



## LIMA Socks

The LIMA socks are simple socks in a rib stitch pattern with a particularly attractive heel construction. The perfect everyday socks, whether worn sporty with sneakers, casual with boots or as cozy bed socks.

The socks are worked from the top down, using a set of double pointed needles. First, the cuff and shaft are worked in a rib stitch pattern. The heel is then worked, first the heel flap and gusset using increases, then the heel turn using short rows and decreases. This is followed by the foot in rib stitch pattern (upper foot) and stockinette stitch (sole). The toe of the sock is worked as a classic band toe.

Techniques used: long tail CO, rib stitch pattern, left and right leaning increases and decreases, German Short Rows. All techniques used are explained in the instructions or under 'Terms & explanations' on page 6.



#### SIZES

S = Size 32/33 - 34/35

M = Size 36/37 - 38/39

L = Size 40/41 - 42/43

#### YARN

100 g ‚Lima‘ by Lamana (50 % Pure Wool, 25 % Silk, 25 % Alpaca; 200 m/ 50 g), here in color ‚Silk Grey‘ and ‚Copper‘ or

100 g ‚Lazy Linen‘ (80 % Pure Wool, 20 % Linen; 420 m/ 100 g) or

100 g of a classic 4-ply sock yarn (75 % Pure Wool, 25 % Polyamide; 210 m/ 50 g).

#### NEEDLES

Dpns (15 cm / 6" long) size 2.5 mm (US 1 or 2/UK 13 or 12) or circ. ndl (60 or 80 cm/14 or 32") size 2.5 mm (US 1 or 2/UK 13 or 12) for the ‚Magic Loop Method‘.

#### NOTIONS

Tapestry needle, stitch markers.

#### MAIN PATTERN

Rib stitch pattern (shaft + foot): \*k3, p2, rep from \* tot end of rnd.

Stockinette stitch in the round (sole + band toe): k all sts.

#### GAUGE/TENSION

In stockinette stitch (st st) using ndl size 2.5 mm: 30 sts x 42 rnds = 10 x 10 cm / 4" square (washed and measured lying flat). Please adjust needle size if necessary, to obtain correct gauge.

#### METHOD

The socks can be worked with or without fold-over cuffs. Note that the start is different depending on the variant selected.

#### CUFF / SHAFT - WITHOUT FOLD-OVER CUFF

Loosely **CO 55 (60) 65 sts** using the long tale CO, distribute the sts evenly over 4 dpns size 2.5 mm, as follows:

dpn 1: 14 (15) 16 sts, dpn 2: 13 (15) 17 sts, dpn 3: 14 (15) 16 sts, dpn 4: 14 (15) 16

sts. Join for working in the round, beg of rnd lies between dpn 1 and 4.

**Tip:** „ To prevent the cast-on from becoming too tight, CO the socks using larger size needles or using double needles, if necessary.“

Work in rib stitch pattern, as follows:

**Rnd 1:** p1, \* k3, p2, rep from \* to last 4 sts, end with k3, p1.

Keep repeating **rnd 1**, until shaft measures approx. **11 (12) 12 cm / 4.3 (4.7) 4.7"** from CO edge (approx. 48 (52) 52 rnds) or continue working in rib stitch pattern until desired length is reached.

### CUFF / SHAFT - WITH FOLD-OVER CUFF

Loosely **CO 55 (60) 65 sts** on 1 dpn size 2.5 mm, using the long tale CO. Work **1 row** in rib stitch pattern and at the same time, distribute the sts evenly over 4 dpns (dpn 1: 14 (15) 16 sts, dpn 2: 13 (15) 17 sts, dpn 3: 14 (15) 16 sts, dpn 4: 14 (15) 16 sts), as follows:

**Row 1:** k1, \*p3, k2, rep from \*, end with p3, k1.

Join for working in the round, beg of rnd lies between dpn 1 and 4. Continue working in rib stitch pattern, working the sts as they appear:

**Rnd 1:** k1, \*p3, k2, rep from \*, end with p3, k1.

After approx. **11 (12) 12 cm / 4.3 (4.7) 4.7"** (approx. 48 (52) 52 rnds) have been worked for the fold-over cuff, switch to the actual rib stitch pattern, i.e., work the sts in mirror image, as follows:

**Rnd 1 (after fold-over cuff):** p1, \*k3, p2, rep from \*, end with k3, p1.

A fold-over edge is created and the cuff can be folded over accurately later on. Work approx. **11 (12) 12 cm / 4.3 (4.7) 4.7"** (approx. 48 (52) 52 rnds) in rib stitch pattern.

### HEEL

First, the heel flap and gusset are worked, using increases. Work as follows:

#### Rnd 1:

dpn 1: k1, M1L, pM, work rem sts in rib st pattern.

dpn 2 + 3: work sts in rib st pattern.

dpn 4: work sts in rib st pattern to last st of dpn, pM, M1R, k1 (= 57 (62) 67 sts).

#### Rnd 2:

Work all sts in rib stitch pattern, knit the increased sts.

#### Rnd 3:

dpn 1: k to M, M1L, sM, work rem sts in rib st pattern.

dpn 2 + 3: work sts in rib st pattern.

dpn 4: work sts in rib st pattern to M, sM, M1R, k to end of rnd (= 59 (64) 69 sts).

#### Rnd 4:

Work all sts in rib stitch pattern, knit the increased sts in this rnd and in all foll rnds.

Keep repeating **rnds 3 and 4**, until **12 (13) 14 sts** are increased on dpn 1 and dpn 4.

dpn 1: 26 (28) 30 sts, dpn 2: 13 (15) 17 sts, dpn 3: 14 (15) 16 sts, dpn 4: 26 (28) 30 sts), which makes a total of **79 (86) 93 sts**.

Now the **heel turn** is worked, using German Short Rows.

An explanation of the technique used can be found on page 6.

From now on, work back and forth over the sts on **dpns 1 and 4**. Place the sts on dpn 2 and 3 on hold. Start at beg of rnd, with sts on dpn 1 and work as follows:

**Row 1 (half of RS row):** k6, turn.

**Row 2 (WS):** mds, p11, turn.

**Row 3 (RS):** mds, k to ds of previous row, k tog 2 loops of ds, k1, turn.

**Row 4 (WS):** mds, p to ds of previous row, p tog 2 loops of ds, p1, turn.

**Tip:** „When working the heel, I like to place the sts of the 1<sup>st</sup> and 4<sup>th</sup> dpn together on one needle, because it is more comfortable for me to knit and avoids gaps in the middle of the heel.

Rep **rows 3 and 4** another **6 (7) 8** times, then work half a RS row, to return to the original beg of rnd:

**Row 17 (19) 21** (half of RS row): mds, k12 (13) 14.

The sts are now back onto 4 dpns. On dpns 1 and 4 there is 1 double stitch before the stitch marker. Work 1 transition round and remove the stitch markers at the same time, as follows:

**Transition-rnd:**

dpn 1: k12 (13) 14 sts, k tog 2 loops of ds, work 13 (14) 15 sts in rib stitch pattern.

dpn 2 + 3: work 27 (30) 33 sts in rib stitch pattern.

dpn 4: work 13 (14) 15 sts in rib stitch pattern, k tog 2 loops of ds, k12 (13) 14.

Now continue working back and forth over the sts on dpns 1 and 4, to work the **second part of the heel turn**. Place the sts on dpns 2 and 3 on hold. Start at beg of rnd, with sts on dpn 1, as follows:

**Row 1 (half of RS row):** k12 (13) 14 sts, ssk, turn.

**Row 2 (WS):** sl 1 st purlwise (wyif), p24 (26) 28, p2tog, turn.

**Row 3 (RS):** sl 1 st purlwise (wyib), k24 (26) 28 sts to 1 st before „gap“, ssk (= 1 st before + 1 st after „gap“), turn.

**Row 4 (WS):** sl 1 st purlwise (wyif), p24 (26) 28 sts to 1 st before „gap“, p2tog (= 1 st before + 1 st after „gap“), turn.

Rep **rows 3 and 4** another **9 (10) 11 times**, until 11 (12) 13 sts are bound off on each dpn and **15 (16) 17 sts** rem on dpns 1 and 4 each. After last WS row, work half of next RS row, to return to the original beg of rnd:

**Row 23 (25) 27 (half of RS row):** sl 1 st purlwise (wyib), k12 (13) 14.

Now continue knitting in the round over all sts and at the same time, dec 1 st on dpns 1 and 4 in the first round, as follows:

**Rnd 1:**

dpn 1: k12 (13) 14, ssk, work 1 st in pattern (= k1 (p1) p1), dpn 2 + 3: work 27 (30) 33 sts in pattern.

dpn 4: work 1 st in pattern (= k1 (p1) p1), k2tog, k12 (13) 14.

The original number of **55 (60) 65 sts** is now back on the needle.

**FOOT**

For the foot, continue working in the round over all sts. Work sts as they appear:

dpn 1: k13 (14) 15, work 1 st in pattern (= k1 (p1) p1), dpn 2 + 3: work 27 (30) 33 sts in pattern.

dpn 4: work 1 st in pattern (= k1 (p1) p1), k13 (14) 15.

Continue working as set, until foot measures approx. **19–20 (20,5–21,5) 23–24 cm / 7.5–7.9 (8.1–8.6) 9.1–9.5"**. Foot length is measured from the outer edge of the heel to the last stitch knitted.

**Tip:** „To test the length of my foot, I put the sock on. If the little toe is just covered, then the foot length is correct and you can start decreasing for the toe.“

## BAND TOE

Before starting the dec's for the band toe, **knit 1 rnd** over all sts.

Then the working yarn should be at the beg of round and the sts should be evenly distributed over 4 dpns (dpn 1: 14 (15) 16 sts, dpn 2: 13 (15) 17 sts, dpn 3: 14 (15) 16 sts, dpn 4: 14 (15) 16 sts).

Work the band toe in **st st in the round** and work dec's as follows:

### Decrease-rnd (Size M):

dpn 1: k to last 3 sts, k2tog, k1.

dpn 2: k1, ssk, k to end of dpn.

dpn 3: k to last 3 sts, k2tog, k1.

dpn 4: k1, ssk, k to end of dpn. (= 4 dec's per rnd).

Since there is one stitch too few or too many on dpn 2 in **sizes S and L**, the first decrease round is different for these sizes:

### Decrease-rnd (Size S):

dpn 1: k11, k2tog, k1 (= 13 sts).

dpn 2: k13.

dpn 3: k11, k2tog, k1 (= 13 sts).

dpn 4: k1, ssk, k11, (= 13 sts).

### Decrease-rnd (Size L):

dpn 1: k13, k2tog, k1 (= 15 sts).

dpn 2: k1, sssk, k13, (= 15 sts).

dpn 3: k13, k2tog, k1 (= 15 sts).

dpn 4: k1, ssk, k13, (= 15 sts).

Now sizes S and L also have the same number of sts on each dpn. The following decrease rounds for these sizes are worked in the same way as described above for size M.

Repeat this decrease round after the first decrease round at the following intervals:

0 (1) 1 time in every 4<sup>th</sup> rnd,

2 (2) 2 times in every 3<sup>rd</sup> rnd, 3 (3) 3 times in every 2<sup>nd</sup> rnd, then dec in every rnd,

until only **3 (3) 4 sts rem on each dpn** (= 12 (12) 16 sts in total).

Knit all sts on dpn 1, to bring working yarn to side edge. Place the sts for the sole of the foot and the sts for the top of the foot each onto a dpn (= **6 (6) 8 sts per dpn**). Hold the two dpns parallel to each other and graft the sts together, using the kitchener stitch.

Here is a good tutorial on the kitchener stitch: <https://youtu.be/tfnv-2W6dfw>

## FINISHING

Weave in all yarn ends, if necessary, close the small gaps at the transition between heel and foot with a few small sts.

Wash the socks completely once and let them dry flat, this makes them "smoother" and will even out the stitches.

## TERMS & EXPLANATIONS

### Right leaning knitted bar increase (M1R)

Using LH ndl tip, pick up bar between 2 sts from back to front and knit this st. Here's a good tutorial: <https://www.youtube.com/watch?v=w2uZGTOQ1g4>

### Left leaning knitted bar increase (M1L)

Using LH ndl tip, pick up bar between 2 sts from front to back and knit this stitch through back loop. Here's a good tutorial: <https://www.youtube.com/watch?v=w2uZGTOQ1g4>

### German Short Rows

To shape the heel, short rows are worked. To get a slope in the stitches, the row is not worked over all the stitches, but the work is turned after only part of the stitches are worked, using a so-called turning stitch. This turning stitch is worked here as a so-called double stitch (ds).

#### Make double stitch (mds) knitwise:

Slip turning stitch purlwise with yarn in front of the work. Tug the yarn up and over the needle, creating a "double" stitch.

#### Make double stitch (mds) purlwise:

Slip turning stitch purlwise with yarn in front of the work. Tug the yarn up and over the needle, creating a "double" stitch. Bring working yarn back to front of work between the two needle tips.

#### How to knit double stitches:

Insert ndl tip into both loops of the double stitch knitwise and knit the 2 loops of the double stitch together.

#### How to purl double stitches:

Insert ndl tip into both loops of the double stitch purlwise and purl the 2 loops of the double stitch together.

Here is a useful tutorial on 'German Short Rows': <https://youtu.be/vDQJFTvqE8Q>

### Right leaning decrease (k2tog)

Insert needle into 2 sts at the same time and knit these 2 sts together.

### Left leaning decrease (ssk):

Slip 1 st knitwise, slip 1 st knitwise, place sts back onto LH ndl in this orientation and knit together through back loops

### Left leaning double decrease (sssk):

Slip 1 st knitwise, slip 1 st knitwise, slip 1 st knitwise, place sts back onto LH ndl in this orientation and knit together through back loops.

### ABBREVIATIONS

beg = begin(ning)

circ. = circular

CO = cast on

dpn(s) = double pointed needle(s)

ds = double stitch (in German short rows)

dec('s) = decrease(s)

folll = following

k = knit

k2tog = knit 2 sts together

LH = left hand

M = marker

mds = make double stitch (in German short rows)

M1 (knitwise/purlwise) = increase 1 st by working the bar between 2 sts as a twisted knit/purl stitch

M1L = make 1 left leaning increase

M1R = make 1 right leaning increase

ndl(s) = needle(s)

p = purl

p2tog = purl 2 sts together

pM = place marker

rem = remaining

rep = repeat

RS = right side

rnd(s) = round(s)

sl = slip

ssk = slip 1 st knitwise, slip 1 st knitwise, move sts back onto LH ndl in this orientation, knit together through back loops

sssk = slip 1 st knitwise, slip 1 st knitwise, slip 1 st knitwise, move sts back onto LH ndl in this orientation, knit together through back loops

sM = slip marker

st(s) = stitch(es)

st st = stockinette st

wyib = with yarn in back

wyif = with yarn in front

WS = wrong side