

VI REED SELECTION

The choice of the reed, which should be used for a selected material, depends on the thickness of the yarn and the weave structure. It can be a material where the warp is as important as the weft, example: tabby weave or twill where the sett is the same for the warp and the weft. This exists on any basic weave.

- It will vary: — if you desire a warp effect — where the weft should not appear — then it needs more ends per cm. or
- if the weft should cover the warp entirely as on tapestry weave. The number of ends has to be low to allow to cover the warp completely.

Only experience and trial can give the exact reed that should be used. The following information may be helpful in selecting the proper reed and starting a sample.

Using a ruler, wind the warp around it. The windings should be as close as possible, but not overlapped. Count the number of threads covering one or more cm. (We suggest to cover at least 4 cm. on the ruler.) This gives you the number of threads that should be considered as a maximum.

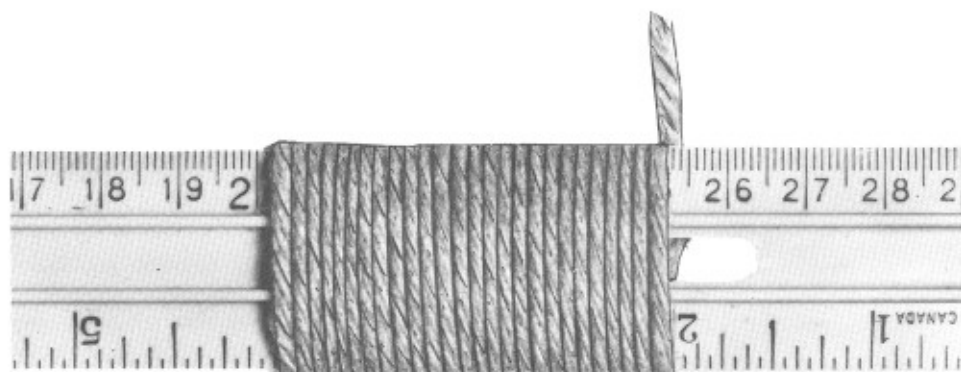


Fig. 255

Example: A two-ply fine wool will give 54 turns per 4 cm. or 14 turns per cm. If the material is to be a light twill or tabby weave, divide the number of turns by two, which will give 7 turns, or ends, per cm. and use reed number 7 with one end per dent or use a reed of 4 dents per cm. with two ends per dent (8 dents per cm.) This will give a little heavier material.

With a basket weave, the reed should be a little finer, as the weft will cross only at every two or three, or even four threads of warp. A reed of 5 dents per cm. with two ends per dent may be right.

If the weft should cover the warp completely, as in tapestry, we suggest that the number of ends per cm. be only 25% of the number on the ruler. Our example: From the 14 ends, 25% equals 3.5 ends per cm., so you use a 3.5 dent reed, or use a 7 dent reed and skip every second dent.

If it is a warp effect, then try 75% of the number found on the ruler. Then a reed of 5 dents with two ends per dent will be suitable.

	Tex Count	Number of turns per centimeter	Basic weaves Tabby or twill	Open warp Weft covering warp Tapestry	Warp covering weft	Number of turns per inch	Basic weaves Tabby or twill	Open warp Weft covering warp Tapestry	Warp covering weft
			50%	25%	75%		50%	25%	75%
Two-ply wool No. 16/2	2/55	17	8 or 9	4	12	41	20	10	30
Two-ply fine wool		14	7	4	10	36	18	9	27
Linen No. 40/2	2/42	25	12	6	18	68	34	17	50
16/2 cotton	2/37	22	11	6	17	54	27	14	40
8/2 cotton	2/74	17	8.5	4	12	45	22	11	32
Mop yarn		3.4	2	1	2.5	8.5	4	2	6

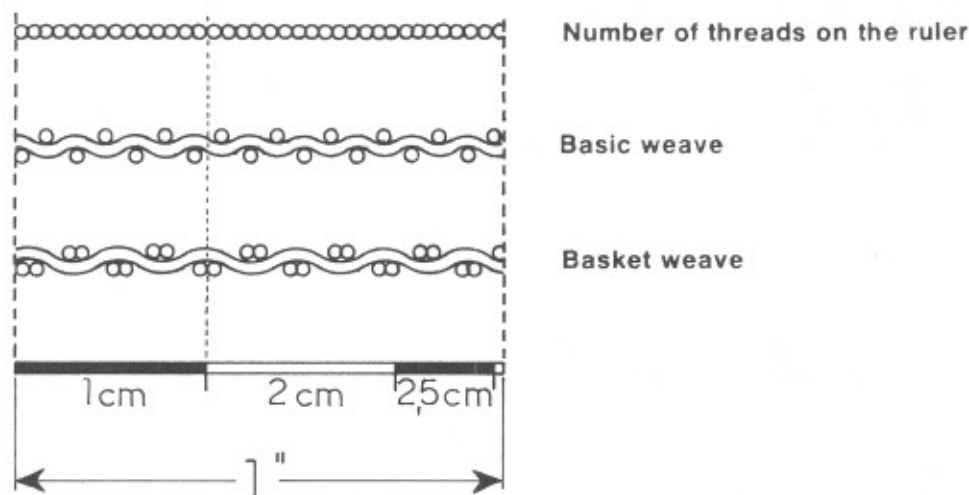


Fig. 256

Reeds available in 2, 3, 4, 5, 6, 7, 8 dents per cm.
5, 8, 10, 12, 15, 18, 20 dents per inch

VII WARPING METHODS

There are many different kinds of warping systems. We propose to describe several, and discuss the relative merits of each.

We have placed the sectional warp beam first, and would like to emphasize that the different types of warping (sectional and chained) are not interchangeable.

The method of estimating yarn requirements is the same for all methods.

TO ESTIMATE YARN REQUIREMENTS

In the calculation of yarn requirements, we start with three established facts:

1. The finished length of cloth we want.
2. The width of the warp in the reed. (Width of material wanted plus shrinkage.) The stretching of the material will vary according to the texture of your material, the pattern, the kind of yarn used, and also your weaving ability. In general, this is from 7% to 10%.
3. The sett of the warp. (How many ends per cm. or inch of yarn we need.)

For weavers using the METRIC system:

Let us suppose we want a finished length of cloth of 10 meters, 56 cm. in the reed, sett of 10 ends per centimeter.

56 cm. in reed	10 meters finished length of cloth
× 10 ends per cm.	+ 50 cm. take-up of warp (5% to 7%)
<u>560 total of ends needed</u>	+ 70 cm. loom waste at both ends of the warp
	<u>11.20 meters minimum length of warp</u>

Your warping system will determine how close you can come to the desired yardage. We will assume that we have to warp either 11 1/2 or 12 meters, depending on the system.

The weaving yarns we use give us the yardage per kilogram of yarn. The table at the back of this booklet gives us the count of the most commonly used threads.

We assume that we are using 2/74 cotton which has 6757 meters per kilogram.

560 ends of yarn
× 11.5 meters (length of warp)
<u>6440 meters of yarn required for warp, which will be a little less than 1 kilogram of cotton at 6757 meters per kg.</u>

For weavers using YARDS and POUNDS:

Our plan is for a finished length of cloth of 10 yards, 22 inches in the reed, sett of 24 ends per inch.

22 inches in reed	10 yds. finished length of cloth
$\times 24$ ends per inch	+ 1/2 yd. take-up of warp (5% to 7%)
<hr/> 528 total ends needed	+ 2/3 yd. loom waste at both ends of the warp
	<hr/> 11 1/6 yds. minimum length of warp.

Your warping system will determine how close you can come to the desired yardage. We will assume that we have to warp either 11 1/2 or 12 yards, depending on the system.

The weaving yarns we use give us the yardage per pound of yarn. There is a table at the back of this booklet which gives the count of the most commonly used threads. We make the assumption that we are using 8/2 cotton which has 3360 yards per pound.

528 ends of yarn
$\times 11\ 1/2$ yards (length of warp)
<hr/> 6072 yards of yarn required for warp, which will be a little less than 2 pounds of cotton at 3360 yards per pound.

Add 4 strong threads at each side:

- A) If a heavy selvage is wanted in order to keep the width of the material.
- B) To prevent the fine warp thread of the selvage from breaking.
- C) When the pattern will not allow the regular selvage thread to be woven by the weft.

These four extra strong threads should be threaded in a way that they will always be kept by the weft, usually one thread per harness.

The weft requirements are generally considered to be the same or fractionally less than the warp requirements.