

Types of Stitches: Hand Sewing Stitches and Machine Stitch Classes

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In one paragraph

The core hand stitches are running stitch, basting (tacking), backstitch, prick stitch, slip stitch, whipstitch, overcast stitch, blind hem stitch, catch stitch, hemming stitch, blanket stitch and buttonhole stitch. Running stitch and backstitch join fabric, basting holds it in place until the real seam is sewn, slip, blind hem, catch and hemming stitches hold hems, overcast and blanket stitch finish raw edges, whipstitch joins two edges, and buttonhole stitch protects a cut edge. Sewing machines make a different family of stitches. The international standard ISO 4915 numbers them in six classes, from 100 (chainstitch) to 600 (covering stitch), and the 301 lockstitch is the most common of them all. This page gives a one-line use for every hand stitch, then each one in turn with numbered steps and its common faults, then the machine classes with the thread each one consumes, seam types, and the site's calculators for stitches and thread.

At a glance

Temporary, permanent and decorative stitches

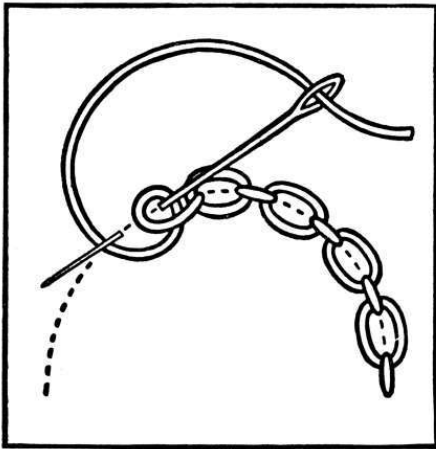
Group	What the stitches do	Stitches in the group
Temporary	Hold layers or mark pattern points, then come out	Even, uneven and diagonal basting (tacking); thread marking and tailor's tacks; running stitch when it is only holding
Permanent	Join, hem and finish, and stay in the article	Running stitch in a seam, backstitch, prick stitch, slip stitch, whipstitch, overcasting, blind hem, catch stitch, hemming
Decorative	Embellish the surface or an edge	Stem, chain, lazy daisy, blanket, herringbone, fishbone, buttonhole, satin, French knot, bullion, cross stitch, feather, smocking

Key figures and their sources

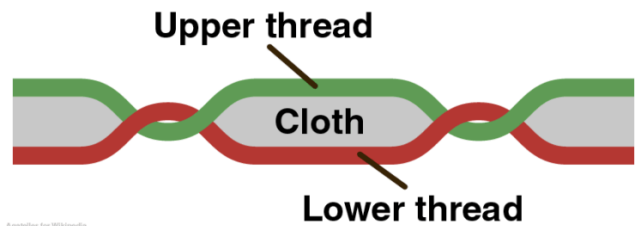
- ISO 4915:1991, Textiles: stitch types, classification and terminology, classifies, designates, describes and illustrates the stitch types used in hand- and machine-sewn seams.

Source: classifies, designates, describes and illustrates (iso.org)

Diagrams



Cable chain stitch, a variation of hand chain stitch.
Illustration by Grace Christie (Mrs Archibald H. Christie),
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A balanced lockstitch: the threads interlock in the middle of the cloth. Diagram by Anthony Atkielski, via Wikimedia Commons, public domain.

Revision questions

The questions readers ask most, with the article's own answer.

What are the basic hand stitches to learn first?

There is no standard list. A first set that covers every job is running stitch (joining), basting (holding), backstitch (strong seams), slip stitch (invisible hems and closing), whipstitch (joining edges), blanket stitch (finishing edges) and catch stitch (hems in stretchy fabric).

What is the strongest hand stitch?

Backstitch. Each stitch returns to the end of the one before, so there are no gaps on the face and the stitches overlap underneath, which makes it the nearest hand equivalent of a machine lockstitch.

Which hand stitches are invisible?

Slip stitch, ladder stitch and the blind hem stitch show almost nothing on the right side, because the thread runs inside a fold and catches only a thread or two of the visible fabric. Prick stitch shows only tiny dots.

What is the difference between a lockstitch and a chainstitch?

A lockstitch (301) interlaces a needle thread with a bobbin thread inside the fabric, looks the same on both sides and does not unravel, but stretches little and stops when the bobbin runs out. A chainstitch (101 or 401) is formed by loops on the underside, stretches more and sews faster from cones, but it can run back if a stitch breaks or the end is not secured.

Which stitches does an overlocker (serger) sew?

The class 500 overedge stitches: 503 with two threads, 504 with three, 512 and 514 with four, and the 516 safety stitch with five, which adds a separate 401 chainstitch beside the overedge.

Test yourself

Ten questions on this topic. Answer them without looking, then check on the last page.

1. What three groups of hand stitches does the National Institute of Open Schooling teach in its Basic Stitching Skills course?
2. Why is running stitch the weakest hand seam?

3. In basting, why should the work be finished with one loose backstitch rather than a knot?
4. Why does catch stitch suit hems in knitted fabrics?
5. How does the tailor's buttonhole stitch protect the cut edge of a buttonhole?
6. In ISO 4915 stitch numbering, what do the three digits of a stitch type mean?
7. What is interlooping, and which stitch type is an example of it?
8. Why does the 301 lockstitch have low productivity?
9. In the 516 five-thread safety stitch, which component carries the load and which covers the edge?
10. According to Coats, how much more thread does a metre of 516 safety stitch take than a metre of 301 lockstitch?

Answers

Each answer is stated in the article; the section to read again is named after it.

1. **Temporary, permanent and decorative stitches.**
See: Temporary, permanent and decorative stitches
2. **Nothing locks one stitch to the next.**
See: The hand stitches, one by one › Running stitch
3. **So the thread pulls out easily.**
See: The hand stitches, one by one › Basting (tacking) stitch
4. **Its crossed threads give the stitch some stretch.**
See: The hand stitches, one by one › Catch stitch (herringbone stitch)
5. **Each stitch forms a small knot, called a purl, on the cut edge, which protects it from the wear of the button.**
See: The hand stitches, one by one › Buttonhole stitch
6. **The first gives its class and the other two its type within the class.**
See: The six machine stitch classes (ISO 4915)
7. **A loop of one thread passes through a loop of a different thread, as in the 401 chainstitch.**
See: The six machine stitch classes (ISO 4915) › How the threads hold: intralooping, interlooping and interlacing
8. **The bobbin holds little thread and has to be changed.**
See: The six machine stitch classes (ISO 4915) › Class 300: lockstitches
9. **The 401 chainstitch carries the load; the 504 overedge covers the edge.**
See: The six machine stitch classes (ISO 4915) › Class 500: overedge stitches
10. **Eight times the thread.**
See: How much thread a garment's stitches use

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