

Ikat - weave full of potential

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Sizzling with colour, totally simple, intricacy, clear lines or diffuse transitions – all are possible with ikat.

Knot and tie! The word ikat comes from the Malaysian for knotting and tying. This protective binding makes it possible to dye yarn in different areas, so that when woven up a design appears either in the warp or weft direction or even both.

Today ikat holds a wider area of meaning than the original 'knot and tie'. The finished cloth is also called ikat, not just the yarn and the technique. Ikat now covers a number of ikat related techniques that have ikat like effects, and so today refers more to the specific appearance of a textile than a technique.

THE FIRST FINDS DATE from ca 700 AD, but there is evidence pointing to the fact that the technique was well developed in India already in the 6th century AD. It is not clear where it all started, the technique of resist dyeing possibly arose in several places simultaneously.

The most advanced examples have been produced in Asia, for example India, Indonesia and Japan.

Ikat developed relatively late in Japan. It was not common before the 18th-19th centuries, when the lower classes began to make use of the technique. Ikat enabled them to pattern cloths despite restrictions that prevented the use of anything other than indigo dyed cotton tabby woven cloth.

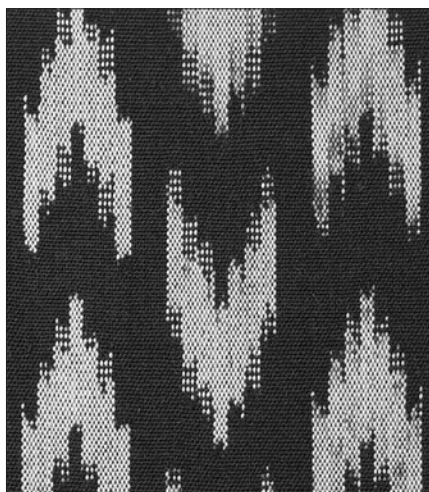
Simpler forms of ikat have been woven in the Nordic lands, parts of Africa and Latin America.

In Sweden weft ikat was common in ticking, skirt and apron fabrics of the 18th and 19th centuries.

In the 18th century warp ikat was also in vogue.

When it comes to the actual technique, there are four main classifications: warp ikat, weft ikat, double ikat and combined ikat.

'In doing ikat, an old tradition gets taken into the future and offers opportunities for surfacing new forms of expression in an ancient technique.'



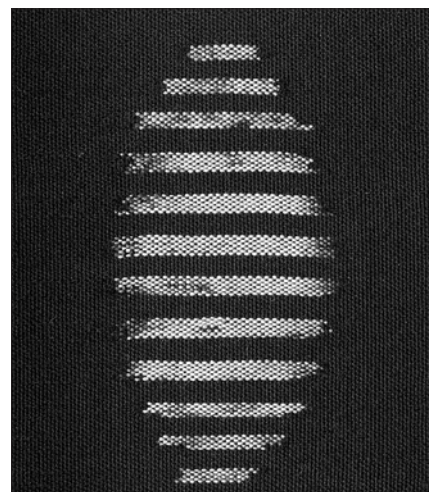
Warp ikat.

IN WARP IKAT, the warp ends are dyed and create the design. The sett is high and the warp almost totally covers the weft.

The warp is tied off at certain points and over selected groups of ends. The length and breadth of the tied sections will then determine the patterning.

The most common pattern form in warp ikat is the V-shape, where the tied off sections of warp are pulled into simple point designs. The form of the V-shaped design is determined by how the ends are adjusted when making the pattern in the warp. Several methods can be used for this. One is to tie sections of ends to the endstick before beaming the warp, so that they form V-shapes when the warp is then beamed on the loom.

Another method is to use a thread manipulator on the loom. The warp is beamed in the normal manner, but is passed at the end, before entering, over horizontal rods lying at various heights (a thread manipulator). In that warp ends pass variously over rods set at different heights, a V-shape design can be created during the weaving. An advantage with this method is that the beaming can be done normally and the warp tensioned properly. Another advantage is that the V formation in the patterning is more precise.

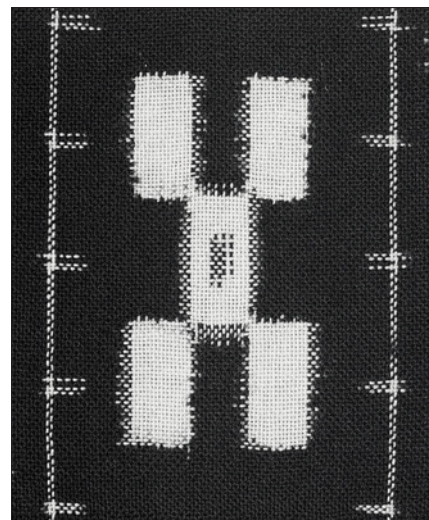


Weft ikat.

IN WEFT IKAT, ikat dyed thread is used as weft and is more prominent than the warp. In weft ikat the weaver has greater control over the dyed yarn compared to warp ikat.

The placing can be adjusted with each new pick. In weft ikat each thread can be positioned in exactly the right spot relative to the previous pick.

The warp take-up can make the pattern adjustment trickier and experience and skill are required to work out where the pattern has to go.



Double ikat.

IN DOUBLE IKAT, both weft and warp are resist dyed and the pattern is formed through the meeting of the warp patterning with that of the weft, in designs worked out beforehand. It requires enormous care and good calculations to get a double ikat to come out right in the design. The technique is time consuming which is presumably the main reason for double ikat being the least prevalent of the four main groups of ikat.



Combined ikat.

IN COMBINED IKAT the resist dyed threads run in both warp and weft directions, but the warp and weft patterning are independent of each other and the design more diffuse. The ikat ends in both the warp and weft form separate designs.

ONE ADVANTAGE with ikat is that the level of complexity can be suited to the level of experience. As a beginner it is obviously good to start with simple designs and then increase the level of difficulty according to skill and practice.

There is no upper limit to how advanced a design can get.

WITH MODERN DYES the dyeing process is relatively simple and most dye manufacturers have clear recipes which are easy to follow, even for those who have not done dyeing before. To be sure that the dye turns out as expected it is good to test dye a bit. It is easy to dye several small samples at the same time by putting glass jars containing the dye solution in a pot with water brought to the right temperature.

The ties can be made with a variety of materials. One which works well is regular cling film.

The advantage with cling film is that it is soft and malleable which makes it easy to work with even for bigger sections. Moreover it is durable, in contrast to bast, and can take heat up to at least 85° without splitting.

Cling film can be wrapped tight, back and forth around the parts forming the resist areas. The ends can be secured with something like rug warp yarn. The ties on warp ikat are best made while the warp is still on the warping mill.



THREAD MANIPULATOR

a simple way of creating ikat designs

Erika Landestorp and Lene Jul Östblom made an in-depth study of thread manipulation during their time doing the handweaving option on the Textile Science course at the University College of Borås. They constructed a simple device with detachable rods fixed to the sideframe of a loom.

After beaming, the ikat dyed warp ends are passed around the rods so a staggered design forms. Altering the passages of the warp ends will create new warp ikat designs.

A more complex design can be created with the help of a thread manipulator fixed to a loom. The warp is dyed after being tied off in sections of the same width on the parts of the warp where the design will appear.

After beaming, the warp ends are variously adjusted around a system of rods so a design forms from the staggering of undyed areas. By altering the adjustments to the warp new warp ikat designs can be woven on the same set-up.

On next page you can see how to arrange the thread-manipulator.

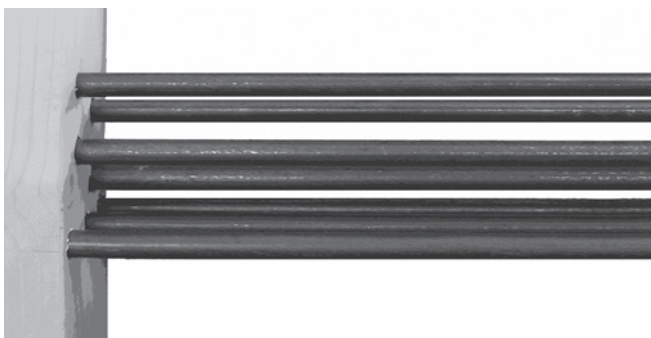


EQUIPMENT REQUIRED:

- 2 strong planks (95 mm) to secure to either sideframe as close to the warp beam as possible. To avoid screwing them into the loom, use clamps or strapping.
- 7 iron rods, ca 12 mm in diameter and ca 10 cm longer than the distance between the sides

DIRECTIONS:

Drill 7 holes in each plank. See figure 2 below. The lower rods should be on a level with the back bar. It is a good idea to have the holes a couple of mm larger than the rod diameter.

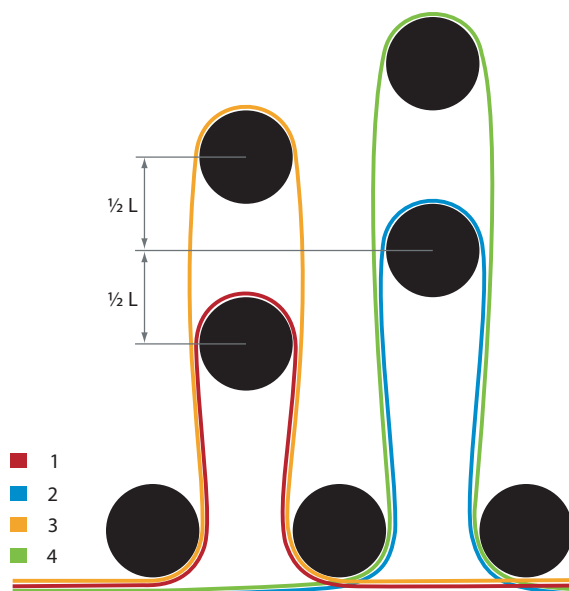


THE RODS AFFECTING THE DIVERGENT LENGTHS of the warp were positioned in two rows to avoid the staggering being too slight. For longer shifts between each group of ends, or if using narrower rods, all the rods can be placed in a row. Here, strong 16 mm diameter rods were used because of the width of the warp, 125 cm. The wider the warp, the thicker the rod required. It is important that they don't cave in with the warp tension.

ONCE THE MANIPULATOR device has been set up, it is easy to use. The construction can be reused time and again, saving time if a lot of ikat is being woven.



A rectangle shape resist tie can for example be refashioned into a V shaped pattern in the woven fabric.



L = the distance by which the sections of the warp will shift

The gap between the rods, viewed from the side, is the same as the diameter of a rod, causing the ends to travel straight up and down. By avoiding angular paths, it is easier to work out the differences in height between the rods.

The centre marking indicates the length by which those ends will shift = $1/2 L$.

The figure shows a diagram of the paths travelled by the different sections of warp. Section 1 travels the shortest distance and section 4 the longest. The difference in length between the rods is $1/2 L$. In this example $L = 4.5$ cm.

BEAMING THE WARP

The dyed parts of the warp are beamed, entered and sleyed as normal, but before tying on the thread manipulator rods are passed in under the warp ends selected and secured to the planks. When tying on, the warp ends will have different lengths. To alter the pattern effect later, the weave should be cut down before the next set-up using the manipulator device.



In the next issue of VM (4/06) Erika Landestorp will be giving directions for a weave using the thread manipulator.