



Coats

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Bulletin Post
COATS SEWING SOLUTIONS

Thread Consumption Guide



In today's competitive marketplace, there is a need for tight cost control. A realistic estimation of potential thread requirements for particular garment styles or contracts will not only save you money, but also enable you to use a superior thread for the same cost, thereby not compromising on garment quality. The thread consumption for a particular sewn product can be

calculated in many ways. We use three methods to calculate the amount of thread in a seam:

- by measuring the actual amount of thread consumed
- by calculation using Thread Consumption Ratios
- by calculation using Coats' Seamworks software

Measuring actual thread consumed

The sewing threads are carefully removed from a specific length of each different seam. We use the amount taken from these seams to enable us to calculate a ratio, which can then be applied to the total length of each seam. By dividing the amount of thread by the seam length, we get the ratio of thread consumed. If we multiply this factor times the total length of seam, we determine the total thread consumed for that seam.



Example:

Length of seam	=	100 cms or 1 metre	
Stitch class 401	=	2-Thread Chainstitch	
Length of seam for which thread is removed	=	15 cms	
Needle Thread removed	=	19.5 cms	Needle Thread factor = 19.5/15 = 1.3
Looper Thread removed	=	62.0 cms x 1.3	Looper Thread factor = 62.0/15 = 4.1
Total Needle Thread	=	100 cms x 1.3	= 130 cms
Total Looper Thread	=	100 cms x 4.1	= 410 cms
Total thread	=	130 + 410	= 540 cms



We usually add 15% for wastage of thread due to machine running conditions, thread breaks, repairs, etc.

$540 \text{ cms} \times 1.15 = 621 \text{ cms}$ or 6.21 metres of thread per seam including wastage. Carry out the steps in the above example for each stitch type found in the garment and you will arrive at the actual amount of thread used in that garment.

Using Thread Consumption Ratios

An easier method is to use the generally applicable Thread Consumption Ratios for the various stitch types that are listed in the table overleaf. By relating these ratios to the lengths of seams using each stitch type, total thread consumption can be calculated.

Thread Consumption Ratios

Stitch Class	Description	Total Thread Usage (cms per cm of seam)	No. of Needles	Percentage of Needle Threads	Percentage of Loper / Under (incl. cover) Threads
301	Lockstitch	2.5	1	50	50
101	Chainstitch	4.0	1	100	0
401	2-Thread Chainstitch	5.5	1	25	75
304	Zig-Zag Lockstitch	7.0	1	50	50
503	2-Thread Overedge stitch	12.0	1	55	45
504	3-Thread Overedge stitch	14.0	1	20	80
512	4-Thread Mock-safety stitch	18.0	2	25	75
516	5-Thread Safety stitch	20.0	2	20	80
406	3-Thread Covering stitch	18.0	2	30	70
602	4-Thread Covering stitch	25.0	2	20	80
605	5-Thread Covering stitch	28.0	3	30	70

Note: The above ratios are arrived at with a stitch density of 7 stitches per cm (18 stitches per inch). Changes in stitch density will change the ratios marginally.

Example:

Length of seam	=	100 cms or 1 metre	
Stitch class 401	=	2-Thread Chainstitch	
Total thread usage per cm of seam	=	5.5 cms	
Total thread consumption	=	100 cms x 5.5	= 550 cms
Estimated Needle Thread	=	550 x 0.25	= 138 cms
Estimated Loper Thread	=	550 x 0.75	= 412 cms
Add 15% wastage	=	550 cms x 1.15	= 633 cms or 6.33 metres of thread per seam

Example:

Thread consumption for an average-sized knitted t-shirt

Stitch	Type	Seam Length (m)	Thread Ratio	Total Thread Consumption (m)	NT	LT
301	Lockstitch	4.00	2.50	10.0	5.0	5.0
504	3-Thread Overedge stitch	3.00	14.0	42.0	8.5	33.6
401	2-Thread Chainstitch	0.75	5.50	4.0	1.0	3.0
503	2-Thread Overedge stitch	0.95	12.0	11.4	6.3	5.1
101	1-Thread Chainstitch	0.10	4.0	0.4	0.4	0.0
				67.8	21.1	46.7
	Wastage (15%)			10.0	3.0	7.0
	Total			77.8	24.1	53.7

These days, thread consumption and costing can be calculated without the need to pick the thread from seams. Coats' Seamworks is a sewing management software solution that can accurately calculate thread consumption and costing for a single sewn product or production run or any number of sewing machines. Seamworks helps to reduce thread wastage and can give you a competitive edge through cost effective sewing thread procurement. Ask your local Coats contact about Seamworks.

Note: Stitch density, stitch / seam choice, variations in style, fabric thickness and number of plies are factors that can affect thread consumption. It is also necessary to make provision for possible thread wastage (usually 15%) while calculating thread consumption.

Average thread consumption

The table below gives the average thread lengths consumed for different types of garments and other sewn products, drawn from our experience. These figures include a 5% wastage allowance:

Item	Consumption (m)	Item	Consumption (m)
Anoraks	210	Handbags	15
Aprons	20	Handkerchiefs	5
Blankets	35	Hats:	
Blouses	100	Children's	25
Boiler suit (chainstitch)	420	Men's	50
Boots:		Housecoats	185
Ladies (pair)	30	Jackets: Men's	200
Men's (pair)	35	Jeans: Men's	210
Bras	45	Mattresses	200
Briefs:		Nightdresses:	
Children's	40	Children's	55
Ladies / Men's	65	Ladies	100
Caps:		Panty girdle	35
Children's	75	Pantyhose	30
Men's	90	Pillow cases	10
Car upholstery	575	Quilts	320
Coat overalls	180	Raincoats	285
Corsets	95	Rucksacks	10
Dresses:		Safety belts	10
Children's	90	Shirts:	
Ladies	190	Men's	120
Dressing gowns:		Boy's	75
Children's	165	Shorts:	
Men's	250	Children's	35
Duvets:		Sports	70
(single)	50	Shoes (pair):	
(double)	65	Children's	10
Fur coats, Mink	7,300	Ladies	20
Gloves	25	Men's	25
Golf bags	135	Skirts	100
Slacks:		Tents	455
Ladies	160	Ties	7
Children's	130	Towels	10
Sleeping bags:		Tracksuits	160
Adults	275	Trousers: Men's	270
Children's	185	T-shirts	100
Slippers	15	Umbrellas	20
Suitcases	110	Under pants	50
Suits:		Under slips:	
Ladies	365	Full-length	75
Men's two-piece	480	Waist	40
Swimwear: Ladies	75	Vests / T-shirts (basic)	50
Tablecloth	45	Waistcoats	50

Coats Technical Services – Consumption Metering

As a Coats customer, you are part of a thread service partnership that gives you access to the industry's largest and most experienced team of technical service professionals. Our sewing advisers are available to help in accurately measuring the thread consumed in your sewn products. This service provides valuable information for your design, cost accounting, inventory planning and logistics personnel.



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Coats India is a division of **Madura Coats Pvt. Limited**. A member of Coats Holdings Ltd., UK.
Ph.: 080-4190 0400 / 500. E-mail: coatsindia@coats.com Website: www.coatsindia.com

- Ahmedabad 079-2658 2521 • Bangalore 080-2227 8500 • Chennai 044-2243 1805 • Delhi 011-2989 4181 • Ernakulam 0484-239 1706
- Gurgaon (Haryana) 0124-410 0422 • Guwahati 0361-254 2833 • Howrah and Patna 033-3259 7916 • Hyderabad 040-2795 1355 • Indore 0731-255 7560
- Jaipur 0141-233 3596 • Kanpur 0512-253 1330 • Kolkata 033-2287 6490 • Ludhiana 0161-501 7562 • Mumbai (Goregaon) 022-2685 5608
- Noida 0120-242 2343 • Pune 020-2663 3034 • Tirupur 0421-220 2033