

KOHL'S

ISO Numbers

KOHL'S TECHNICAL DESIGN | August 2026

AGENDA

ISO Numbers	<u>3</u>
100 Series	<u>4-8</u>
200 Series	<u>9-11</u>
300 Series	<u>12-17</u>
400 Series	<u>18-22</u>
500 Series	<u>23-27</u>
600 Series	<u>28-32</u>

ISO Numbers

Stitch classes are designated and identified by the first digit of a “3 digit numeral system”. Type of stitch within each class are designated and identified by 2nd and 3rd digit.

- **100s** – Single Thread
- **200s** – Hand Stitches
- **300s** – Lock Stitches
- **400s** – Multiple Thread Chainstitch
- **500s** – Overedge & Safety Stitches
- **600s** – Coverstitch

100 Series

ISO Numbers - 100 Series

The ISO 100 Series is single thread stitch formed with hook set up with Looper or Spreader to form stitch.

- **Sub-Class:** 101, 103
- **Formation:** The chain stitch class 100 is formed with one or more needle threads that form a loop on the underside of the fabric. There is no lower thread.
- **Characteristics:**
 - It can be easily removed and it is used for basting operations in tailored men's wear and women's wear.
 - It can only be used where the marks of needle penetration close up afterwards in pressing.
 - A basting operation, in positions such as edges, flaps, collars, and so on; a temporary stitch, allowing accurate placement of permanent stitches.

ISO Numbers - 100 Series

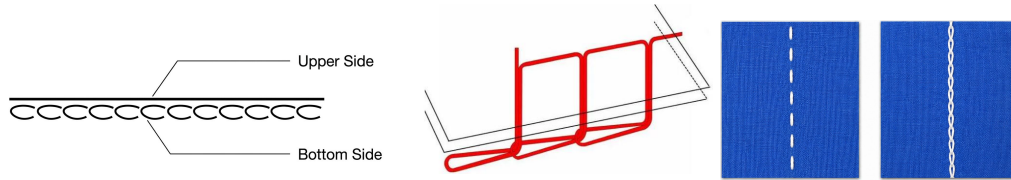
Stitch Drawing		ISO 4915 Number	Common Application	Requirements	Stitch Description
Top View As Sewn	Bottom View As Sewn				
Single Thread Chainstitch 		101	Basting Stitch for Tailored Clothing; Bag Closing	Specify SPI.	Stitch formed by a needle thread passing through the material and interlooping with itself on the underside of the seam with the assistance of a spreader.
Single Thread Chainstitch or Lockstitch Buttonsew, Buttonhole or Bartack 	* 304 Lockstitch is preferred when stitch security is a Must.	101 or 304	Buttonsew, Buttonhole, or Bartack	1) Buttonsew - specify stitches per cycle (Ex. 8, 16, 32) 2) BH - specify length & width (1/2", etc.) 3) Bartack - specify length & width of tack.	Knit Shirts - Buttonhole length generally is 1/2 inch, is placed horizontally, with approximately 85-90 stitches
Single Thread Blindstitch 	No stitch visible on the Bottom or Outside of Sewn Product	103	Blindstitch Hemming, Felling, Making Belt Loops	Specify 1) SPI 3 - 5 SPI 2) Non-skip or 2 to 1 skipped stitch	Stitch is formed with one needle thread that is interlooped with itself on the top surface of the material. The thread passes through the top ply and horizontally through portions of the bottom ply without completely penetrating it the full depth.

ISO Numbers - 100 Series

Sub-Classes

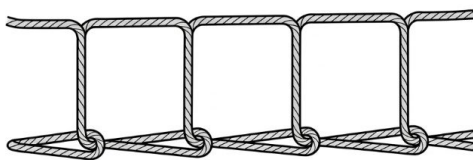
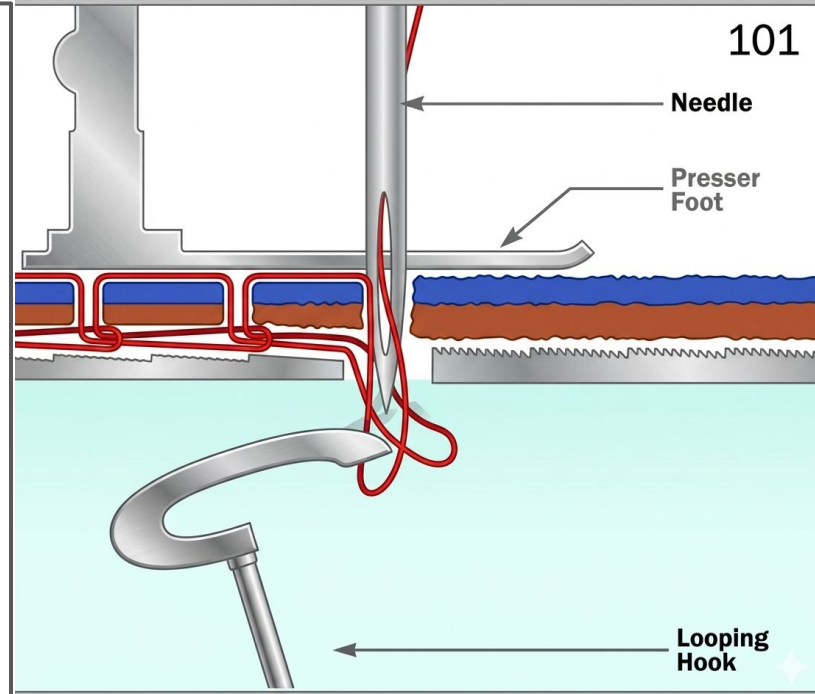
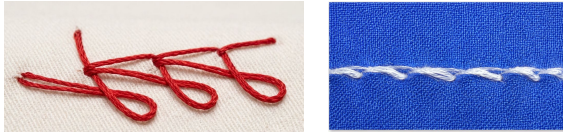
- **101: Single Thread Chainstitch**

Uses: Basting (temporary stitching) e.g. Blazer components joining before final sewing to cooperate sewing.
Linking machine for sweaters is classified as 101.

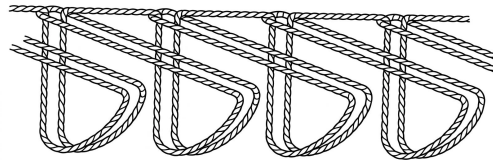


- **103: Single Thread Blindstitch**

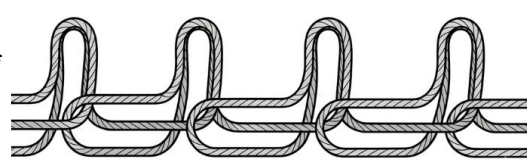
Feature: One side is invisible and other side is like a chain.
Uses: Bottom hemming of dress pants.



Stitch type 101



Stitch type 103



Stitch type 104

ISO Numbers - 100 Series: Advantages & Disadvantages

Advantages:

- Good for Basting – Easy to remove if needed
- It can provide low visibility for a clean look
- Needle penetration is small, and generally does not leave marks when removed

Disadvantages:

- Chain type stitch and can easily unravel if not properly secure
- Is thicker stitch than lock stitch

200 Series

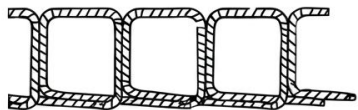
ISO Numbers - 200 Series

The 200 Series is Single Thread Hand Sewn Stitches Using One Needle Thread.

- **Sub-Class:** 201 (Machine Version ISO 104) or 205.
- **Formation:** The 200 series consists of hand formation of stitches done by hand. Hand stitch is formed by a piece of thread. Thread is drawn in every stitch or every other stitch and the length of stitching is limited.
- **Characteristics:** Hand is often used for basting or decorative application.

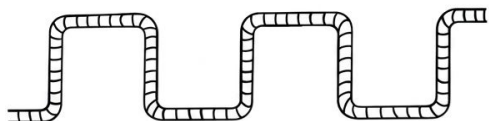
202 Handstitch

Chainstitch provides stretchability for knits



205 Handstitch

One Thread True Handstitch for Topstitching



ISO Numbers - 200 Series: Advantages & Disadvantages

Advantages:

- Good for Basting – Easy to remove if needed

Disadvantages:

- A slow process
- Need huge manpower to finish bulk orders

300 Series

ISO Numbers - 300 Series

The lock stitch class 300 is the most commonly used and is easiest to understand.

- **Sub- Class:** 301, 304, 306, 315
- **Formation:** Lock stitch machine requires 2 threads to form a stitch, a needle thread that feeds from the top and a lower thread that feeds from bobbin.
A rotary hook or shuttle catches the needle thread loops as it passes around the bobbin and interlocks the two threads.
- **Characteristics:**
 - If a lock stitch thread breaks, the two threads used to form the stitch lock and the whole line of stitches won't unravel.
 - Lock stitch machines are versatile and can be used for a variety of operations.
 - It is also the only stitch formation that can be back stitched.

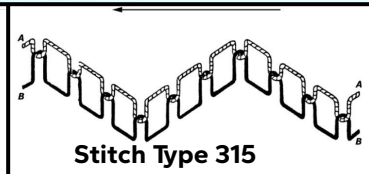
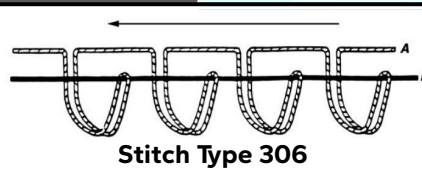
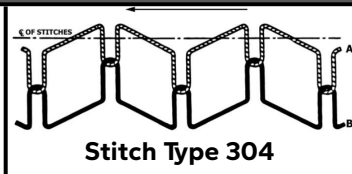
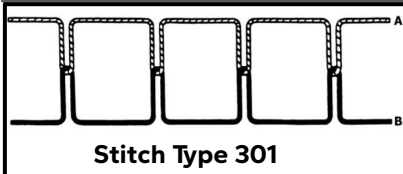
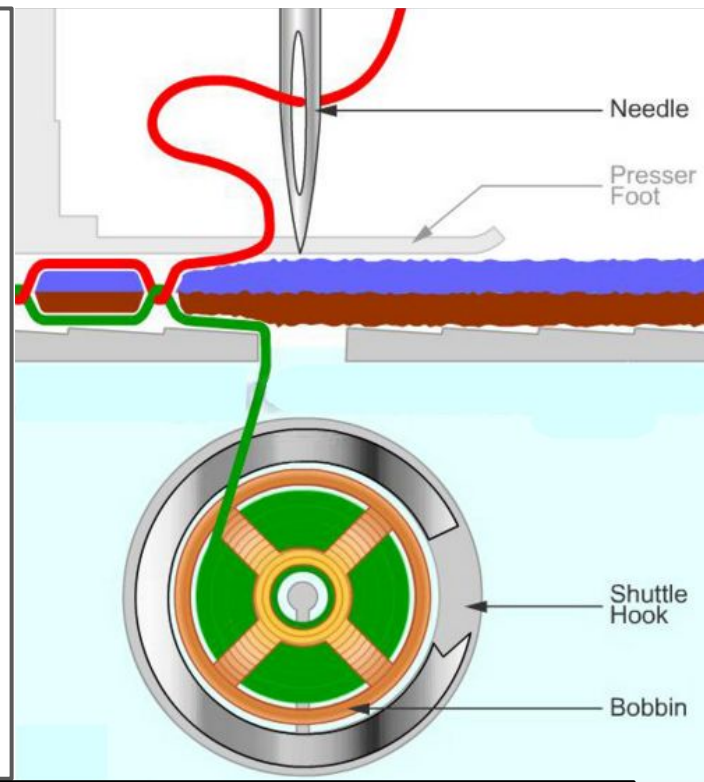
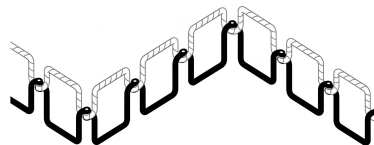
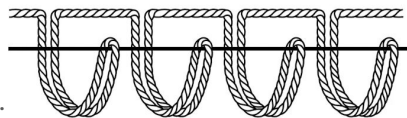
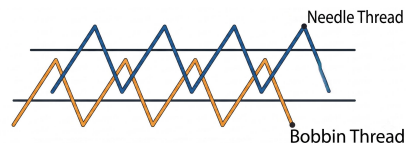
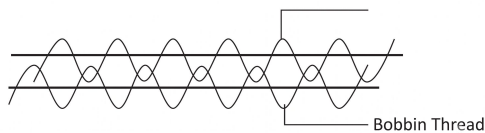
ISO Numbers - 300 Series

Stitch Drawing		ISO 4915 Number	Common Application	Requirements	Stitch Description
Top View As Sewn	Bottom View As Sewn				
Lockstitch - Most Common of All Stitches 	Bobbin Thread on Bottom 	301	Topstitching, Single Needle Stitching, Straight Stitching	Specify SPI.	Stitch formed by a needle thread passing through the material and interlocking with a bobbin thread with the threads meeting in the center of the seam. Stitch looks the same top & bottom.
Zig Zag Lockstitch 		304	Intimate Apparel, Athletic wear, Infantwear, Exercisewear	Specify 1) SPI 2) Throw or width Zig-Zag (1/8", 3/16", 1/4")	Stitch is formed with a needle and a bobbin that are set in the center of the seam and form a symmetrical zig-zag pattern. Also, used to identify bartacking and lockstitch buttonsewing and buttonholing.

ISO Numbers - 300 Series

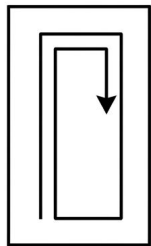
Sub-Classes

- 301: Lockstitch**
Uses: Top stitching in garments.
- 304: Zig Zag Lockstitch**
Uses: Elastic attaching, lace attaching etc.
- 306:**
Uses: Hem, basting, etc.
- 315:**
Uses: High stretch fabric.

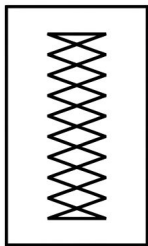


ISO Numbers - 101/304 Buttonhole/Bartack

Buttonhole



Basting
Stitch



Joining
Stitch

28 or 32 Stitch Bartack



1st Pass is 7
or 8 straight
stitch



2nd pass is 7
or 8 straight
stitch



3rd Pass is
ZZ 14 or 16
stitches

The Most Common Bartacks are 28 & 42

- 42 stitch bartack can be converted to a 21 stitch tack
- Tack width is (1.5 -3mm) Approx. 1/16" to 1/8"
- Tack length is (8 -16mm) Approx. 3/16" to 7/8"
- 28 stitch is common on Mens shirts
- 42 stitch is common for more durable needs (ie. Outerwear pockets, Bra Wire channeling)
- 21 stitch is common for light needs

ISO Numbers - 300 Series: Advantages & Disadvantages

Advantages:

- Low bulk and thin, good strength and abrasion resistance
- Appearance is same top and bottom able to sew face up or down
- Does not ravel

Disadvantages:

- Poor elasticity and restrictive stretch
- Limited sewing length, need to replace bobbin thread

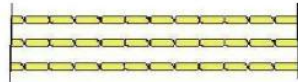
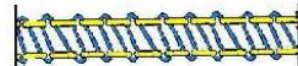
400 Series

ISO Numbers - 400 Series

The 400 series is a Multi-Thread chain stitches using one or more needle threads, and one or more looper threads.

- **Sub- Class:** 401, 404, 406, 407, 408, 411
- **Formation:** This multi thread chain stitch requires one or more needle threads that form loops as they pass through the fabric and interloop with the looper thread on the underside, all of which feed continuously from the cones. The 400 class requires an upper and a lower thread and use a looper to carry the lower thread and form a thread loop on the underside of the fabric.
- **Characteristics:** The stitch formation is set up allowing more thread to feed into the stitch providing some give in the stitch. The 400 stitches are widely used on knits as a result of the give in the stitch.

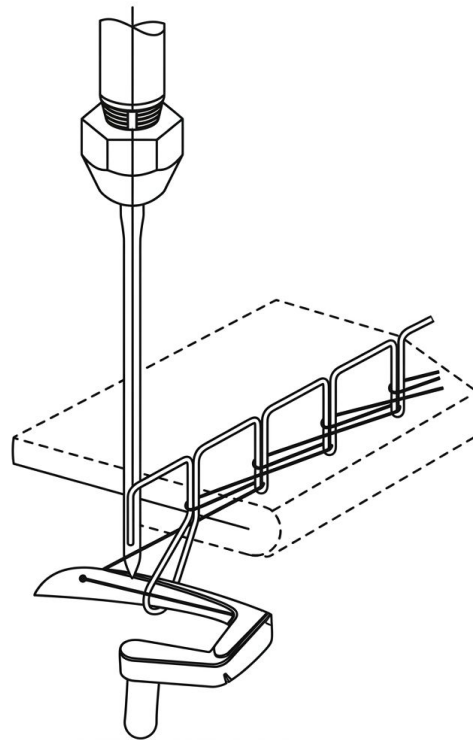
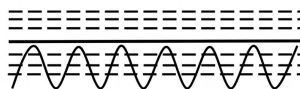
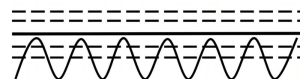
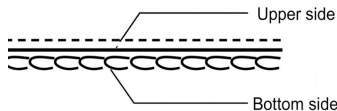
ISO Numbers - 400 Series

Stitch Drawing		ISO 4915 Number	Common Application	Requirements	Stitch Description
Top View As Sewn	Bottom View As Sewn				
Chainstitch 	Looper Thread on Bottom 	401	Single Needle Chainstitch - Mainseams on Wovens	Specify SPI.	Stitch formed by 1-needle thread passing through the material and interlooped with 1-looper thread and pulled up to the underside of the seam.
Zig Zag Chainstitch 	Looper Thread on Bottom 	404	Zig-Zag Chainstitch for Infantwear and Childrenswear: Binding, Topstitching, etc.	Specify 1) SPI 2) Throw or width Zig-Zag (1/8")	Stitch is formed with a needle and a looper that are set on the underside of the seam and form a symmetrical zig-zag pattern.
2 Needle Bottom Coverstitch 	Looper Thread on Bottom 	406	Hemming, Attaching, Elastic, Binding, Coverseaming, Making Belt Loops	Specify 1) Needle spacing (1/8", 3/16", 1/4") 2) SPI	Stitch formed by 2-needle threads passing through the material and interlooping with 1-looper thread with the stitch set on the underside of the seam. Looper thread interlooped between needle threads providing seam coverage on the bottom side only.
3 Needle Bottom Coverstitch 	Looper Thread on Bottom 	407	Attaching Elastic to Men's & Boys Knit Underwear	Specify 1) Needle spacing (1/4") 2) SPI	Stitch formed by 3-needle threads passing through the material and interlooping with 1-looper thread with the stitch set on the underside of the seam. Looper thread is interlooped between needle threads providing seam coverage on the bottom side only.
2 Needle Chainstitch with Cover Thread 	Looper Thread on Bottom 	408	Attaching Pocket Facings to Jeans & Chino Casual Pants		Stitch formed by 2-needle threads passing through the material and interlooping with 2-looper threads with the stitches set on the underside of the seam. A top spreader thread is interlaced on the top side of the seam between the two needle threads.

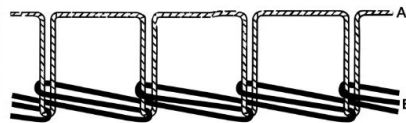
ISO Numbers - 400 Series

Sub-Classes

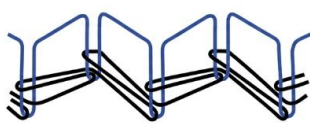
- **401: Chainstitch** (1 Needle + 1 Looper)
Uses: Inseam and outseam of jeans.
Varied use in knit or stretch garments.
- **404: Zig Zag Chainstitch** (1 Needle + 1 Looper)
Uses: Top stitching & decorative edge seams.
- **406: 2 Needle Bottom Coverstitch** (2 Needles + 1 Looper)
Uses: Sleeve and bottom hems of T-shirts.
- **407: 3 Needle Bottom Coverstitch** (3 Needles + 1 Looper)
Uses: Sleeve and bottom hems of T-shirts & Polo-shirts.
- **408: 2 Needle Chainstitch with Cover Thread** (2 Needles + 2 Loopers)
Uses: Hems, topstitch.



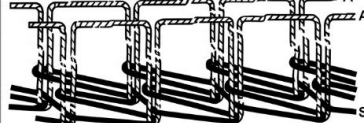
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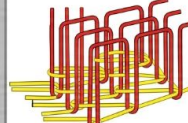
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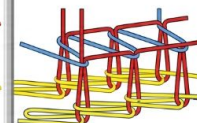
406



407



408



ISO Numbers - 400 Series: Advantages & Disadvantages

Advantages:

- Strong stitch
- Stitch has some give, so good for knits
- Chainstitch machines are highly productive
- No bobbin

Disadvantages:

- Stitch can run or unravel
- Bottom side of stitch is thicker

500 Series

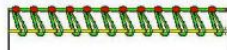
ISO Numbers - 500 Series

The stitch types in the 500 class are overlock edge stitch types with at least one or more threads passing over the edge of the material being sewn.

These stitches are often called overedge, overcast, overlock, serge, or merrow.

- **Sub- Class:** 501, 502, 503, 504, 505, 512, 514, 515, 516
- **Formation:** The loops form a narrow band of stitching along the edge of the fabric with threads intersecting at the edge and preventing the fabric from fraying.
- **Characteristics:**
 - All have high elasticity.
 - Do not unravel easily.
 - Often have trimming knife on the machine ensures a neat edge prior to sewing.

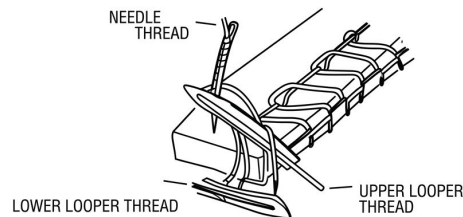
ISO Numbers - 500 Series

Stitch Drawing		ISO 4915 Number	Common Application	Requirements	Stitch Description
Top View As Sewn	Bottom View As Sewn				
2 Thread Overedge 	Single "purl" on Edge 	503	Serging & Blindhemming	Specify 1) Width Bite (Ex. 1/8", 3/16", 1/4") 2) SPI.	Stitch formed by 1-needle thread and 1-looper thread with purl on edge of seam for serging or blindhemming ONLY.
3 Thread Overedge 	Common Overedge Stitch 	504	Single Needle Overedge Seaming	Specify 1) Width Bite (Ex. 1/8", 3/16", 1/4") 2) SPI.	Stitch formed with 1-needle thread and 2-looper threads with the looper threads forming a purl on the edge of the seam. For overedge seaming and serging.
3 Thread Overedge 	Double "purl" on Edge 	505	Serging with Double purl on Edge	Specify 1) Width Bite (Ex. 1/8", 3/16", 1/4") 2) SPI.	Stitch formed with 1-needle thread and 2-looper threads with the looper threads forming a double purl on the edge of the seam for serging ONLY.
Mock Safety Stitch 	2 Needle Overedge 	512	Seaming Stretch Knits, Wovens	Specify SPI.	Stitch formed with 2-needle threads and 2 looper threads with the looper threads forming a purl on the edge of the seam. 512 – right needle only enters the upper looper loop. Stitch does NOT chain-off as well as 514 Stitch
2 Needle 4 Thread Overedge 	2 Needle Overedge 	514	Seaming Stretch Knits, Wovens	Specify SPI.	Stitch formed with 2-needle threads and 2 looper threads with the looper threads forming a purl on the edge of the seam. 514 – both needles enter the upper looper loop. Preferred over 512 Stitch because it chains-off better.
4 Thread Safetystitch 		515 (401+503)	Safetystitch Seaming Wovens & Knits	Specify 1) Needle spacing & bite - Ex.: 1/8"- 1/8", 3/16"- 3/16" 3/16" – 1/4" 2) SPI	Combination stitch consisting of a single-needle chainstitch (401) and a 2-thread Overedge stitch (503) that are formed simultaneously. Uses less thread than a 516 stitch; however, many manufacturers prefer a 516 stitch.
5 Thread Safetystitch 		516 (401+504)	Safety Stitch Seaming Wovens & Knits	Specify 3) Needle spacing & bite - Ex.: 1/8"- 1/8", 3/16"- 3/16" 3/16" – 1/4" 4) SPI	Combination stitch consisting of a single-needle chainstitch (401) and a 3-thread Overedge stitch (504) that are formed simultaneously.

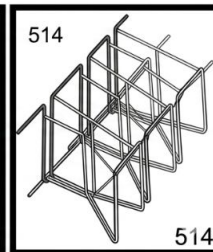
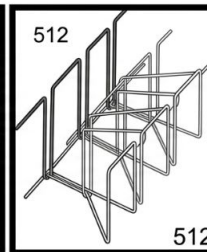
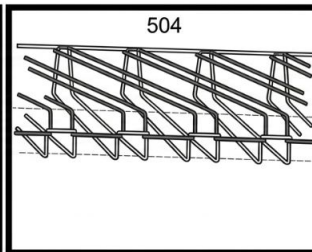
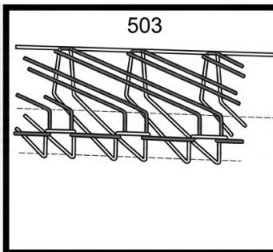
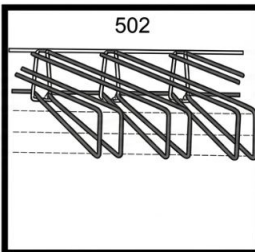
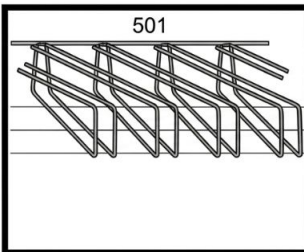
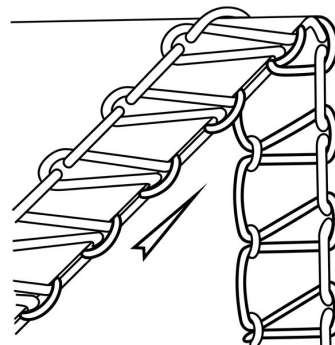
ISO Numbers - 500 Series

Sub-Classes

- **501:** (1 Needle + 2 Loopers)
Uses: Also Called Blanket Stitch.
- **502:** (1 Needle + 1 Looper)
Uses: Edging.
- **503: 2 Thread Overedge** (1 Needle + 1 Looper)
Uses: Only for edging.
- **504: 3 Thread Overedge** (1 Needle + 2 Loopers)
Uses: For edging & light seaming.
- **512: Mock Safety Stitch** (2 Needles + 2 Loopers)
- **514: 2 Needle 4 Thread Overedge** (1 Needle + 2 Loopers)
Uses: For edging & heavy seaming.
- **515: 4 Thread Safety Stitch** (401 + 503)
- **516: 5 Thread Safety Stitch** (401 + 504)



500



ISO Numbers - 500 Series



Stitch forms	1 4 8	1 4 8	1 3 6
Shell size (mm)	Large	Medium	Small
Sewable thickness	6 mm	6 mm	3 mm
Speed	1,200 s.p.m	1,700 s.p.m	1,900 s.p.m

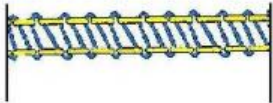
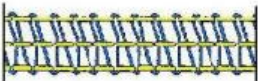
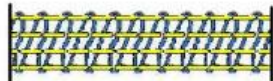
600 Series

ISO Numbers - 600 Series

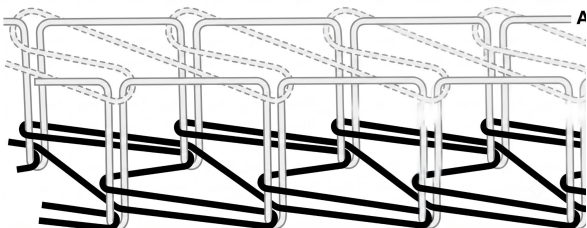
The cover stitch or 600 class, often called a flat lock or a flat seam stitch, is an advanced version of the 400 class and is used primarily on knits and lingerie.

- **Sub- Class:** 602, 605, 607
- **Formation:** The stitch is formed by two or more needle loops passing through the material, interlooping on the underside and interlocking on the upper side. A spreader or cover thread finger carries the cover thread across the surface of the fabric between the needles.
 - These stitches, referred to as top and bottom cover stitches, are commonly used to cover both sides of the seam with thread. Threads must be chained off and be crossed by another seam.
- **Characteristics:**
 - Machines producing the 600 class are extremely fast and efficient, operating at 9000 rpms.
 - This stitch class uses a lot of thread but provides excellent top and bottom cover and flat seams.
 - Stitches in this class are most complex of all and may have up to nine threads in total including four needle threads.

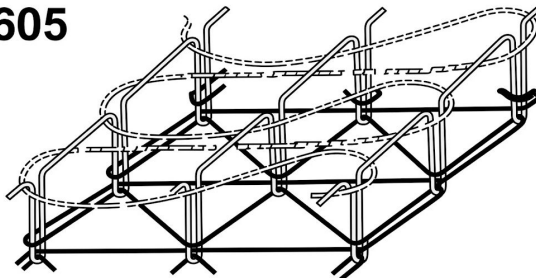
ISO Numbers - 600 Series

Stitch Drawing		ISO 4915 Number	Common Application	Requirements	Stitch Description
Top View As Sewn	Bottom View As Sewn				
2 Needle 4 Thread Coverstitch 		602	Binding A Shirts, Infants Clothing, etc.	Specify 1) Needle spacing (Ex: 1/8", 3/16", 1/4") 2) SPI	Stitch formed with 2-needle threads, a top cover thread and a bottom looper thread.
3 Needle 5 Thread Coverstitch 		605	Lap Seaming, Coverseaming, Binding on Knits	Specify 1) Needle spacing (Ex: 1/4") 2) SPI	Stitch formed with 3-needle threads, a top cover thread and a bottom looper thread.
4 Needle 6 Thread Coverstitch 	Flatseamer/Flatlock 	607	Flat or Lap Seaming Knit Underwear, Fleece, etc.	Specify SPI	Stitch formed with 4-needle threads, a top cover thread and a bottom looper thread. Preferred over 606 stitch because machines are easier to maintain.

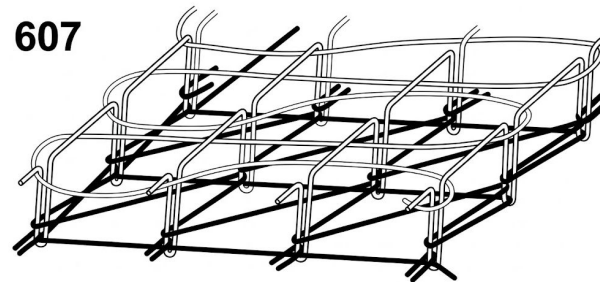
602



605



607

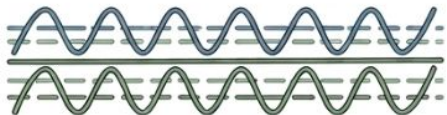


ISO Numbers - 600 Series

Sub-Classes

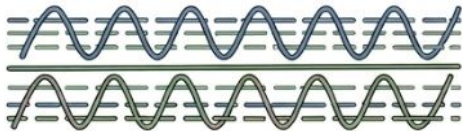
- **602: 2 Needle 4 Thread Coverstitch** (2 Needles + 2 Loopers)

Uses: Sleeve and bottom hems of T-shirt, Polo-shirt & decorative purposes.



- **605: 3 Needle 5 Thread Coverstitch** (3 Needles + 2 Loopers)

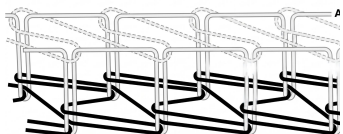
Uses: For decorative purpose & elastic attaching of undergarments. Lap seam join.



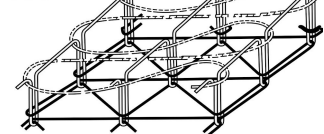
- **607: 4 Needle 6 Thread Coverstitch** (4 Needles + 2 Loopers)

Use: For lap seam join & decorative purposes.

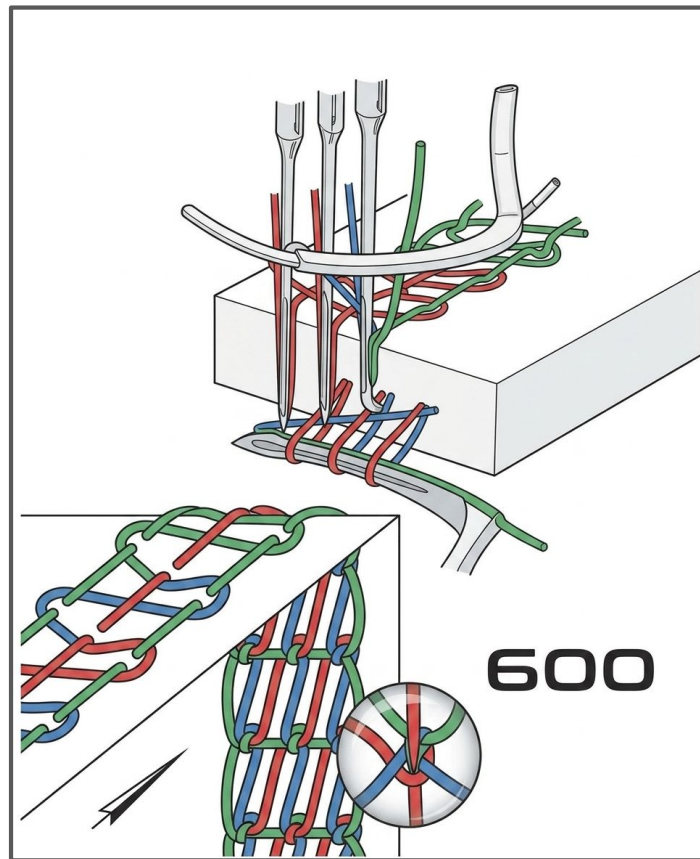
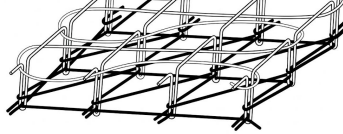
602



605



607



ISO Numbers - 600 Series: Advantages & Disadvantages

Advantages:

- High elasticity
- Flat Seam
- Fast Machine Speed
- No Bobbin
- Covered seams so no raw edge

Disadvantages:

- Stitch can be bulky
- Greater thread consumption
- Machine is fast, but operator handling is more complex. Greater learning curve for the sewing operator.
- Need to run off

Thank You

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