

NEOPRENE BEND SENSOR KIT

Using neoprene, Velostat, conductive thread and stretch conductive fabric to construct a fabric bend sensor. Velostat is a piezoresistive plastic film that reacts to pressure with a decrease in resistance. The sensor does not specifically react to bend, but because it is sandwiched between two layers of neoprene, pressure is exerted when bending. Allowing one to measure bend (angle) via pressure.

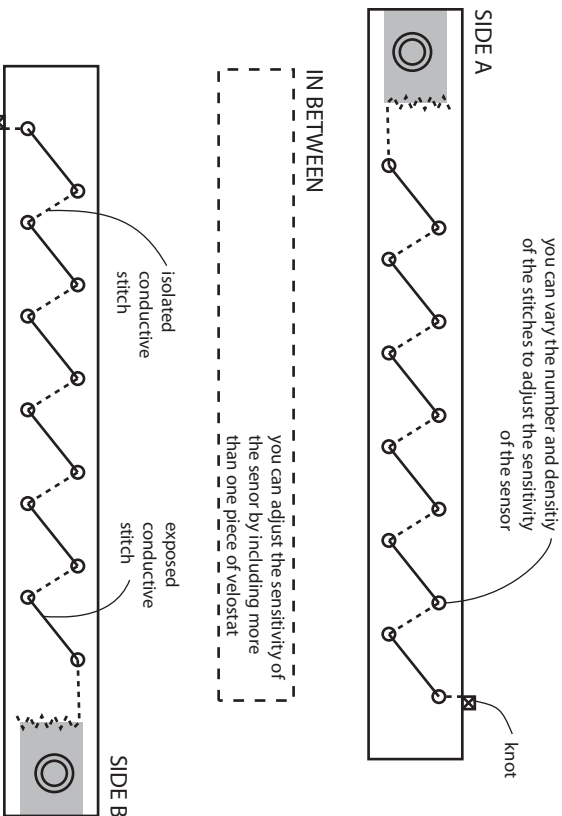
HOW TO GET WHAT YOU WANT
www.kobdakt.at/DIY

CONTACT

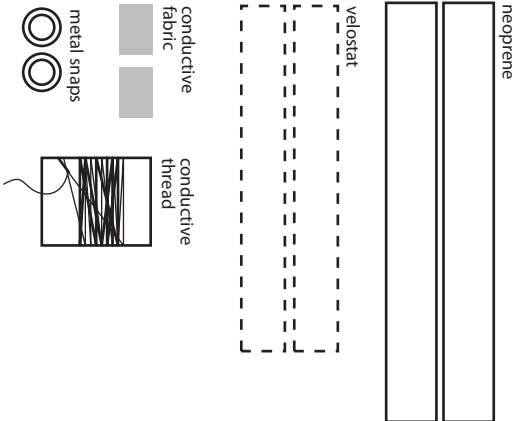
If you have any questions about or problems constructing this kit, please contact:

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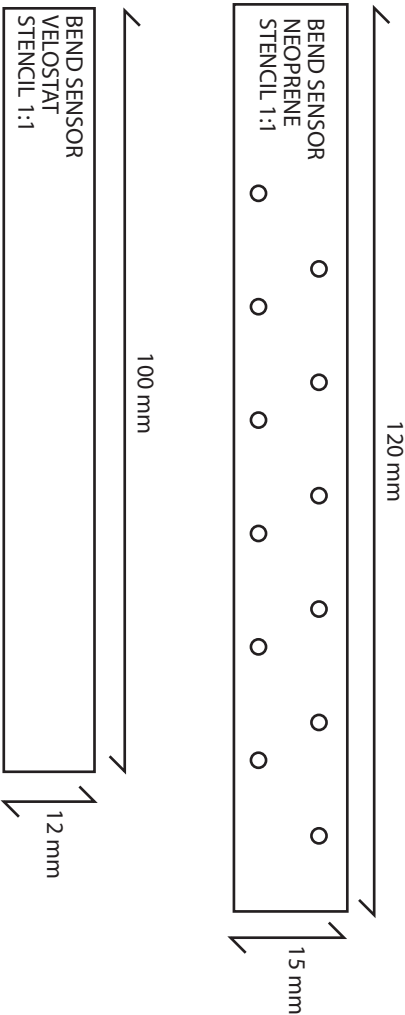
LAYERING



CONTENTS



STENCIL 1:1



INSTRUCTIONS

The following instructions explain the basic assembly of this sensor kit. For more detailed instructions see the following link:

>> www.kobakant.at/DIY/?p=20

In addition to the contents of this kit you will need the following items to complete the sensor:

- pen or pencil
- scissors
- iron
- regular thread
- sewing needle

TRACE THE STENCIL

1

Cut or trace the stencils from the other side of this instruction sheet and transfer them to the appropriate materials - neoprene and Velostat, marking the stitches on the neoprene with a pen or pencil. Make sure not to flip the stencil upsidedown.



FUSE CONDUCTIVE FABRIC

2

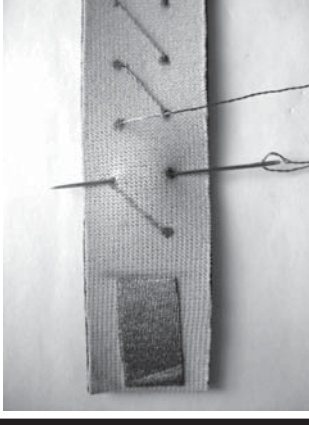
Peel off the paper backing from the conductive fabric pieces and place them with the glue side facing the neoprene. Set you iron to a medium-high heat. Iron over the conductive fabric to melt the glue and fuse the fabrics together.



STITCH CONDUCTIVE THREAD

3

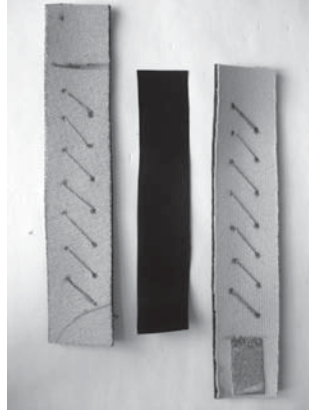
Thread the needle with conductive thread and tie a knot in one end. Stitch into the neoprene, exposing the thread in diagonal stitches as shown. Finish by stitching the thread to the conductive fabric tab (or directly to the metal snaps).



LAYER MATERIALS

4

Layer one or two pieces of Velostat between the neoprene with the conductive stitches facing each other. The conductive fabric tabs should be on opposite ends.



CLOSE SENSOR

5

Thread the needle with regular sewing thread. Holding the materials in place, stitch around the edges of the neoprene. Don't sew through the Velostat, but surround it with stitches.



ATTACH SNAPS

6

If you want to use snaps to attach the sensor to your circuit you should sew these on with conductive thread. The conductive thread must make contact between the metal snap and the conductive fabric tab.



TEST FINISHED SENSOR

7

Connect the ends of your sensor to a multimeter set to measure resistance. As you bend or pressure the layers of the sensor together the resistance should decrease. Your range should be about 2K Ohm.

