

# Project Planning for Weavers

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# Where do We Start

- What am I going to weave?
- What yarn should I use?
- How much yarn do I need?
- Sample or weave
- Evaluation and documentation

# Sizes for Some Common Products

- Table Linens
  - Napkins, casual: 12" x 12"
  - Napkins, formal: 16" x 16"
  - Placemats, casual: 12" x 18"
  - Placemats, formal: 14" x 20"
- Bathroom
  - Washcloth: 14 " x 14"
  - Hand towel: 16" x 28"
  - Bath towel: 22" x 24" (sm)
  - Bath towel: 24" x 46" (med)
  - Bath sheet: 36" x 70"
- Kitchen
  - Dish towels: 15" x 20"
  - Dishcloths: 10" x 10"
  - Pot holders: 7" x 7"
  - Tea towels: 16" x 28" (small)
  - Tea towels: 24" x 34" (large)
- Apparel
  - Men's formal scarf: 12" x 45"
  - Women's formal scarf: 10" x 48"
  - Women's shawl: 24" x 72"
  - Baby Blanket: 36" or 45" square

# Choosing the Yarn

- The Fiber
  - Softness
  - Washability
  - Durability
- The Yarn
  - Strength (for warp)
  - Grist
  - Structure
  - Size

# Fiber Properties

	Wool	Silk	Linen	Cotton	Rayon
Absorbency (water as fraction of weight)	Good	Good	Excellent (evaporates readily)	Excellent (evaporates slower than linen)	Good
Elasticity	High (can stretch 30%)	Good, but less than wool	Very low	Low	Moderate
Strength	Weak (especially wet)	Very strong (less when wet)	Very strong (especially wet)	Moderate (more when wet, mercerized stronger)	Low
Warmth	Good	Very Good	Low	Moderate	Moderate
Ease of Cleaning	Avoid agitation	Requires care	Very good	Good	Moderate

*Weaver's Companion*, pg. 25-27.

# Setts for Some Common Yarn Styles

Yarn Type	Yards per Pound	Plain Weave	2/2 Twill
20/2 Cotton	8400	24 - 30	32 - 36
10/2 Cotton	4200	24 - 28	30 - 32
8/2 Cotton	3000	16 - 20	24 - 30
5/2 Cotton	2100	15 - 18	20
3/2 Cotton	1260	10 - 12	15
20/1 Linen	6000	24 - 30	36 - 40
12/1 Linen	3600	22 - 25	30 - 32
20/2 Linen	3000	20 - 24	24 - 30
30/2 Silk	7500	30 - 32	36 - 45
12/2 Silk	3000	18 - 20	22 - 24
20/2 Wool	5600	20 - 24	30 - 36
12/2 Wool	3000	18 - 20	22 - 25
6/2 Wool	1600	10 - 12	12 - 15

# Determining Sett (Ends per Inch or epi)

- Wind the warp around a ruler for one inch
  - Firm, even, no stretch
  - Fill the space with no overlap
  - Count for wraps/inch = **W** (warp yarn diameter)
- Weft yarn diameter = **F**
  - Calculate same as above

# Determining Sett (Ends per Inch or epi)

continued

- Number of threads in one repeat of the weave structure = **T**  
(plain weave (1,2)= 2; twill weave (1,2,3,4)= 4)
- Number of intersections in one repeat of the weave structure = **I**  
(plain weave = 2; twill weave = 2)
- $\text{Sett} = (T \times W \times F) / ((T \times F) + (I \times W))$

Eileen Hallman



# Formula for Sett

- $S = (T \times W) / (T + I)$ 
  - S = sett
  - T = number of ends in one repeat of the threading
  - W = yarn diameter or wraps/inch
  - I = number of interactions that the weft has with the yarn in one repeat

*Manual of Swedish  
Weaving*

# Warp Ends Calculation

All Measurements in Inches

Final Planned Width	
+ Take-up (e.g., 10%)	
+ Shrinkage (e.g. 10%)	
= Width on the loom	
x ends per inch (epi)	
= Warp ends	
+/- Adjustment for pattern	

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# Warp Length Calculation

All Numbers in Inches

Final Length, include hem	
+ Shrinkage (10%)	
= Length to weave	
+ Fringe	
+ Take-up (10%)	
= Length per article	
x number of articles	
= Warp length for weaving	
+ Loom waste (18" to 27")	
= Total warp length (inches)	
Total warp length (yards) (divide by 36)	

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# Amount of Yarn Needed

- Yarn for warp

Total ends to wind
x Length of each warp thread (yds)
= Total warp needed (yards)
= Total warp needed (pounds) (Divide by yards/pound)

- Yarn for weft

Width on the loom (inches)
x Beat (picks per inch)
x Warp length for weaving
= Total weft needed (inches)
= Total weft needed in yards
= Total weft needed in pounds

Marci Petrini

# Determining Yardage

- Count system for yardage
- Number of yards in a pound of a “standard” yarn
  - Cotton and spun silk: 840
  - Linen, hemp, jute, ramie: 300
  - Worsted wool: 560
  - Woolen wool: 256
- Yardage of a single= count x the standard
- Yardage of a plied yarn= yardage of single/# of plies

*Weaver's Companion*, pg. 30

# Sources for Yards per pound

- Yarn supplier
- [http://www.interweave.com/weave/handwoven\\_magazine/files/yarn\\_chart.pdf](http://www.interweave.com/weave/handwoven_magazine/files/yarn_chart.pdf)
- Handwoven Magazine – yarn and suppliers page in any issue

# Reed Size Table

Reed #	1,0	1	1,2	2	2,3	3	4
6	3	6	9	12	15	18	24
7	3.5	7	10.5	14	17.5	21	28
8	4	8	12	16	20	24	32
9	4.5	9	13.5	18	22.5	27	36
10	5	10	15	20	25	30	40
11	5.5	11	16.5	22	27.5	33	44
12	6	12	18	24	30	36	48
14	7	14	21	28	35	42	56
15	7.5	15	22.5	30	37.5	45	60
16	8	16	24	32	40	48	64
18	9	18	27	36	45	54	72
20	10	20	30	40	50	60	80

Mary Black, pg. 659

# Sampling

- Purpose: check sett, ppi, structure, shrinkage, flaws in the yarn, effects of color and texture, finishing techniques, and fabric hand.
- Make each sample at least 6-10" wide and long. Sample warp should be long enough to re-sley and re-tie (e.g., 2 yards)
- Record length and width
  - On the loom
  - Off the loom
  - Finished



# Project Notes

Name of project

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Date completed

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Approx. time req'd

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Yarns: Warp

\_\_\_\_\_ Weft \_\_\_\_\_

Weave Structure

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Source

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Warp length

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Warp width

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Sett

*Weaver's Companion*, pg. 41

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PPI

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- Insert draft

# References

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