

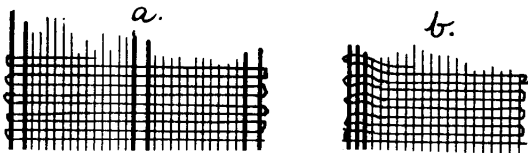
by Catherine Ingebretsen

COMBINING FIBERS IN WEAVING

When combining a variety of fibers in one piece, you might want to consider their compatibility in terms of: size, elasticity, shrinkage, twist, and then balance the yarns throughout the piece to offset possible negative effects.

Size

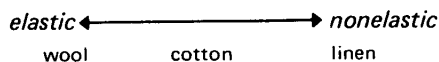
The size of the yarn affects not only its appearance and dominance, but also how fast it will weave up. It's pretty common knowledge that heavy materials weave up faster than fine ones, both in warp and weft. If you decide to combine a heavy linen (10/5) with a finer one (10/2) in the warp, you may want to sett the heavy linen farther apart than the sett for the finer linen so that the heavy linen won't weave up faster than the fine one. You may also want to balance the heavy linen throughout the warp, so that if the heavy linen does weave up faster, the weft will be kept even all the way across the weaving. The heavier warp yarn is often threaded at each edge and in the center of the warp (a) to prevent a sloping of the weft (b). You might want the effect of (b) if you were shaping a piece such as a lampshade, curved shawl or hanging.



The size of the yarn also affects the actual weaving width. If you are doing a piece where the weft sizes change, you may have trouble keeping an even edge. Heavy wefts push the warp threads apart giving a wider piece, while finer wefts allow the warp threads to lay closer together, giving a narrower width. You can offset this somewhat by pulling in more at the edges when using a thick weft. Or you may want to make the shift from thick to thin yarns more gradual (and less obvious), or design an irregular shape, or use some good finishing camouflages.

Elasticity

It is important to realize that each fiber has its own elastic qualities. Wool is quite elastic compared with linen which has very little elasticity. Cotton falls somewhere in between wool and linen.



(The way a fiber is spun also affects its elasticity.)

If you want to use yarns of two different elasticities, you again will have to do some balancing. When you are weaving, the warp yarns are at a tight tension (stretched out). However, when you release the tension on the warp, the yarns go back

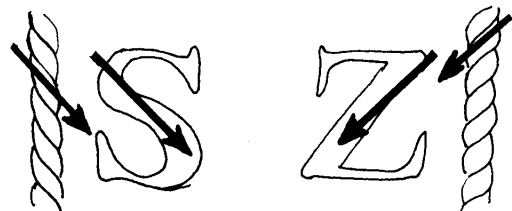
to their original "out of tension" state. If you put on a warp, the left half linen, the right half wool, and weave it, when you remove it from the loom, the wool yarns will pull back together while the linen remains about the same. The linen area will become puckered or rippled. To balance nonelastic and elastic yarns within the same warp, you may want to put the more elastic yarn(s) at the edges and in the center; or at the edges and 1/3 and 1/2 of the way into the piece; or alternate 2 threads of yarn #1, with 2 threads of yarn #2, or use some such repeating sequence. Keep in mind that you may well end up with a very interesting texture by combining different elasticities. When using various elasticities of weft, just remember to release the tension that you exert on the weft, before beating it in place and changing the shed.

Shrinkage

The same puckering can occur if you don't balance your use of fibers that have different amounts of shrinkage. Balance them the same way you would balance yarns of differing elasticities. It is fairly easy to feel or see size and elasticity differences in yarn, but you do have to do some preparation before you'll know the amount of shrinkage for each of your yarns. The only accurate way that I know of to figure the shrinkage of a particular yarn is to weave a sample, wash, dry, and iron it, remeasure and record and then compare the measurements. (Or ask a trustworthy friend who has already done this.)

Twist

Many people don't pay much attention to the direction their yarn is spun. However, if you combine hardtwisted S and Z spun yarns within the same warp, or within the same weft, and then wash the fabric, the yarns will kink in different directions. (This is one method of producing a crepe fabric.)



The major effect of combining yarns of different twists will be a change in the surface texture.

Combining fibers can give you some very interesting results. Balance may be the most important consideration in your endeavors along this line. Keeping that in mind, experiment, and keep an open mind to some of the surprises that you discover.

