobbin thread (a). Loops of threads (1 and 2) are passed through the material from the needle side and interlaced with thread (a) on the other side.

A minimum of two stitches describes this stitch type.

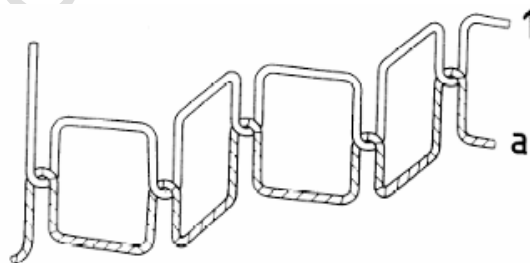
303



This stitch type is formed with four threads: three needle threads (1, 2 and 3) and one bobbin thread (a). Loops of threads (1, 2 and 3) are passed through the material from the needle side and interlaced with thread (a) on the other side.

A minimum of two stitches describes this stitch type.

304

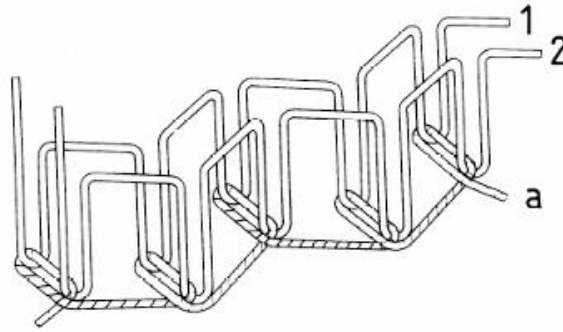


This stitch type is formed with two threads: one needle thread (1) and one bobbin thread (a). A loop of thread (1) is passed through the material from the needle side and is interlaced with thread (a) on the other side. Thread (1) is pulled back so that the interlacing comes midway between the surfaces of the material being sewn.

The stitch type is the same as 301 except that successive single stitches form a symmetrical zig-zag pattern.

A minimum of two stitches describes this stitch type.

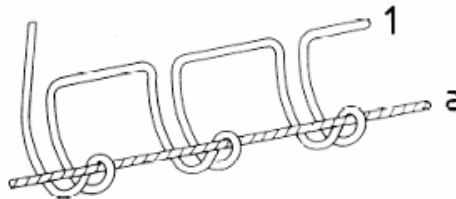
305



This stitch type is formed with three threads: two needle threads (1 and 2) and one bobbin thread (a). Loops of threads (1 and 2) are passed through the material from the needle side and interlaced with thread (a) on the other side. The stitch type is the same as 302 except that successive single stitches form a symmetrical zig-zag pattern.

A minimum of two stitches describes this stitch type.

306

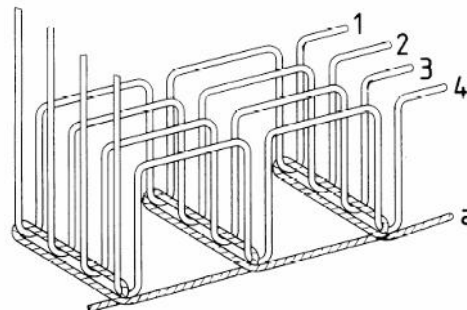


This stitch type is formed with two threads: one needle thread (1) and one bobbin thread (a). A loop of thread (1) is passed into the material from the needle side, through portions of the material, emerging on the needle side where it is interlaced with thread (a).

The needle penetration is perpendicular to the direction of successive stitch formation.

A minimum of two stitches describes this stitch type.

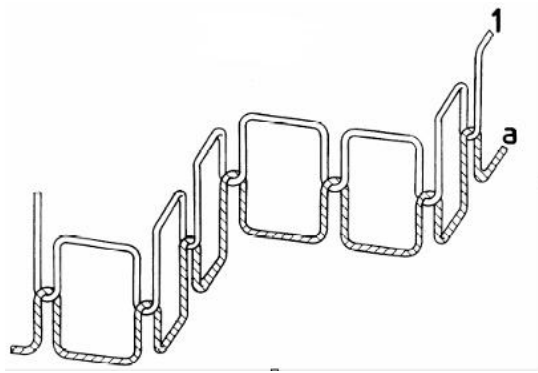
307



This stitch type is formed with five threads: four needle threads (1, 2, 3 and 4) and one bobbin thread (a). Loops of threads 1, 2, 3 and 4 are passed through the material from the needle side and interlaced with thread (a) on the other side.

A minimum of two stitches describes this stitch type.

308

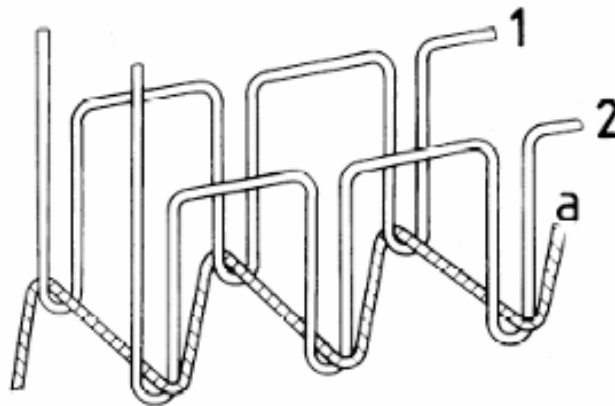


This stitch type is formed with two threads: one needle thread (1) and one bobbin thread (a). A loop of thread (1) is passed through the material from the needle side and is interlaced with thread (a) on the other side. Thread (1) is pulled back so that the interlacing comes midway between the surfaces of the material.

This stitch type is the same as 301 except that successive pairs of stitches form a symmetrical zig-zag pattern.

A minimum of four stitches describes this stitch type.

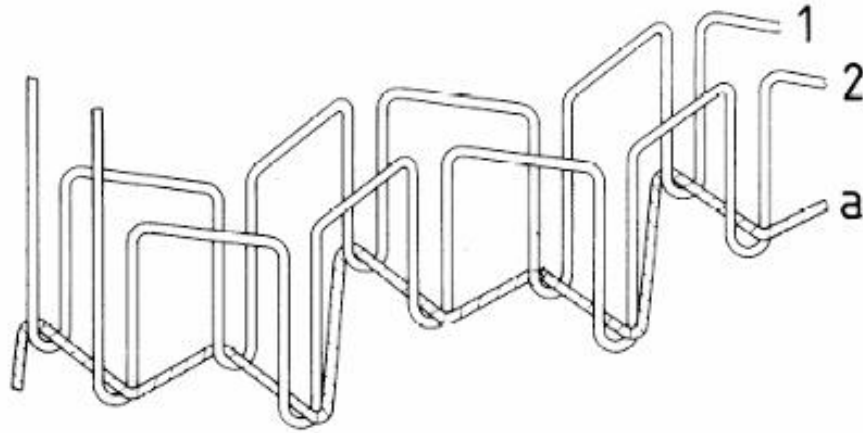
309



This stitch type is formed with three threads: two needle threads (1 and 2) and one bobbin thread (a). Loops of threads (1 and 2) are passed through the material from the needle side and interlaced with thread (a) on the other side.

A minimum of two stitches describes this stitch type.

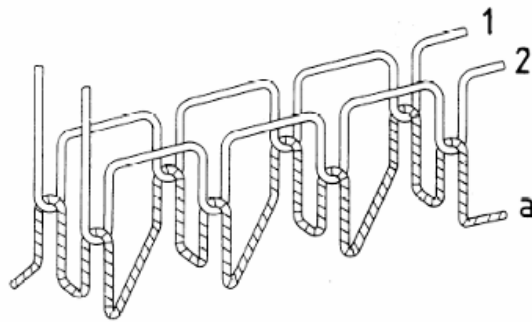
310



This stitch type is formed with three threads: two needle threads (1 and 2) and one bobbin thread (a). Loops of threads (1 and 2) are passed through the material from the needle side and interlaced with thread (a) on the other side. This stitch type is the same as 309 except that successive single stitches form a symmetrical zig-zag pattern.

A minimum of two stitches describes this stitch type.

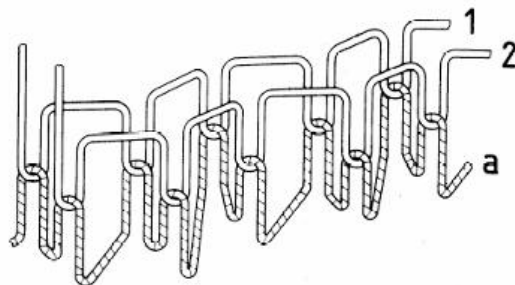
311



This stitch type is formed with three threads: two needle threads (1 and 2) and one bobbin thread (a). Loops of threads (1 and 2) are passed through the material from the needle side and interlaced with thread (a) on the other side. Threads (1 and 2) are pulled back so that the interlacings come midway between the surfaces of the material.

A minimum of two stitches describes this stitch type.

312



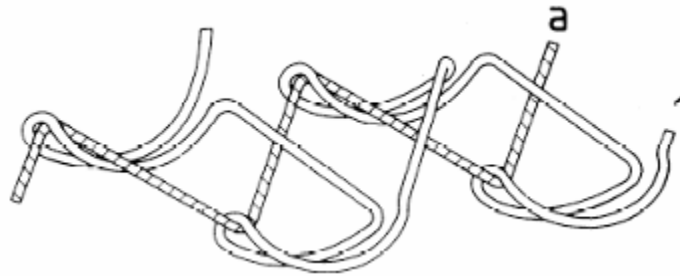
This stitch type is formed with three threads: two needle threads (1 and 2) and one bobbin thread (a). Loops of threads (1 and 2) are passed through the material from the needle side and interlaced with thread (a) on

the other side. Threads (1 and 2) are pulled back so that the interlacings come midway between the surface of the material.

This stitch type is the same as 311 except that successive single stitches form a symmetrical zig-zag pattern.

A minimum of two stitches describes this stitch type.

313

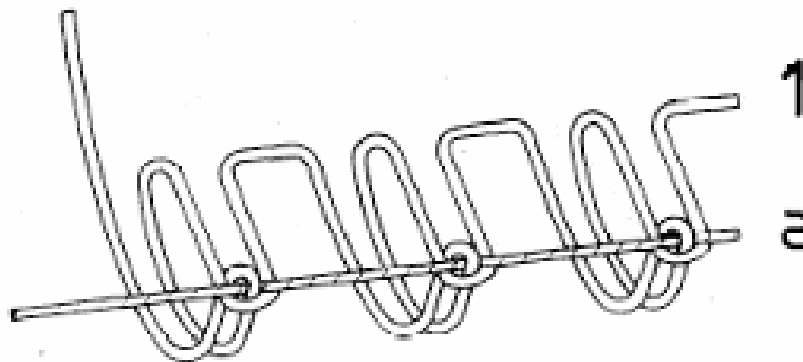


This stitch type is formed with two threads: one needle thread (1) and one bobbin thread (a). A loop of thread (1) is passed into the material from the needle side through portions of the material, emerging on the needle side where it is interlaced with thread (a).

This stitch type is the same as 317 except that successive single stitches form a symmetrical zig-zag pattern.

A minimum of two stitches describes this stitch type.

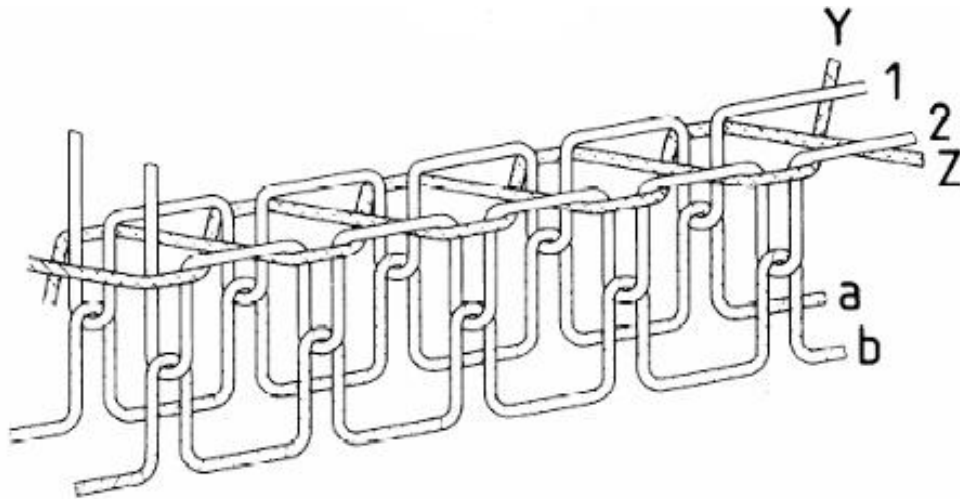
314



This stitch type is formed with two threads: one needle thread (1) and one bobbin thread (a). A loop of thread (1) is passed into the material from the needle side through portions of the material emerging on the needle side, where it is intralooped, and then interlaced with thread (a).

A minimum of two stitches describes this stitch type.

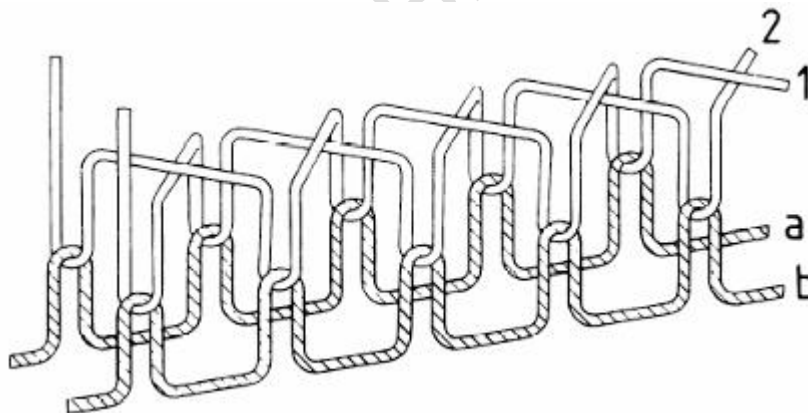
315



This stitch type is formed with six threads: two needle threads (1 and 2), two bobbin threads (a and b) and two cover threads (Z and Y). Loops of threads (1 and 2) are passed through loops of threads (Z and Y) already laid across the needle side of the material; they are then passed through the material, where one loop of thread (1) is interlaced with thread (a) and one loop of thread (2) with thread (b) on the other side. Threads (1 and 2) are pulled back so that the interlacings come midway between the surfaces of the material being sewn. Threads (Z and Y) are laid in a symmetrical crossed disposition.

A minimum of two stitches describes this stitch type.

316



This stitch type is formed with four threads: two needle threads (1 and 2) and two bobbin threads (a and b). Loops of threads (1 and 2) are passed through the material from the needle side and one loop of thread (1) is interlaced with thread (a) and one loop of thread (2) with thread (b) on the other side. Threads (1 and 2) are pulled back so that the interlacing comes midway between the surfaces of material.

At the next needle penetration thread (1) interlaces with thread (b) and thread (2) with thread (a). This sequence is repeated alternately.

A minimum of two stitches describes this stitch type.

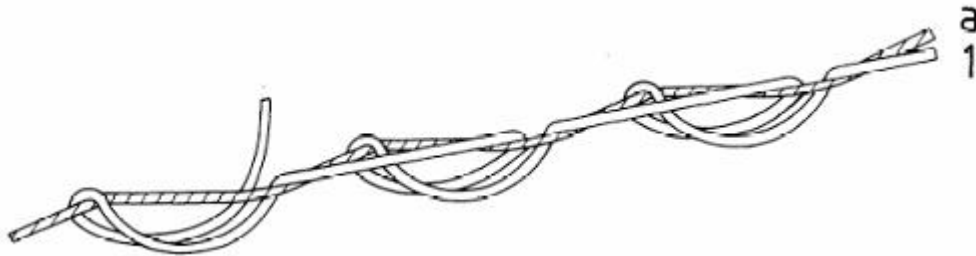
317



This stitch type is formed with two threads: one needle thread (1) and one bobbin thread (a). A loop of thread (1) is passed into the material from the needle side through portions of the material, emerging on the needle side where it is interlaced with thread (a). Needle penetrations are in line with the direction of successive stitch formation.

A minimum of two stitches describes this stitch type.

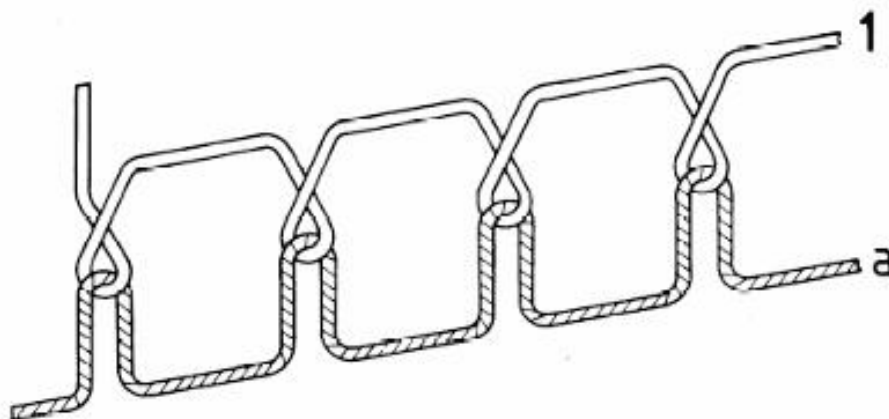
318



This stitch type is formed with two threads: one needle thread (1) and one bobbin thread (a). A loop of thread (1) is passed through a loop of thread (a) on the needle side, and then into the material, through portions of the material, emerging on the needle side where it is interlaced with thread (a). Needle penetrations are in line with the direction of successive stitch formation.

A minimum of two stitches describes this stitch type.

319

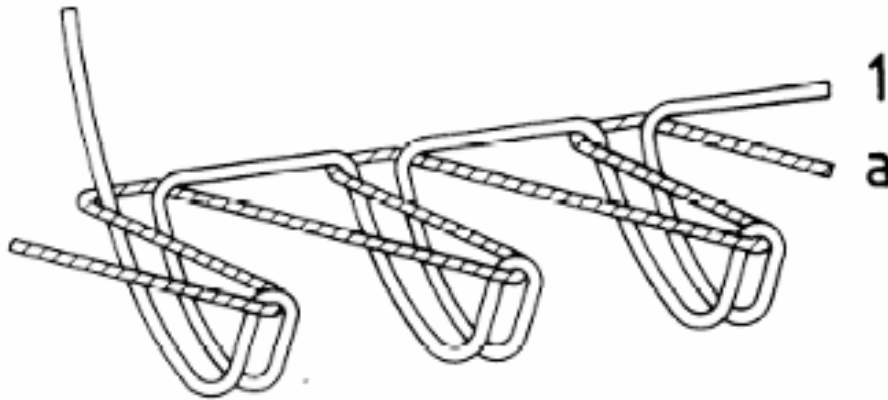


This stitch type is formed with two threads: one needle thread (1) and one bobbin thread (a). A loop of thread (1) is passed through the material from the needle side and is interlaced with thread (a) on the other side. Thread (1) is pulled back so that the interlacing comes midway between the surfaces of the material being sewn.

This stitch type is the same as 301 except that the loop of thread (1) is twisted at the points of interlacing with thread (a).

A minimum of two stitches describes this stitch type.

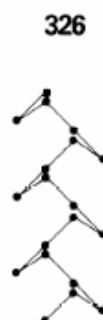
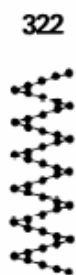
320



This stitch type is formed with two threads: one needle thread (1) and one bobbin thread (a). A loop of thread (1) is passed through a loop of thread (a) on the needle side and then into the material, through portions of the material, emerging on the needle side where it is interlaced with thread (a). Needle penetrations are at right-angles to the direction of successive stitch formation.

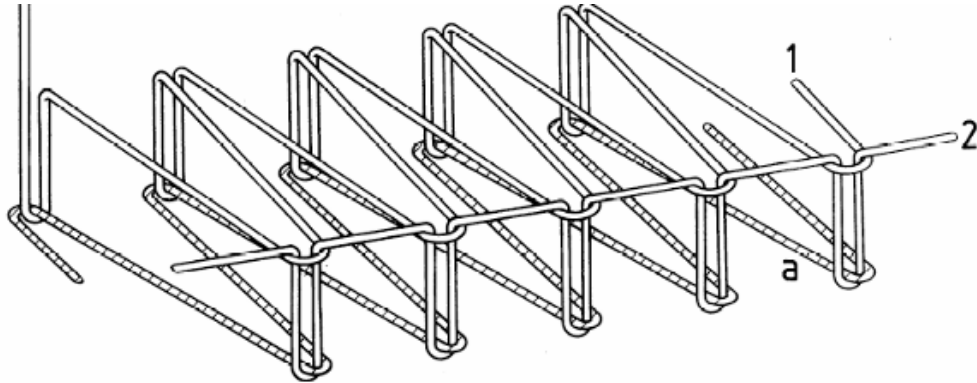
A minimum of two stitches describes this stitch type.

321 – 327



These stitch types are the same as 301, but showing different stitching patterns as indicated in the plan diagrams.

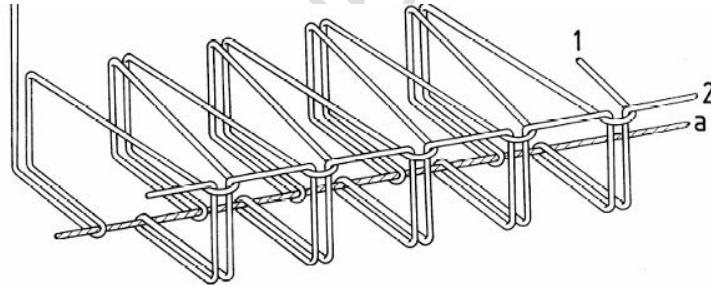
328



This stitch type is formed with three threads: two needle threads (1 and 2) and one bobbin thread (a). A loop of thread (2) is passed through a loop of thread (1) already laid across the needle side of the material and through the material. A loop of thread (1) is passed through the material. The loops of threads (1 and 2) are interlaced with thread a on the other side.

A minimum of two stitches describes this stitch type.

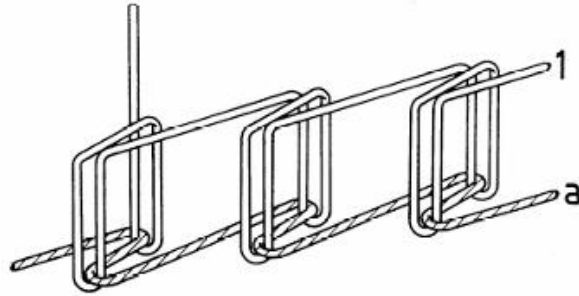
329



This stitch type is formed with three threads: two needle threads (1 and 2) and one bobbin thread (a). A loop of thread (2) is passed firstly through a loop of thread (1) already laid across the needle side of the material and then through the material. A loop of thread (1) is passed through the material. The loops of threads (1 and 2) are interlaced with thread (a) at a position midway between the points of emergence on the other side of the material.

A minimum of two stitches describes this stitch type.

351



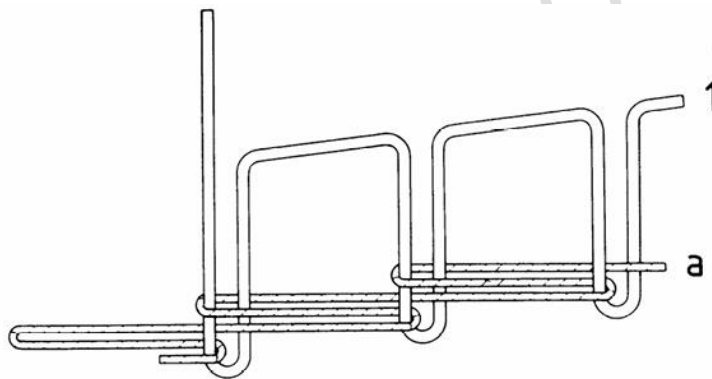
This stitch type is formed with two threads: one needle thread (1) and one bobbin thread (a). A loop of thread (1) is passed through the material from the needle side and is interlaced with thread (a) on the other side.

The distance from one stitch to the next varies in a sequence of longer stitching in forward direction and shorter stitching in backward direction.

A minimum of two stitches describes this stitch type.

Class 400

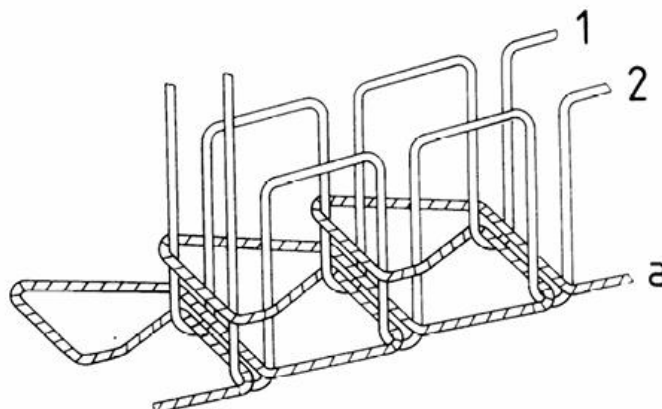
401



This stitch type is formed with two threads: one needle thread (1) and one looper thread (a). A loop of thread (1) is passed through the material from the needle side, and through one loop of thread (a) on the other side. It is then interlooped with a second loop of thread (a). The interloopings are drawn against the material.

A minimum of two stitches describes this stitch type.

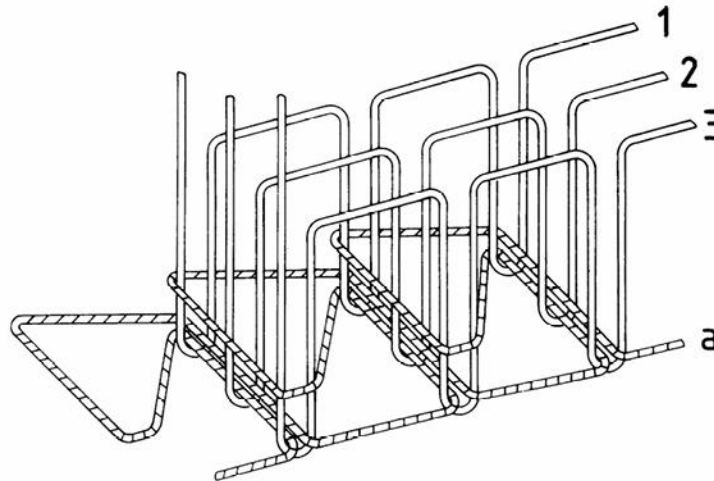
402



This stitch type is formed with three threads: two needle threads (1 and 2) and one looper thread (a). Loops of threads (1 and 2) are passed through the material from the needle side, and through one loop of thread (a) on the other side. They are then interlooped with a second loop of thread (a). The interloopings are drawn against the material.

A minimum of two stitches describes this stitch type.

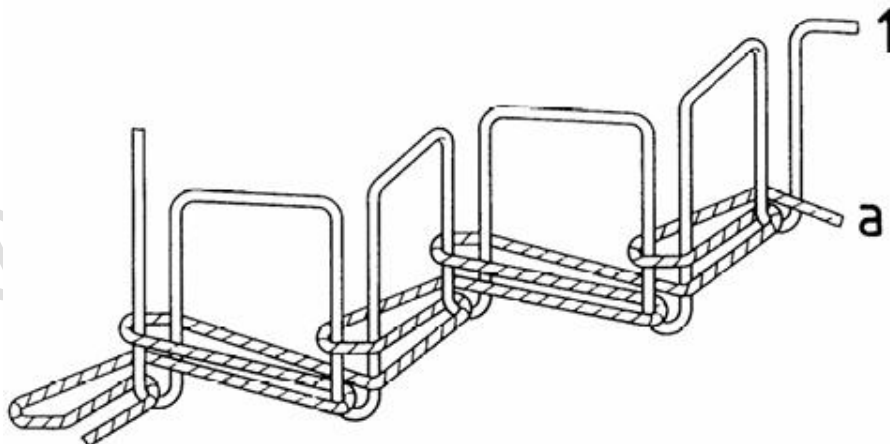
403



This stitch type is formed with four threads: three needle threads (1, 2 and 3) and one looper thread (a). Loops of threads (1, 2 and 3) are passed through the material from the needle side, and through one loop of thread (a) on the other side. They are then interlooped with a second loop of thread (a). The interloopings are drawn against the material.

A minimum of two stitches describes this stitch type.

404

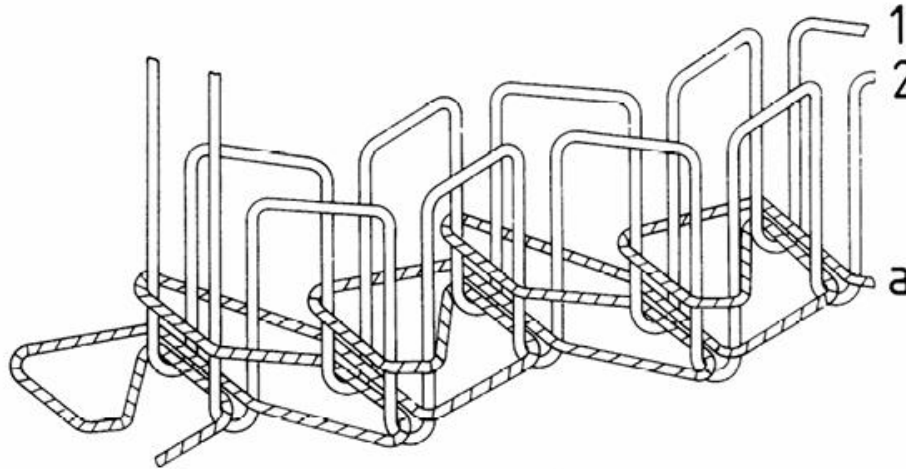


This stitch type is formed with two threads: one needle thread (1) and one looper thread (a). A loop of thread (1) is passed through the material from the needle side, and through one loop of thread (a) on the other side. It is then interlooped with a second loop of thread (a). The interloopings are drawn against the material.

This stitch type is the same as 401 except that successive single stitches form a symmetrical zig-zag pattern.

A minimum of two stitches describes this stitch type.

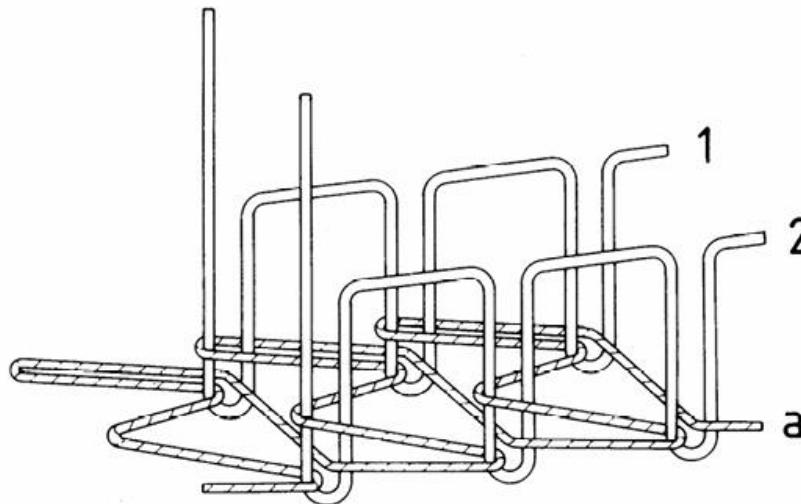
405



This stitch type is formed with three threads: two needle threads (1 and 2) and one looper thread (a). Loops of threads (1 and 2) are passed through the material from the needle side, and through one loop of thread (a) on the other side. They are then interlooped with a second loop of thread (a). The interloopings are drawn against the material. This stitch type is the same as 402 except that successive stitches form a symmetrical zig-zag pattern.

A minimum of two stitches describes this stitch type.

406

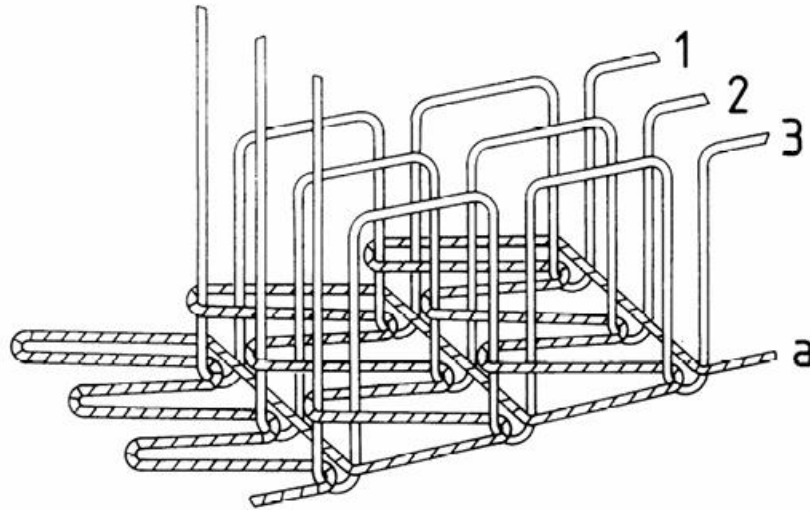


This stitch type is formed with three threads: two needle threads (1 and 2) and one looper thread (a). Loops of threads (1 and 2) are passed through the material from the needle side, and through two separate loops

of thread (a) on the other side. They are then interlooped with a further loop of thread (a). The interloopings are drawn against the material.

A minimum of two stitches describes this stitch type.

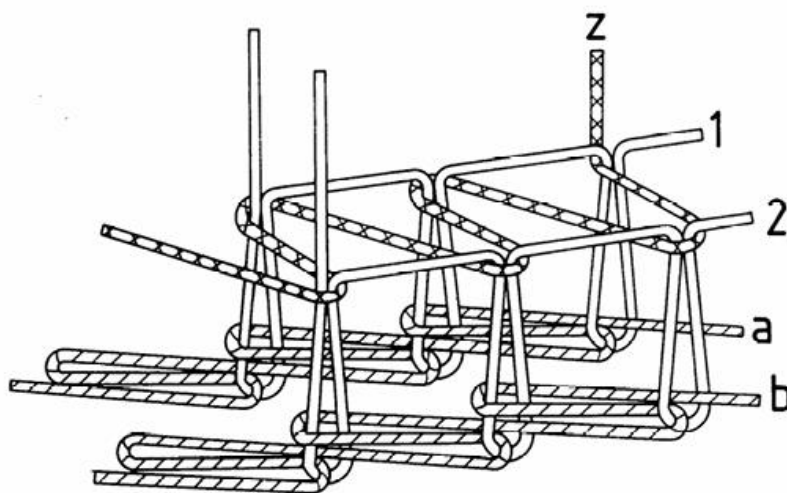
407



This stitch type is formed with four threads: three needle threads (1, 2 and 3) and one looper thread (a). Loops of threads (1, 2 and 3) are passed through the material from the needle side, and through three separate loops of thread (a) on the other side. They are then interlooped with a further loop of thread (a). The interloopings are drawn against the material.

A minimum of two stitches describes this stitch type.

408

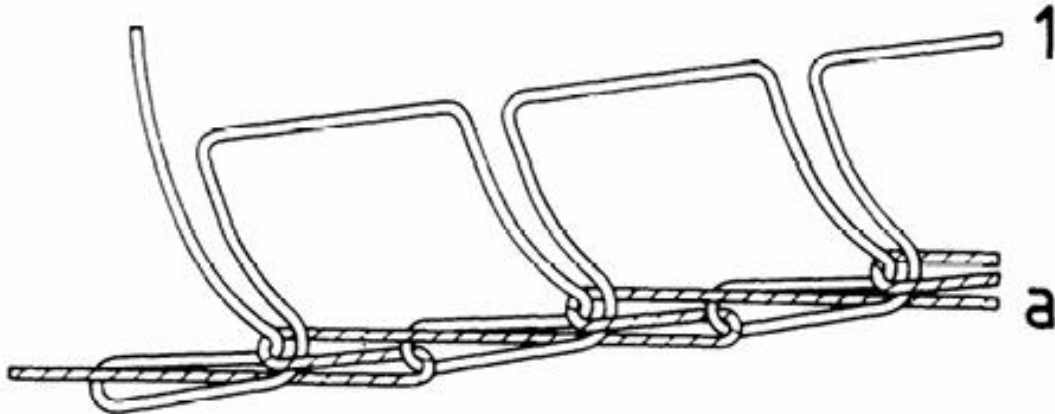


This stitch type is formed with five threads: two needle threads (1 and 2), two looper threads (a and b) and one cover thread (Z). Loops of threads (1 and 2) are passed through loops of thread (Z) already laid across

the needle side of the material and then through the material. The loop of thread (1) is passed through one loop of thread (a), and the loop of thread (2) through one loop of thread (b) on the other side. The loop of thread (1) is then interlooped with a second loop of thread (a) and the loop of thread (2) with a second loop of thread (b). The interloopings are drawn against the material.

A minimum of two stitches describes this stitch type.

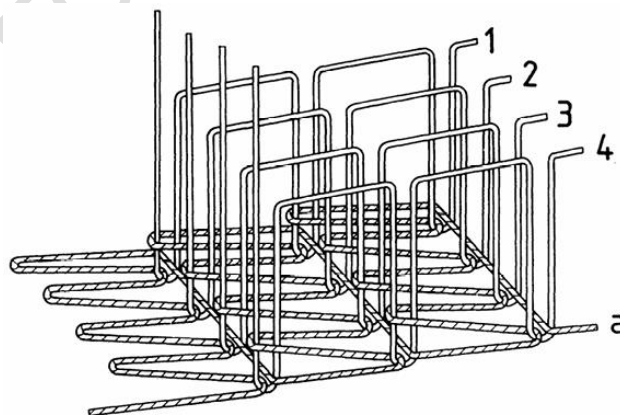
409



This stitch type is formed with two threads: one needle thread (1) and one looper thread (a). A loop of thread (1) is passed into the material from the needle side, through portions of the material, emerging on the needle side. It is passed through one loop of thread (a), and is then interlooped with a second loop of thread (a). Needle penetrations are at right-angles to the direction of successive stitch formation.

A minimum of two stitches describes this stitch type.

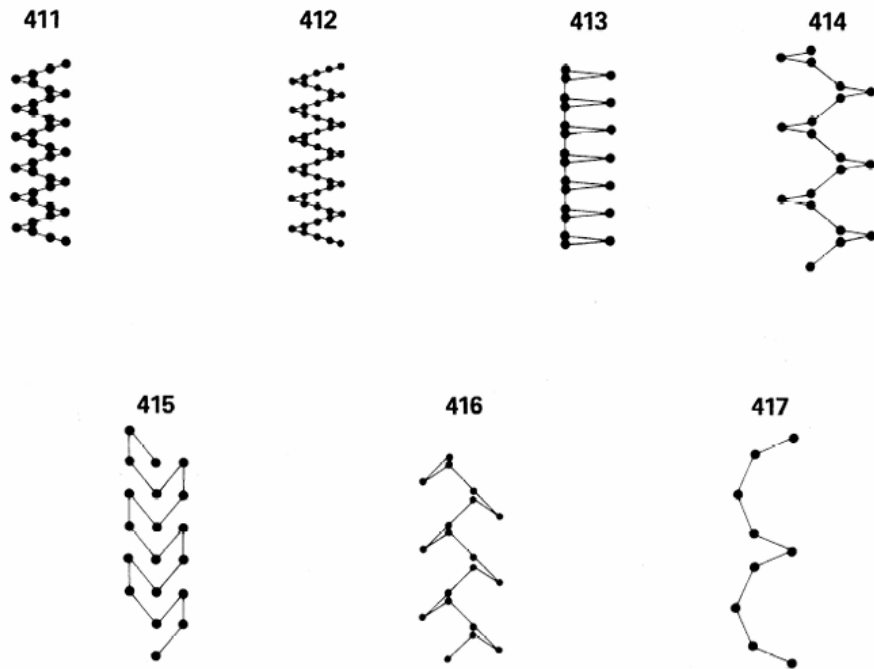
410



This stitch type is formed with five threads: four needle threads (1, 2, 3 and 4) and one looper thread (a). Loops of threads (1, 2, 3 and 4) are passed through the material from the needle side, and through four separate loops of thread (a) on the other side. They are then interlooped with a further loop of thread (a). The interloopings are drawn against the material.

A minimum of two stitches describes this stitch type.

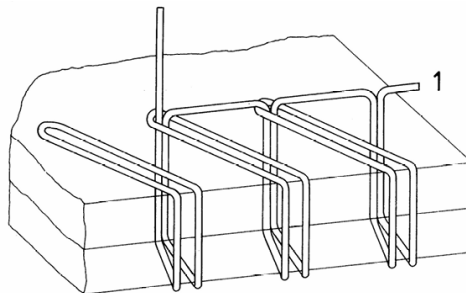
411-417



These stitch types are the same as 401, but showing different stitching patterns as indicated in the plan diagrams.

Class 500

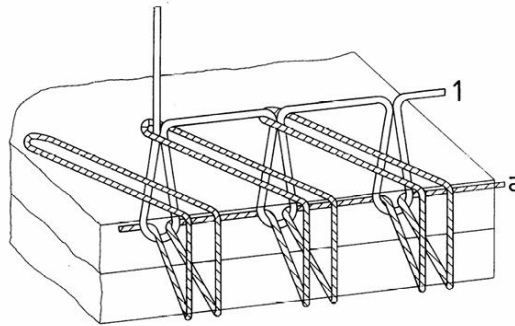
501



This stitch type is formed with two threads: one needle thread (1) and one looper thread (a). A loop of thread (1) is passed through a loop of thread (a) already laid across the needle side of the material and through the material. The loop of thread (1) is interlooped with a second loop of thread (a) at the point of emergence on the other side of the material. The loop of thread (a) is brought around the edge of the material and extended to the next point of needle penetration.

A minimum of two stitches describes this stitch type.

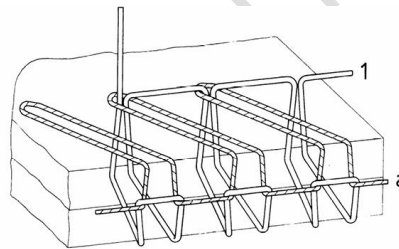
502



This stitch type is formed with two threads: one needle thread (1) and one looper thread (a). A loop of thread (1) is passed through a loop of thread (a) already laid across the needle side of the material and through the material. The loop of thread (1) is brought to the edge of the material where it is interlooped with a second loop of thread (a). The loop of thread (a) is extended from this interlooping to the next point of needle penetration.

A minimum of two stitches describes this stitch type.

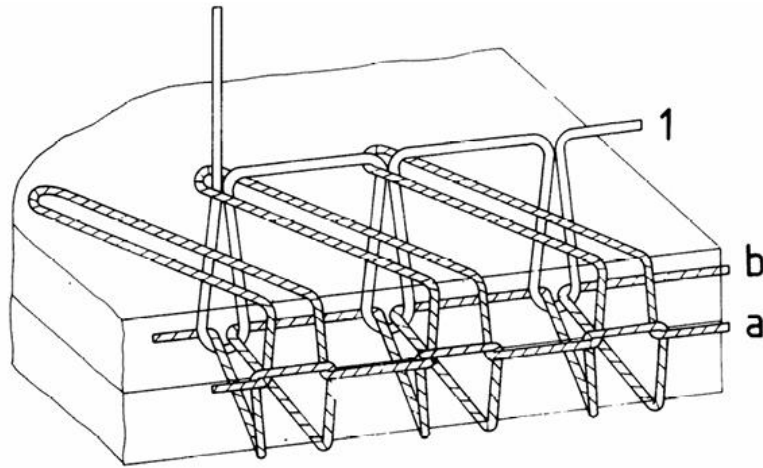
503



This stitch type is formed with two threads: one needle thread (1): one looper thread (1) and one looper thread (a). A loop of thread (1) is passed through a loop of thread (a) already laid across the needle side of the material and through the material. The loop of thread (1) is brought to the edge of the material where it is interlooped with a second loop of thread (a). The loop of thread (a) is extended from this interlooping to the next point of needle penetration.

A minimum of two stitches describes this stitch type.

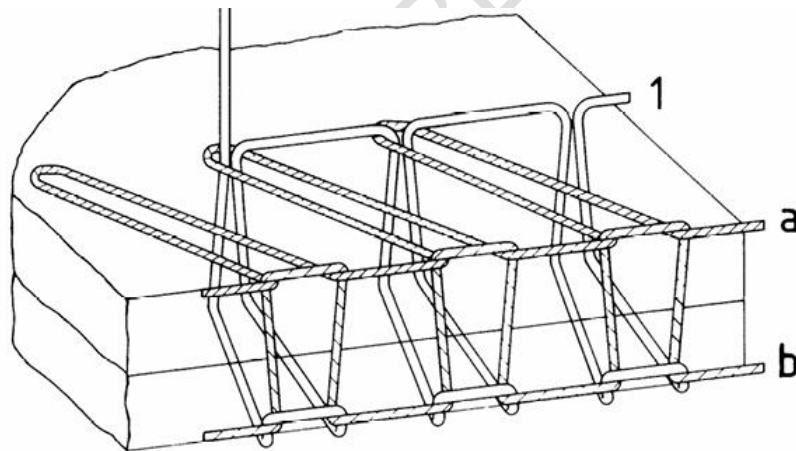
504



This stitch is formed with three threads: one needle thread (1) and two looper threads (a and b). A loop of thread (1) is passed through a loop of thread an already laid across the needle side of the material and through the material. The loop of thread (1) is brought to the edge of the material where it is interlooped with a loop of thread (b). The loop of thread (b) is interlooped with a second loop of thread (a) at the edge of the material. The loop of thread (a) is extended from this interlooping to the next point of needle penetration.

A minimum of two stitches describes this stitch type.

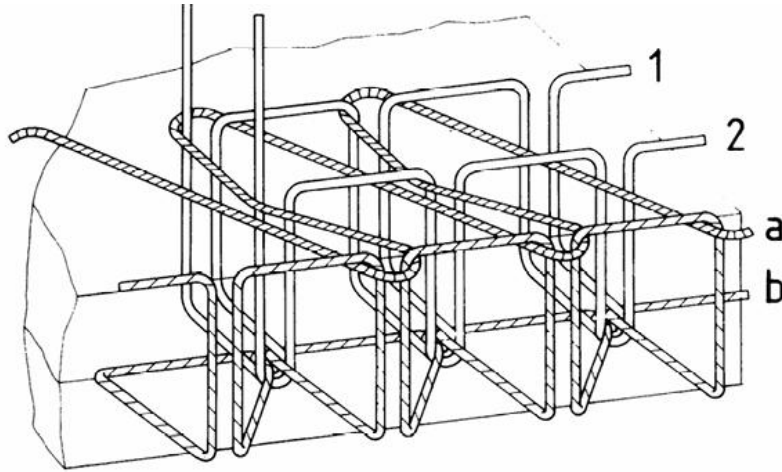
505



This stitch type is formed with four threads: two needle threads (1 and 2) and two looper threads (a and b). Loops of threads (1 and 2) are passed through a loop of thread (a) already laid across the needle side of the material and through the material. The loop of thread (1) is extended to the point of emergence of the loop of thread (2). Loops of threads (1 and 2) are interlooped with a loop of thread (b) at this point. The loop of thread (b) is brought to the edge of the material where it is interlooped with a loop of thread (a). The loop of thread (a) is extended from this interlooping to the next points of needle penetration.

A minimum of two stitches describes this stitch type.

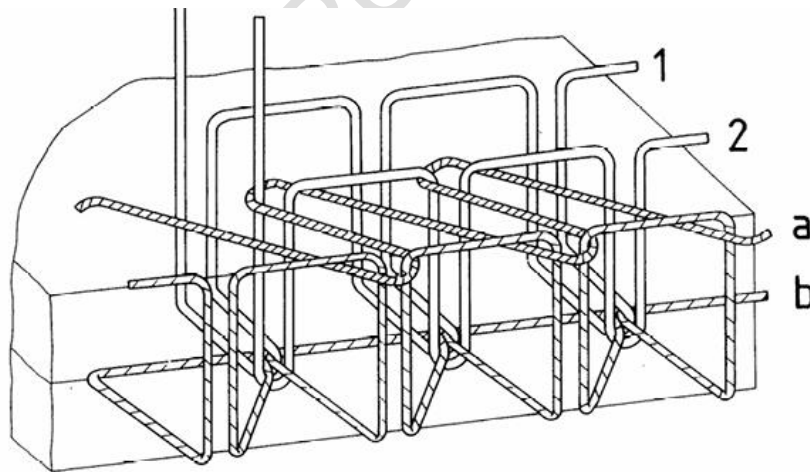
506



This stitch type is formed with four threads: two needle threads (1 and 2) and two looper threads (a and b). A loop of thread (2) is passed through a loop of thread an already laid across the needle side of the material and through the material. A loop of thread (1) is passed through the material and extended to the point of emergence of the loop of thread (2). Loops of threads (1 and 2) are interlooped with a loop of thread (b) at this point. The loop of thread (b) is brought to the edge of the material where it is interloped with a second loop of thread (a). The loop of thread (a) is extended from this interlooping to the next point of needle penetration of thread (2).

A minimum of two stitches describes this stitch type.

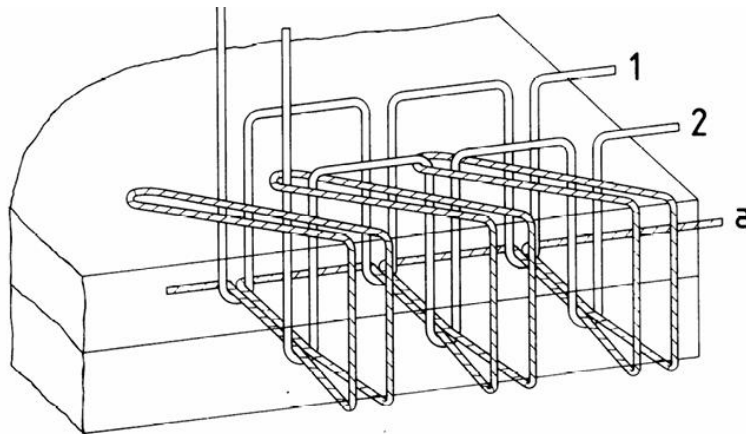
507



This stitch type is formed with four threads: two needle threads (1 and 2) and two looper threads (a and b). A loop of thread (2) is passed through a loop of thread an already laid across the needle side of the material and through the material. A loop of thread (1) is passed through the material and extended to the point of emergence of the loop of thread (2). Loops of threads (1 and 2) are interlooped with a loop of thread (b) at this point. The loop of thread (b) is brought to the edge of the material where it is interloped with a second loop of thread (a). The loop of thread (a) is extended from this interlooping to the next point of needle penetration of thread (2).

A minimum of two stitches describes this stitch type.

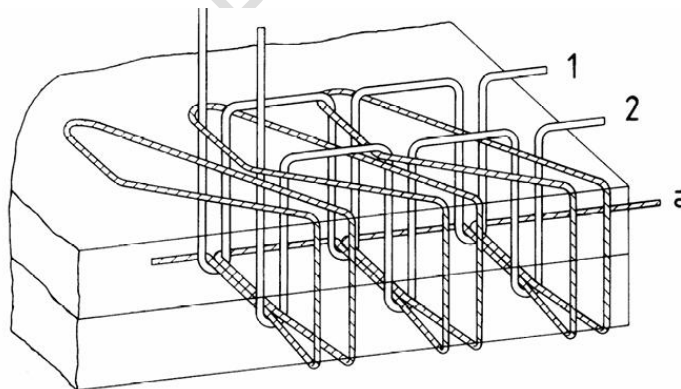
508



This stitch type is formed with three threads: two needle threads (1 and 2) and one looper thread (a). A loop of thread (2) is passed through a loop of thread an already laid across the needle side of the material and through the material. A loop of thread (1) is passed through the material. The loops of threads (1 and 2) are interlooped with a second loop of thread (a) at the points of emergence on the other side of the material. The loop of thread (a) is brought around the edge of the material to the next point of needle penetration of thread 2.

A minimum of two stitches describes this stitch type.

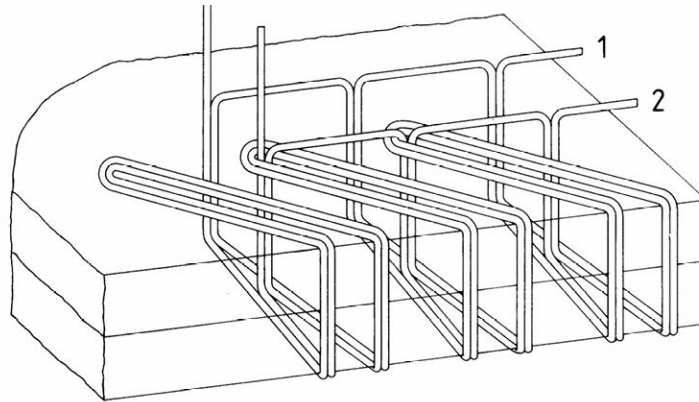
509



This stitch type is formed with three threads: two needle threads (1 and 2) and one looper thread (a). Loops of threads (1 and 2) are passed through a loop of thread an already laid across the needle side of the material and through the material. The loops of threads (1 and 2) are interlooped with a second loop of thread (a) at the points of emergence on the other side of the material. The loop of thread (a) is brought round the edge of the material and extended to the next points of needle penetration.

A minimum of two stitches describes this stitch type.

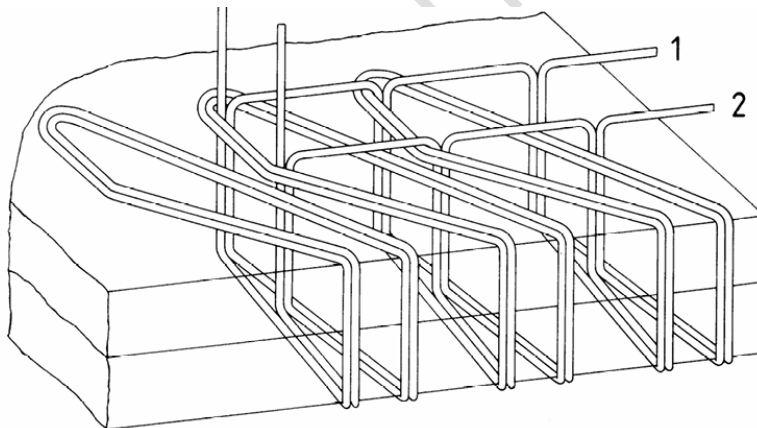
510



This stitch type is formed with two needle threads (1 and 2). A loop of thread (2) is passed through loops of threads (1 and 2) already laid across the needle side of the material, and through the material. A loop of thread (1) is passed through the material, and the loops of threads (1 and 2) are then brought around the edge of the material and extended to the next point of needle penetration of thread (2).

A minimum of two stitches describes this stitch type.

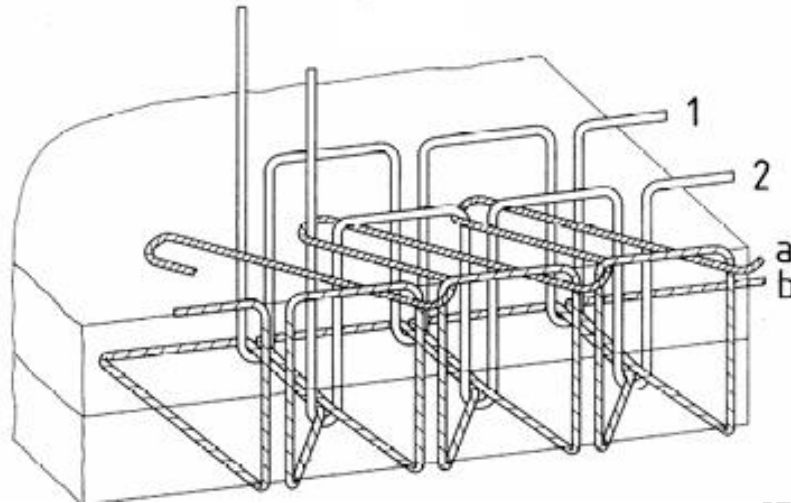
511



This stitch type is formed with two needle threads (1 and 2). Loops of threads 1 and 2 are passed through loops of threads (1 and 2) already laid across the needle side of the material, and through the material. The loops are then brought around the edge of the material and extended to the next points of needle penetration.

A minimum of two stitches describes this stitch type.

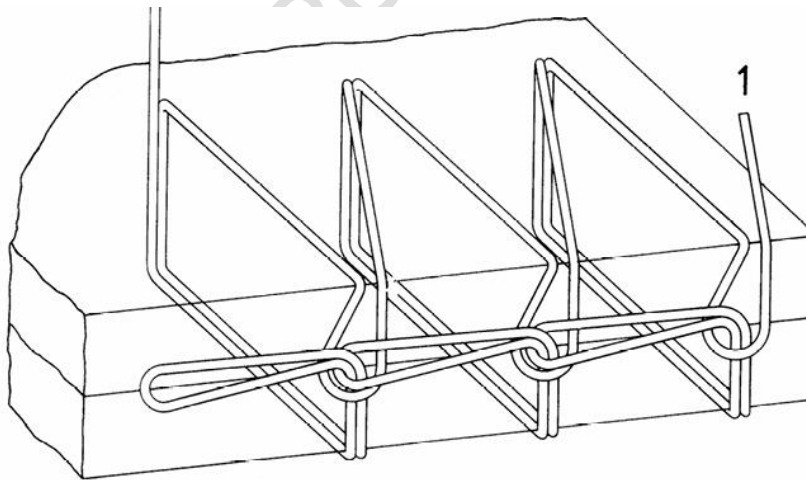
512



This stitch type is formed with four threads: two needle threads (1 and 2) and two looper threads (a and b). A loop of thread (2) is passed through a loop of thread (a) already laid across the needle side of the material, and through the material. A loop of thread (1) is passed through the material, and the loops of threads (1 and 2) are interlooped with a loop of thread (b) at the points of emergence on the other side of the material. The loop of thread (b) is brought to the edge of the material where it is interlooped with a second loop of thread (a). The loop of thread (a) is extended from this interlooping to the next point of needle penetration of thread (2).

A minimum of two stitches describes this stitch type.

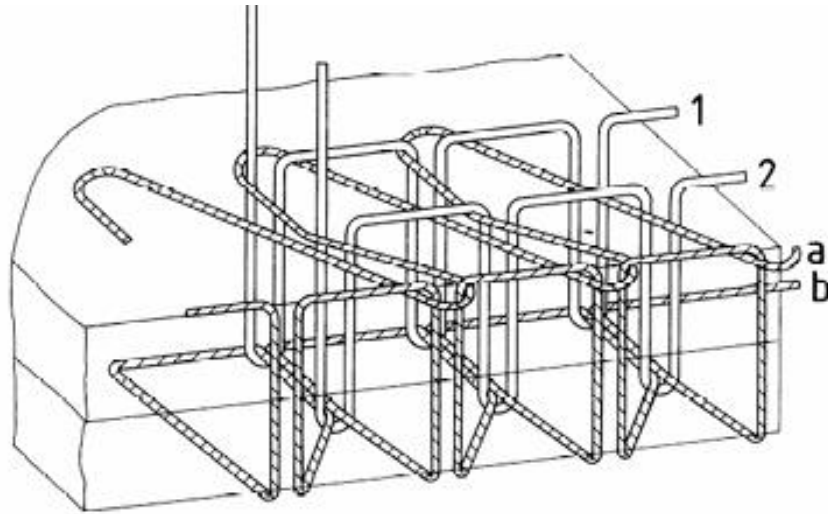
513



This stitch type is formed with one needle thread (1). A loop of this thread is passed through the material from the needle side and brought to the edge of the material where it is intra-looped with a second loop which has been drawn across the needle side to the edge of the material, and with a further loop from the previous stitch.

A minimum of two stitches describes this stitch type.

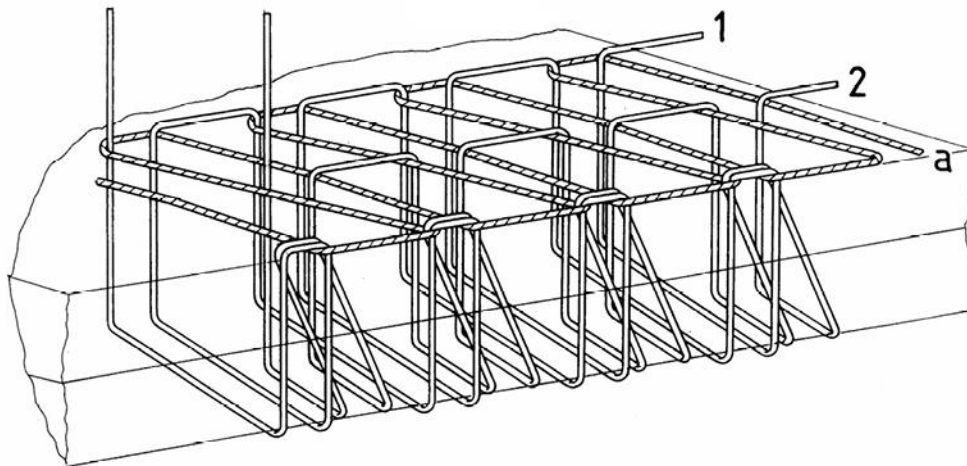
514



This stitch type is formed with four threads: two needle threads (1 and 2) and two looper threads (a and b). Loops of threads (1 and 2) are passed through a loop of thread already laid across the needle side of the material and through the material. The loops of threads (1 and 2) are interlooped with a loop of thread (b) at the points of emergence on the other side of the material. The loop of thread (b) is brought to the edge of the material where it is interlooped with a second loop of thread (a). The loop of thread (a) is extended to the next points of needle penetration.

A minimum of two stitches describes this stitch type.

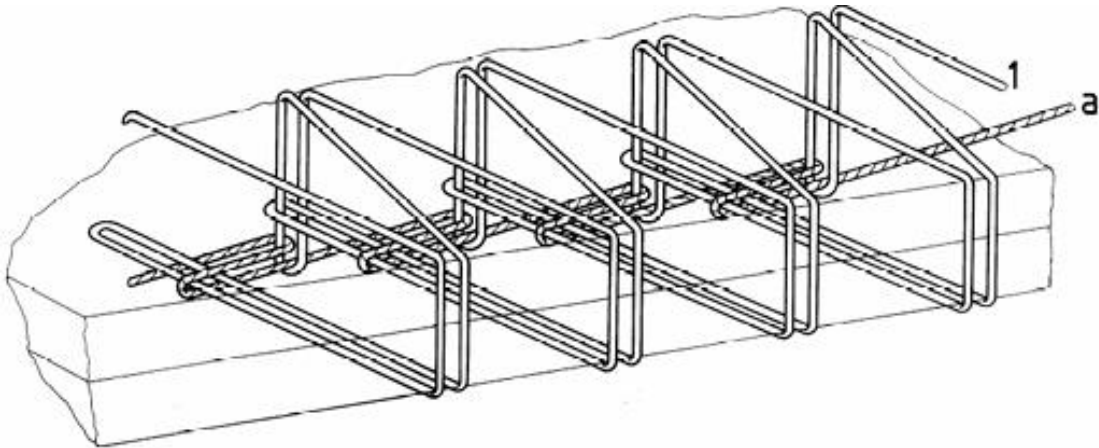
521



This stitch type is formed with three threads: two needle threads (1 and 2) and one looper thread (a). Loops of threads (1 and 2) are passed through a loop of thread (a) already laid across the needle side of the material and through the material. The loops of threads (1 and 2) are brought to the edge of the material where they are interlooped with a second loop of thread (a). The loop of thread (a) is extended from this interlooping to the next points of needle penetration.

A minimum of two stitches describes this stitch type.

522



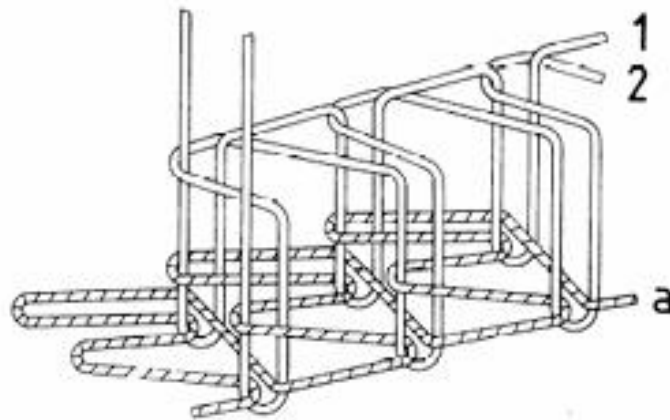
This stitch type is formed with two threads: one needle thread (1) and one looper thread (a). A loop of thread (1) is passed through the material from the needle side and through a second loop of thread (1), and is interlooped with thread (a) on the other side. This second loop of thread (1) has been brought around the edge of the material to the other side and also interlooped with thread (a).

Successive single stitches form a symmetrical zig-zag pattern on the needle side of the material.

A minimum of two stitches describes this stitch type.

Class 600

601

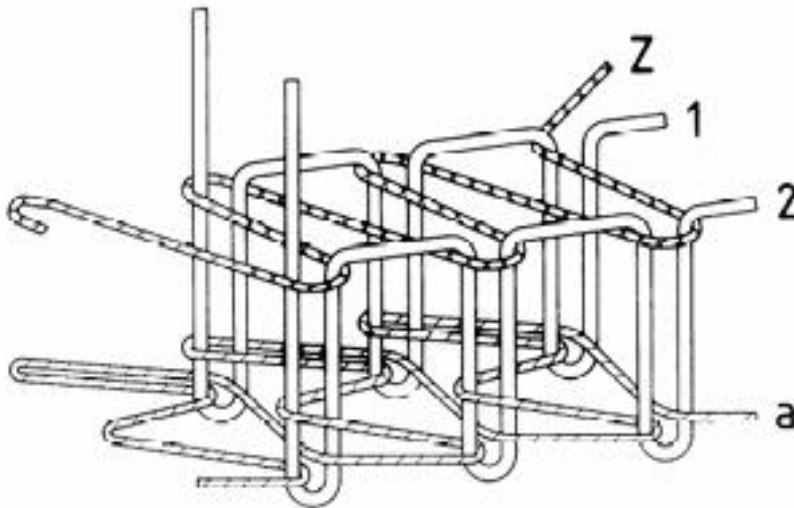


This stitch type is formed with three threads: two needle threads (1 and 2) and one looper thread (a). A loop of thread (2) is passed through the material from the needle side. A loop of thread (1) is simultaneously passed through a loop of thread (2) already laid across the needle side of the material, and then through the material. The loops of threads (1 and 2) are then passed through two separate loops of thread (a), and interlooped with a further loop of thread (a) and the interloopings are drawn against the material.

This stitch type can also be used at the edge of the material.

A minimum of two stitches describes this stitch type.

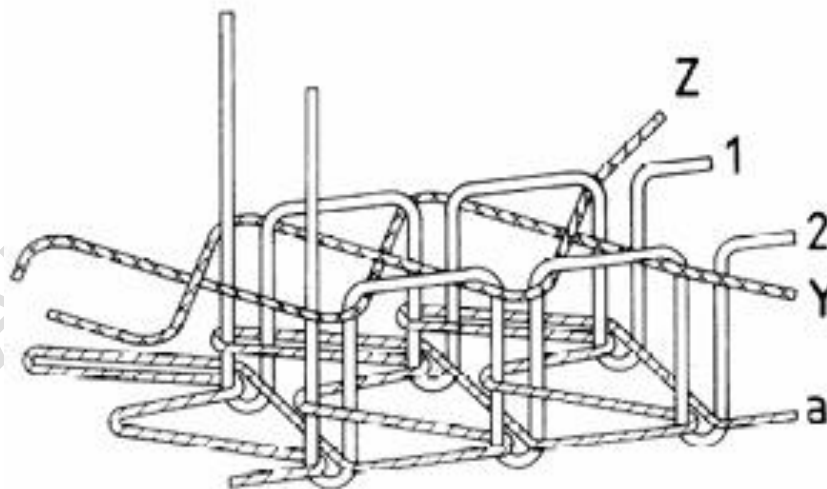
602



This stitch type is formed with four threads: two needle threads (1 and 2), one looper thread (a) and one cover thread (Z). Loops of threads (1 and 2) are passed through loops of thread Z already laid across the needle side of the material, through the material, and through two separate loops of thread (a). They are then interlooped with a further loop of thread (a) and the interloopings are drawn against the material.

A minimum of two stitches describes this stitch type.

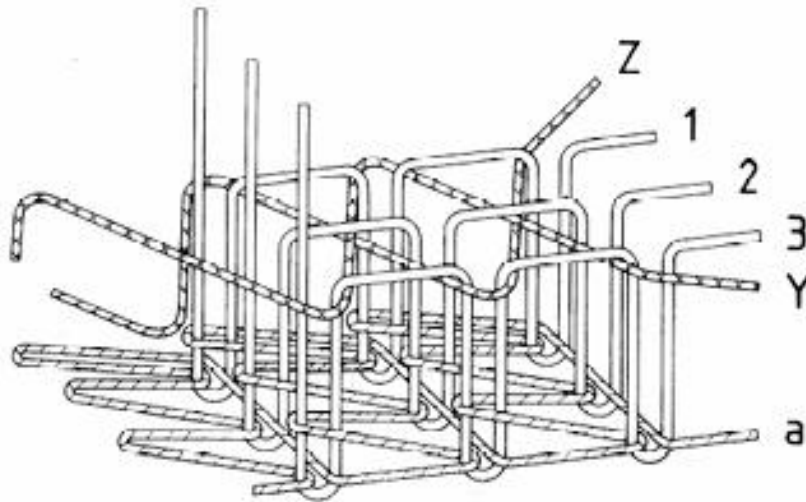
603



This stitch type is formed with five threads: two needle threads (1 and 2), one looper thread (a) and two cover threads (Z and Y). Loops of threads (1 and 2) are passed through loops of threads (Z and Y) already laid across the needle side of the material. They are then passed through the material and through two separate loops of thread (a). They are then interlooped with a further loop of thread (a) and the interloopings are drawn against the material. Threads (Z and Y) are laid in a symmetrical crossed disposition.

A minimum of two stitches describes this stitch type.

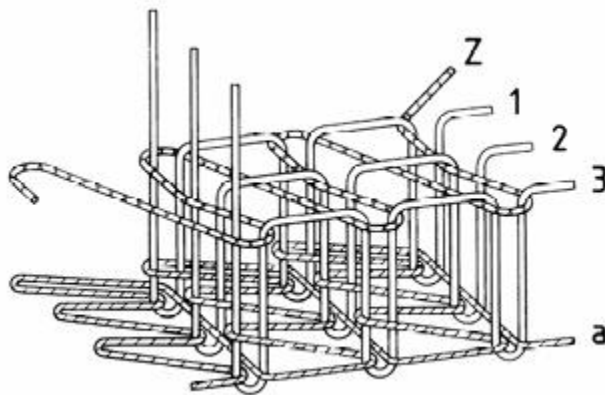
604



This stitch type is formed with six threads: three needle threads (1, 2 and 3), one looper thread (a) and two cover threads (Z and Y). Loops of threads (1, 2 and 3) are passed through loops of threads (Z and Y) already laid across the needle side of the material, and through the material, and through three separate loops of thread (a). They are then interlooped with a further loop of thread (a) and the interloopings are drawn against the material. Threads (Z and Y) are laid in a symmetrical crossed disposition.

A minimum of two stitches describes this stitch type.

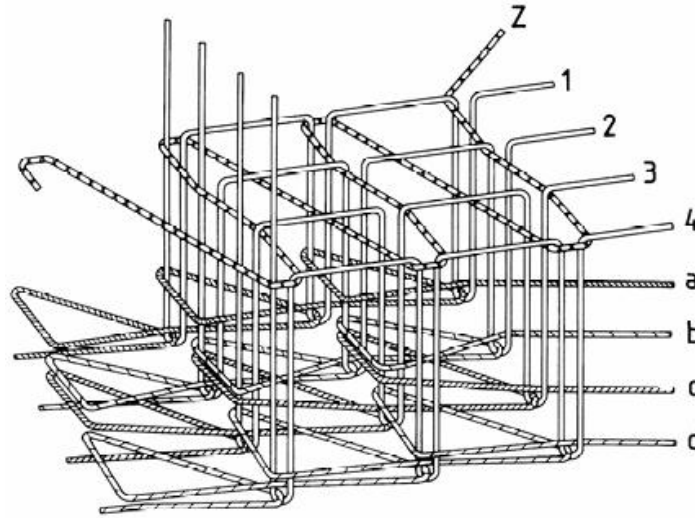
605



This stitch type is formed with five threads: three needle threads (1, 2 and 3), one looper thread (a) and one cover thread (Z). Loops of threads (1, 2 and 3) are passed through loops of thread (Z) already laid across the needle side of the material, and then through the material, and through three separate loops of thread (a). They are then interlooped with a further loop of thread (a) and the interloopings are drawn against the material.

A minimum of two stitches describes this stitch type.

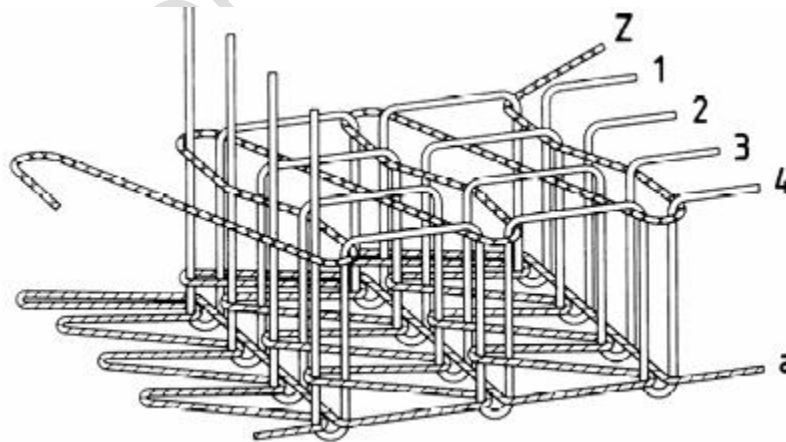
606



This stitch type is formed with nine threads: four needle threads (1, 2, 3 and 4), four looper threads (a, b, c and d) and one cover thread (Z). Loops of threads (1, 2, 3 and 4) are passed through loops of thread (Z) already laid across the needle side of the material, through the material and through loops of threads (a, b, c and d) on the other side as follows: 1 through a, 2 through a, b and c, 3 through b, c and d, 4 through d. They are then interlooped with further loops of threads (a, b, c and d) as follows: 1 with a, 2 with b, 3 with c and 4 with d, and the interloopings are drawn against the material.

A minimum of two stitches describes this stitch type.

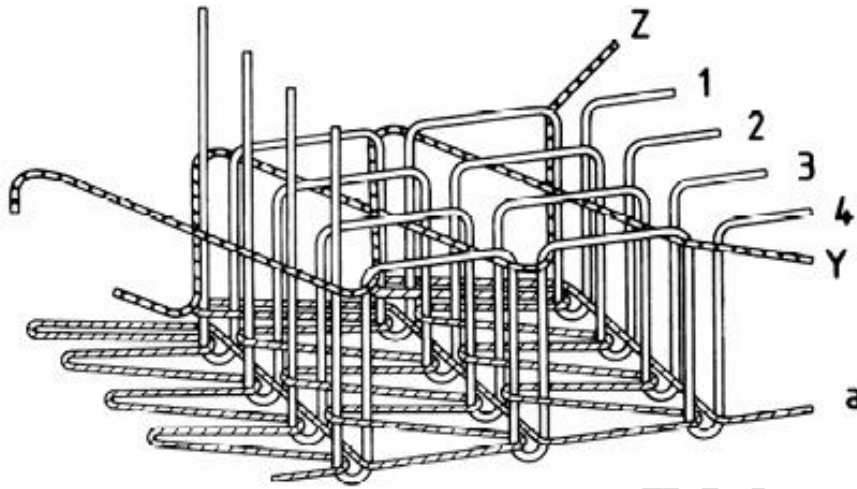
607



This stitch type is formed with six threads: four needle threads (1, 2, 3 and 4), one looper thread (a) and one cover thread (Z). Loops of threads (1, 2, 3 and 4) are passed through loops of thread (Z) already laid across the needle side of the material, through the material, and through four separate loops of thread (a). They are then interlooped with a further loop of thread (a), and the interloopings are drawn against the material.

A minimum of two stitches describes this stitch type.

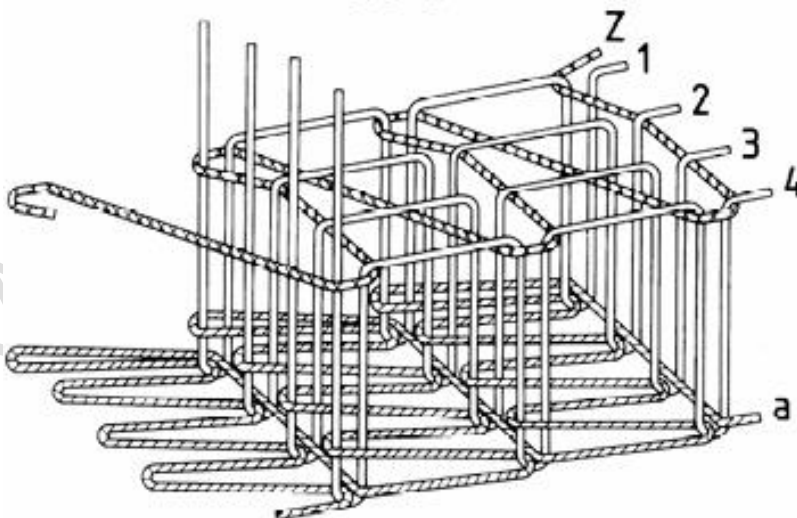
608



This stitch type is formed with seven threads: four needle threads (1, 2, 3 and 4), one looper thread (a) and two cover threads (Z and Y). Loops of threads (1, 2, 3 and 4) are passed through loops of threads (Z and Y) already laid across the needle side of the material, through the material, and through four separate loops of thread (a). They are then interlooped with a further loop of thread (a) and the interloopings are drawn against the material. Threads (Z and Y) are laid in asymmetrical crossed disposition.

A minimum of two stitches describes this stitch type.

609



This stitch type is formed with six threads: four needle threads (1, 2, 3 and 4), one looper thread (a) and one cover thread (Z). Loops of threads (1, 2, 3 and 4) are passed through loops of thread (Z) already laid across the needle side of the material, through the material, and through four separate loops of thread (a).

They are then interlooped with a further loop of thread (a), and the interloopings are drawn against the material.

A minimum of two stitches describes this stitch type.

DRAFT FOR PUBLIC COMMENT