

Cloth Finishing

Janet Phillips, London and Online Guilds

All cloths, after they are woven and taken off the loom, need some form of finishing before they can be put to the use for which they are intended.

In its most basic form the finishing process must ensure that the cloth is free from surface faults, that it is clean, pre-shrunk and stable, and that the fibres, yarns and weave are shown off to their best advantage. Careful finishing should considerably improve the appearance, handle and wearing qualities of a loom state cloth.

Washing should be done at a temperature higher than any future washing temperature, to ensure that no further shrinkage will occur. So if you know that a cloth is likely to be put in a washing machine, such as a cotton dishtowel, then the loom state cloth must be washed in a washing cycle higher than its future needs. If you hand wash in hand hot water, then hand washing should only be done in the future in cooler water.

Silk generally feels hard after being in water, but will soon soften once in use. I also make use of my iron's temperature gauge to determine the ironing heat and iron on the wrong side of the cloth, except for linen which is ironed on the right side of the cloth.

At the Scottish College of Textiles where I learnt my weaving skills the saying was that 'a woollen cloth is made in the finishing'. Woollen cloths should be woven quite loosely on the loom so that the 'milling' or 'fulling' process will give that soft and beautiful handle so characteristic of woollen tweed. Jo Andrews describes the process in more detail below.

Burling

All fabrics should be meticulously inspected after they are taken off the loom to find any weaving faults, knots, broken ends or weaving mistakes, which need mending. A weaving fault, resulting in a long weft or warp float, should have the floating section cut in half, a new thread darned in to replace it, overlapping the original pick/end by about 2.5cm on each side. Broken ends also need to be repaired by darning them into the cloth following the interlacing of the weave. Knots must be untied before being darned in, overlapping each other. All protruding ends produced during the mending or during weaving when joining weft picks need to be trimmed flush to the surface of the cloth. It is remarkable how the appearance of a piece is improved once this tidying up process has been done. Burling is done prior to any washing process.

The following are accounts from three of my weave design students, as to how they have finished their hand woven cloths.

Joan Scriven (London Guild) – Using a Commercial Finisher

When I had finished weaving my 5m length of worsted wool and silk cloth for a jacket, I realised I would find it difficult to wash and impossible to finish properly. I found out about two commercial finishers. One could take short lengths but no widths less than 32 inches. The other, W T Johnson & Sons Ltd, would take a short and narrow piece and put it through its large industrial finishing machines as a sample.

The transformation was amazing; I have a glossy and beautifully draping cloth that I could hardly believe I had woven.

I visited the finishers in Huddersfield and saw mountains of cloth being processed. W T Johnson & Sons are known for their



Above: Joan's cloth Urban Indigo before finishing

Below: Urban Indigo after finishing
Photos: William Allberry



finishing of high-end cloth and furnishings. Each batch is assessed and coded with the required treatments it will need as it goes through the mill. Any small lengths are attached (sewn on) to the end of a cloth having similar treatment.

The mill uses water from its own well, hence it is soft. The machines really wash the cloth in a way I would be scared to do! The loop of cloth passes through the soapy water as it goes round and round. The temperatures are controlled and the amount of washing, rinsing, drying, stretching and clipping are all prescribed according to its end use. For example, some upholstery cloth needs to be shrunk and slightly felted by the finishing. Finishes, like Teflon or silver (antibacterial), if needed, are applied not just to the surface but forced through the cloth.

Nigel Birch at Johnsons showed me round and I am very grateful to him. Finishing mills are few in number now in the UK but the industry cannot do without them and I would suggest that my piece of cloth couldn't either!

My 4.5m length of cloth cost about £5 plus postage to be finished.

Mirja Woollard (Devon Weavers Workshop) – Finishing Linen

My mother grew up on a farm in the south-east of Finland. Apart from keeping animals and growing the usual crops (wheat, rye, etc.) they also grew flax. This home grown flax was spun by my grandmother and woven into tablecloths and sheets. They bought cotton yarn for the warp, and the home grown flax was used as a weft. My grandmother mangled all these table linens and sheets with something called *kaulinpuut*¹ – this was before we bought an electric mangle. The cloth was folded in four and rolled round the large rolling pin, then the handle was rolled over and over the cloth until it was ironed.

I finish my handwoven linen cloths in the following way:

I always soak the cloth in hot water and stroke it with the palm of my hand and then leave the cloth in the water for an hour. I learnt this technique on a linen weaving course with Riitta Sinkkonen-Davies. If you wash the cloth in a washing machine or wring it in any way, you will end up with creases in the cloth that are almost impossible to get rid of. I use an electric mangle instead of an iron to finish the cloth. To me the mangle gives a linen cloth a better finish, a kind of sheen you can't achieve with an iron.

I sometimes dip linen or hemp cloth in water mixed with a bit of PVA glue. I swirl the cloth in the water and PVA mix and then hang it up to drip dry. Then I iron it with a hot iron through baking paper. This will make the cloth quite firm.

¹ See <https://www.youtube.com/watch?v=IPGrPrzDyUA>

Jo Andrews (London Guild) – Finishing Wool

I weave soft throws with a fairly open weave using Supersoft Lambswool from JC Rennie. Once off the loom I tidy up the cloth and twist the fringed ends as required.

The wool wash I use follows a recipe given to Janet Phillips and myself by Annie Walker, a weaver who spent her career working in the Yorkshire woollen industry.

- Half pound of pure soap flakes (these can be found very cheaply in most hardware shops).
- Half pint methylated spirits (also from a hardware shop).
- 1 fluid ounce of essential oil. You can use eucalyptus, lemon eucalyptus, or cedar, all of which have moth-repelling properties. But choose what you fancy!

1. Mix these together in an airtight jar with a rubber seal. If you use plastic it will never be able to be used for anything else as it will smell (delicious to me)!
2. Shake the jar to get everything to mix and the soap to dissolve somewhat.
3. You can store this for as long as you like, I tend to store mine for many months, but it is highly flammable so be very careful.
4. When you are ready, pour a small amount of boiling water into your sink/bath, add 1 tablespoon of your prepared wool wash for a scarf, 2 for a blanket.
5. Using rubber gloves, agitate to dissolve the soap completely. Add tepid water to desired level and temperature.

6. Wet your weaving in the mixture and agitate according to need. Sometimes with blankets I do them in the bath, I get in and tread them until I have the required shrinkage.

7. Rinse.

8. Dry by rolling in a towel to remove excess moisture, then dry until damp.

9. Set the iron on a hot steam setting. Iron both sides of your piece and the ends, making sure to get the full width of your piece. This sets the wool in a way which gives it a crisp soft handle.

10. Dry completely, folded or not, as wished.

Once dry take a brush made of fine twig bristles (see image below) and lay the cloth flat and brush vigorously in the direction of the warp, on both sides including the twisted ends. How vigorously you do this depends on the openness of the weave and what sort of final handle you are looking for.

The percentage reduction in width I like is quite small – about 8%. I weave my blankets at 48in on the loom. The finished width is 45in.



Brush with fine twig bristles



Above: Jo's cloth Aotearoa on the loom

Below: Aotearoa after finishing
Photos: Jo Andrews



Janet Phillips – Lesser Sand Eel

Cloths woven with over-twisted yarns change dramatically after washing. My *Lesser Sand Eel* is swimming in a watery sea. The crinkled texture of the sea only occurred once the cloth was immersed in hot water.

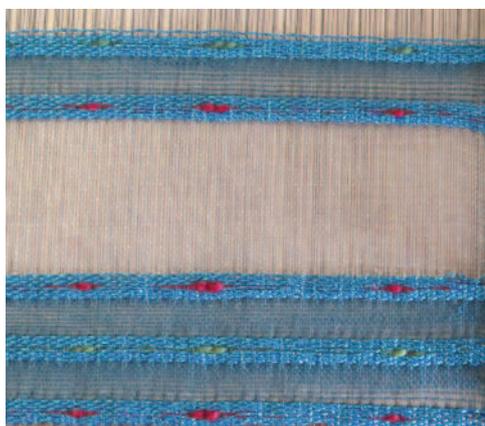


Above right: The lesser sand eel

Below: Janet Phillips' Lesser Sand Eel on the loom

Right: Detail of Lesser Sand Eel after finishing

Photos: Nigel Phillips

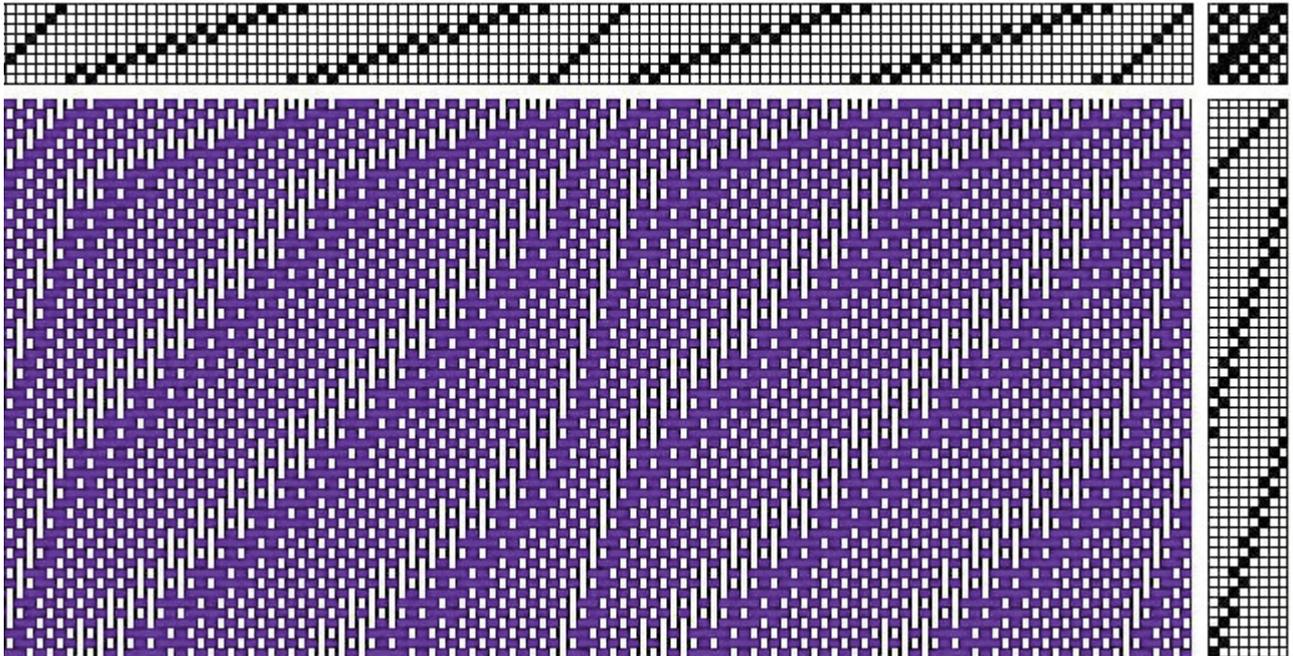


Janet Phillips – Rock Pool Ripple

Finishing can sometimes create interesting pattern effects. I have recently been weaving cloths with WeaversBazaar 18/2nm worsted spun yarn. This yarn has been spun specifically to be used in tapestry weaving, so it is a relatively tightly twisted yarn to use as a cloth yarn. It shrinks very little on hand washing, but the tightness of the twist does cause the weave structure to move. In plain weave the cloth becomes 'crazed'. It begins to look like a twill cloth!

Below: Detail showing crazed plain weave
Photo: Nigel Phillips





Feathered Wavy Twill structure

I wove an eight-shaft twill fabric for a waistcoat in the same WeaversBazaar 18/2nm worsted yarn. I have given the threading and treadling plans, tie-up and weave drawdown in the diagram above. After washing, the plain weave elements within this twill weave have 'crazed' – developing a beautiful feathered appearance.

Conclusion

Cloth finishing is a huge subject, which is dependent on the type of fibres used, the type of spin given to the yarn, the structure of the woven cloth and the sett of the woven cloth. Therefore, as in all other aspects of the design of a cloth, finishing techniques must be extensively sampled and detailed records kept. Only then can a handweaver ensure that the finish given to their handwoven cloth will give the result that is required.

About the author

Janet Phillips has had a career as a commission handweaver but now teaches weave design courses from her studio in Somerset. She is the author of Designing Woven Fabrics.
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*Right: Finished waistcoat
 Janet Phillips
 Photo: Nigel Phillips*