Sleying Using Reduced EPI/Reed Fraction
and
Mirrored Sleying at the Selvedges

Set up the following fraction, and then reduce it as much as possible.

epi / reed	Example:	28 epi / 16-dent reed	>	7 ends / 4 dents

The reduced fraction tells you the number of ends that need to be sleyed across a specific number of dents. The information appears in its simplest form. In the example, 7 ends should be distributed across 4 dents. There are 4 possible sleying sequences:

2-2-2-1 2-2-1-2 2-1-2-2 1-2-2-2

Does it matter which sequence you choose? I believe it does. Certain sequences may produce something that I call *mirrored* (i.e., symmetrical) *sleying at the selvedges*. This symmetry allows for greater consistency, however slight it may be, in the behavior of the yarns and the appearance of the cloth at the selvedges. Some comparative work is required to determine which sequence, if any, produces mirrored sleying at the selvedges. Here are 2 examples.

First, consider a runner that has 422 ends and a sett of 28 epi. Its width in the reed is 15" with 2 ends remaining (divide 422 ends by 28 epi). Using the 16-dent reed in the example above, we see that there are 4 possible sleying sequences. Compare how the different sequences look at the selvedges (on paper), and then choose the one that allows you to achieve mirrored sleying or something very close to it. In this example, the 2-2-2-1 sequence does not produce symmetry at the selvedges. It looks like this (from right to left):

viewed with spaces between sequence repeats: 2 1-2-2-2 1-2-2-2 . . . . . 1-2-2-2 1-2-2-2

viewed without spaces: 2-1-2-2-2-1-2-2-2 1-2-2-2-1-2-2-2

The 2-2-1-2 sequence, however, produces symmetry and is the ideal sequence for this project:

viewed with spaces between sequence repeats: 2 2-1-2-2 2-1-2-2 . . . . . 2-1-2-2 2-1-2-2

viewed without spaces: 2-2-1-2-2-2-1-2-2 2-1-2-2-2-1-2-2

Sometimes, you will need to alter the sleying sequence slightly about ½" to 1" in from the selvedge (usually just on 1 side) to achieve mirrored sleying. You might do this where there is a color or pattern change. Consider the runner project again, but change to a 12-dent reed. The runner still measures 15" with 2 ends remaining in the reed. The reduced epi/reed fraction is 7/3; 7 ends need be distributed across 3 dents. There are 3 possible sleying sequences:

2-2-3 2-3-2 3-2-2

None of the sequences when written out, produces symmetry at the selvedges. In this example, it can be achieved by using the 2-2-3 sequence and then switching to the 2-3-2 sequence ½" in from the left selvedge. It looks like this (from right to left):

viewed with spaces between sequence repeats: 2 2-3-2 2-3-2 3-2-2 . . . . . 3-2-2 3-2-2

viewed without spaces: 2-2-3-2-2-3-2-3-2-2 3-2-2-3-2-2

If sleying sequences are chosen indiscriminately, it could result in selvedges of varying densities. There are many components to weaving, and whether this will or will not affect the weaving at the loom and the finished project cannot be determined without actually weaving a sample. But, consider the last example again. The total number of ends is reduced by 1 so that the runner now measures 15" with 1 end remaining in the reed. If the 3-2-2 sequence is used, the right selvedge will be more dense than the left. The first 3 dents on the right hold 7 ends while those on the left hold 5; there are 3 ends in the first dent on the right and just 1 on the left. (Read right to left.)

viewed with spaces between sequence repeats: 1 2-2-3 2-2-3 . . . . . 2-2-3 2-2-3

viewed without spaces: 1-2-2-3-2-2-3 2-2-3-2-2-3

A better arrangement is to sley the last end on the left with the 2 ends in the adjacent dent. The result is not mirrored sleying at the selvedges, but something very close to it.

It takes just a small amount of time to write out the sleying sequences on paper. I believe it is worthwhile – that it provides valuable information, especially if you are using large yarns.