STRETCH SEWING PERMIT

Working with stretchy fabrics

This tutorial is provided for free. It is for personal use, but may be shared in a social sewing group or public school to teach others. It is not to be distributed online. It may not be used as learning material in a paid sewing lesson. Direct others to the Pattern Orchard website to obtain their own copy.

The information provided in this tutorial is general in nature. Different terminology may be used by sewers from different backgrounds and the sewing equipment used is based on commonly purchased items available in 2017 in Australia. Some older or newer equipment may have settings or options that differ from the examples given.

Please share the www.patternorchard.com link with anyone who is interested in learning to sew or furthering their sewing skills. There are free Learning Patterns available on the website for personal use or donations for charities. Tag #PatternOrchard on social media when sharing photos of items made from a Pattern Orchard pattern to spread the word about this free resource.

This tutorial is suitable for most kids over the age of 8 with adult supervision for all sewing practice. Never leave kids unsupervised around sharp objects or machines. Plain language is used to gradually introduce some basic sewing terminology. Read through this document and complete the check list on page 11 to achieve your Stretch Permit. Only pages 10 & 11 need to be printed.
Topics covered
Page 3. Stretch Fabric [Types, Composition, Stretch Test, Examples]
Page 6. Equipment [Needles, Tools, Supplies]
Page 7. Sewing Stretch [Sewing Machine, Overlocker, Coverstitch]
Page 10. Stretch Patterns [Adapting to your fabrics]
Page 12. Stretch Permit [Practice, Checklist, Printable Permit]

Before you start
Learning something new can come naturally or be a fun challenge. Approach every lesson without worries at the back of your thoughts, with a clear workspace, full stomach and well rested. Remind yourself that every skill takes time and patience to learn well. Your first attempt is practice so use scrap fabrics first.

You choose what to sew. Stick to items you know you can achieve or challenge yourself with new fabrics, techniques or tools. Learn as much as you want to learn.

Each of the Pattern Orchard sewing permits teaches a different set of skills.

Start with the Learners’ Permit, then move on to any of the other S.E.W.I.N.G. Permits. They do not need to be completed in order. Choose the skills that you want to focus on. Read through “Pick a Pattern” on the website to help you choose a suitable sewing pattern to start with after finishing each Permit.

Sewing can be a relaxing, creative and productive outlet. Enjoy.
Stretch Fabric

Types

Stretchy fabric refers to fabric that can be stretched (pulled) to increase its size, then when the tension is let go, it returns to its original size.

The way the fibres are constructed is different to woven fabrics. The fibres are knitted together which gives it the ability to move and stretch where woven fabrics cannot. This is why stretchy fabrics are often called ‘knits’.

For this lesson, let’s just stick to calling them ‘stretch’ to keep things easy.

Knitting using knitting needles can be quite varied, resulting in a tighter/looser, thicker/thinner finished product, as well as being weft or warp knits. This is the same with stretchy fabrics as they can be knitted together with different methods to create many different types of stretchy fabrics.

To keep things simple, most stretchy fabrics can be grouped into these 3 categories:

1 way stretch: Will only stretch when pulled in 1 particular direction (across).

2 way stretch: Will stretch when pulled up/down or across.

4 way stretch: Will stretch up/down, across or at a 45 degree angle.

All will stretch across the ‘Crosswise Grain’ (width of fabric).

TIP
The stretch should run across a shirt from left to right when cutting, as pictured.
Composition

There are many different blends of natural and synthetic fibres to make stretchy fabrics stretch even more. Have a look at the tags on some of your clothing to find % of cotton, polyester, viscose, elastane, nylon, spandex, rayon etc.

Fabrics with a higher cotton content stretch less, but breathe better which is more comfortable on the skin, particularly in warm weather. The greater the synthetic content, the more it can stretch, but it may also cause sweating.

Choosing the correct stretchy fabric to sew with is vital.

Stick to the recommended fabric options on your pattern. If you are not using a pattern, try to find an item of clothing which is similar to the item you are making to give you an idea of what type of fabric you should be looking for when fabric shopping.

E.g. If you are making leggings, check the tags on a pair in your wardrobe to work out what they should feel like to touch and the composition of the fabric needed. Then head to a fabric shop to locate a stretchy fabric that feels similar to touch. If the fabric is labelled with the composition, check that it is similar to the leggings you have at home. Does it have 1, 2 or 4 way stretch?

Stretch Test

The amount of stretch can be measured.

Cut a small piece of fabric that measures 10cm x 10cm.

Place the sample on top of this test guide with the stretch running in the indicated direction. Hold the left side firmly and pull the right side of the fabric to see how far it will comfortably stretch to.

<table>
<thead>
<tr>
<th>STRETCH TEST GAUGE</th>
<th>Resting</th>
<th>25% Stretch</th>
<th>50% Stretch</th>
<th>75% Stretch</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crosswise Grain - Stretch</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Examples

This list should help you identify some common stretchy fabric types.

Spandex/Lycra/Elastane: A synthetic fibre with high stretch that is known by different names around the world. It is often blended with cotton to increase its stretchiness. This synthetic fibre is used for many high stretch purposes such as dance wear, swim wear, athletic wear, socks, leggings, underwear and more.

Cotton (95%) Lycra (5%): A common blend found in fabric shops. Many ladies tops are made from this type of fabric as well as some men's trunks and kids underwear. It is smooth on both sides, just thick enough to not be transparent, stretches to 1.5-1.7x resting size (50-75% stretch).

Ribbing - (96% cotton 4% elastane): Used predominantly for neckline bands, cuffs, and singlets. It is identifiable by its parallel ridges. A close look will show it has very distinct high and low points to the structure of this particular method of knitting together.

Cotton Jersey (various cotton & synthetic blends): The term jersey is used on single knit, double knit, interlock and other types, each with different stretch properties. Jersey is used for a lot of modern garments from dresses to underwear. It is most easily identifiable by the pile (fabric is brushed to create a fluffy feel) on the underside. However double jersey has the piled side sandwiched between two jersey layers so you cannot see it.

Fleece: Most common fleece types are made from synthetic polyester. You can also find bamboo fleece and other variations. It is predominantly used for warm jumpers and track pants due to its high pile making it very soft and warm. Can be smooth on one side or fluffy on both sides.

www.patternorchard.com

Stretch Sewing Permit © Pattern Orchard 2017.
Equipment

Needles

When sewing with stretchy fabrics it is important to change your needle to avoid a sharp tipped needle breaking the knit which can weaken the fabric.

You can get needles that go in your machine which have a ball point. Sometimes called ‘stretch’ or ‘jersey’ needles. The rounded end allows the needle to go through the fabric without breaking the fibres, by going between them.

Many brands will use colour coded lines around the top of the needle to help you remember which ones are your stretch needles and which are not.

You can also get a twin needle suitable for sewing stretchy fabrics. These can be used on some sewing machines, but not all. Check your instruction booklet.

Find out more about sewing with a twin needle from your sewing teacher or find online videos to show you how it’s done.

Tools

One of the most useful tools when sewing with stretchy fabrics, is a hammer and a hard surface to use it on.

Before topstitching, the bulk of any seams needs to be flattened to allow you to sew around the hem/neckline without going over large bumps which can lead to messy stitching. Overlocked seams can get very bulky with all those threads.

Be careful to gently tap the bulky part of the seam without striking too hard and damaging the fabric.
# Supplies

The list below details some helpful items that can make sewing with stretchy fabrics a little easier. With a little experimenting, you can work out which ones you prefer:

- **Hemming tape**: A sticky roll of adhesive used to hold a folded hem in place before it is sewn.
- **Fabric Glue Pen**: A pen shaped adhesive applied the same as hemming tape.
- **Wooly nylon thread**: A stretchy thread ideal for sewing swimwear.
- **Binding foot (Coverstitch Machine)**: Helps to add a binding to a raw edge much like bias binding is added to woven fabrics.
- **Ball point pins**: Rounded tip to prevent damaging the fabric.
- **Clips**: Small peg shaped clips can be substituted for pins to avoid leaving holes.

# Sewing Stretch

## Sewing Machine

Stretchy fabrics can be sewn on a sewing machine.

You should not use a normal straight stitch as the thread will snap when the fabric is then stretched.

Some newer machines have a stretch stitch setting which stitches forwards and backwards as they sew, to prevent breakage.

A zig zag stitch can also be used. There are other decorative stitches that will work on stretchy fabric too. If you are not sure, trial a stitch setting on a scrap of stretchy fabric to see if it holds up when stretched.

Top tips for sewing stretch on a standard sewing machine:

- Allow the feed dogs to gently pull the fabric through.
- Use a wide, short zig zag stitch for internal construction seams.
- Using a walking foot can help if you are getting a ‘wavy’ finish on your fabric.
- Press a seam with a steam iron after sewing to reduce waviness.
Overlocker

An overlocker can be used to sew stretchy fabrics along internal seams but it is not for hemming along the bottom of shirts, skirts or dresses.

Overlockers give a neatly sealed finish to stretchy fabrics by enclosing the entire seam allowance under the mesh of threads. This can add a little bulkiness to seams.

Adding a separate band of fabric (cuff) around sleeve ends and shirt hems can be done to finish a garment on an overlocker without the need for hemming.

Some overlockers have a differential feed dial on the side. This dial is used when overlocking stretchy fabrics. When sewing wovens it remains on 1. This setting adjusts the way the fabric is pulled by the feed dogs to minimise waviness. The stretchier the fabric, the higher you turn the dial up to. Usually about 1.5 for most stretch fabrics.

You do not need to sew the seam first, just overlock.

A short stitch length is best for construction seams (2.5-3).

You will find that after using the overlocker to finish woven seams, the tension dials need to be adjusted a little when you switch to sewing stretchy fabrics. Use a scrap of fabric to get the tension right before starting your project.

Do not trim off the overlocking thread tails at start or finish. Instead, hide them in the next line of overlocking or inside a hem.

When overlocking all the way around a cuff for example, overlock 2cm past where you started, lift the presser foot then push the pedal to sew out a little extra thread.
Coverstitch

A Coverstitch machine is great for hemming stretchy fabrics. Using either 2 or 3 needles, you can create the twin or triple stitching look shown here, with what looks similar to overlocking on the underside.

Underneath any raw edges are sealed under the stitching.

Using a Coverstitch machine:

Start away from any seams or bulky areas.
Stitch from your start point, all the way around the hem to where you started.
Lift the presser foot.
Using the blunt side of a pair of scissors, slide them under the foot from back to front to pull the 2 top threads towards you.
Once clear of the presser foot, snip the 2 threads.
Firmly hold the fabric and pull it toward the back of the machine.
Snip off the remaining underneath thread.
You should now have 2 thread tails on the front of your garment and 4 underneath.
Use a hand sewing needle to pull the 2 threads from the front to the back of the fabric.
Tie the 6 thread tails together.
Trim the thread tails to about 4cm length.
Pull them through the eye of the needle, then push the needle under the coverstitched edge so the point comes up 5cm away from where it went in.
The ends should disappear inside as the needle comes out.
Stretch Patterns

Adapting to your fabrics

Patterns specifically designed for stretchy fabrics will include examples of suitable fabrics or % stretch (see pg 4). It is generally advised to stick to recommendations. However if you have a particular fabric in mind that is a little more/less stretchy, you can sometimes adapt the pattern to suit the fabric.

If your fabric has very little stretch and the pattern calls for a greater %, you can make the next size up (for garments) to compensate for the fabric change.

The same works in reverse.

Also, a pattern designed for woven fabrics can quite often be made with stretchy fabrics by simply making the next size down to what you would have made in a woven fabric. This does not work for all patterns. Woven patterns where the structure depends on the rigidity of the fabric are not well suited to substituting stretch fabrics in (e.g. bags, corsets).

On occasion, you may find that going down 2 sizes is needed for patterns that were designed for woven fabrics.

The opposite is not often successful. Patterns that are designed for stretchy fabrics, more commonly will not fit well when made in woven fabrics.

TIP
Make your own fabric swatch guide by labelling scraps for future reference.
Stretch Sewing Permit

Practice

Print this page.

Cut 1 of each rectangle from a stretchy fabric.

Stretch rectangle 2 to fit along the edge of rectangle 1.

Pin evenly.

Sew the two together with either a sewing machine or overlocker.

Try this with as many different stretchy fabrics as you can to see how they vary.

Stretch Test Rectangle 1

< stretch >

Stretch Test Rectangle 2

< stretch >
Stretch Sewing Permit

Check list

Read & understand the entire Stretch Sewing Permit document

Trial a few different stitch settings on stretch fabrics with a sewing machine to see how well they stretch.

Determine if your clothing has 1,2 or 4 way stretch (pg. 3)

Determine the stretch factor of a scrap using the gauge (pg. 4)

Complete the page 10 practice paper sewing sheet

Once all of the above have been ticked, you are now ready to attempt your first stretchy sewing project! Head to www.patternorchard.com to find more information about choosing a good first pattern as well as free patterns for you to try.

You can now fill out your name and the date on your Stretch Sewing Permit license card below. Cut it out and keep it to remind you of how long you have been sewing for. Congratulations!

www.patternorchard.com