



BEAT THE HEAT & CHILL OUT with an attractive Cool Tie Scarf!

These scarves are an easy, fast project made from readily available materials. They make great gifts, school projects and give-aways. Let your imagination and creativity run wild with fabric patterns and colors!

The **AgSAP™ Water Crystals** are nontoxic polyacrylamide granules of super absorbent polymer available from M² Polymer Technologies (www.m2polymer.com). These same water crystals are used to conserve water and nurture plants in arid conditions. They are concealed in the casing of a cotton neck scarf. When the scarf is soaked in water, the crystals absorb the water, expand, and turn into a crystalline gel. The cotton fabric absorbs water from the gel, and then the water slowly evaporates for a cooling effect. Scarves stay cool and moist for hours due to the polymer's water-retaining properties and the slower evaporation rate than plain water alone.

BASICS of SCARF CONSTRUCTION

Finished cooling scarves measure approximately 1 ½ to 2" by 43 to 45" and will fit an average adult. For larger sizes, adjust the measurements given.

You can make the scarf with lightweight, single-face tie ends or more robust, double-face ties. Single-face ties require hemming, but minimal turning. Double-face ties are narrower and require more turning but no hemming, and they conceal the fabric wrong side and the back of any embellishments. You can cut the tie ends into points or curves, or create a unique shape.

We recommend tightly woven 100% cotton fabric for its water-absorbing and cooling properties. Avoid loosely woven fabrics--the gel could seep through a loose weave. Because scarves are worn wet, select colorfast fabrics so the dyes won't bleed onto clothing or skin.

The **AgSAP™ Water Crystals** are available in three sizes (**S=Small, M=Medium and L=Large**).



We recommend medium or large size crystals for best results. (The "S" size gel can sometimes bleed through fabric that is not tightly woven.)

Water quality will impact how well the crystals absorb water. Water with a high mineral content will produce less swollen crystals. Purified drinking water or distilled water will get the crystals to swell to their maximum potential. You can experiment to determine the optimal amount and type of crystals per scarf by making a sample casing.

To make a sample casing cut a 4"x15" (4"x17") piece of fabric. Fold the fabric in half lengthwise and stitch $\frac{1}{2}$ " from one short end and from the long cut edges. Pour a level teaspoon of the crystals into the open end, fold down the open end $\frac{1}{2}$ " and pin the edges.

Immerse the casing in a container of water for about 20 to 30 minutes. The casing should be plump after soaking, but not oozing. Using too many crystals or soaking too long may force the crystal gel through the fabric, making the fabric feel slimy. Adjust the crystal amount as needed but do not over fill the casing.

MATERIALS NEEDED

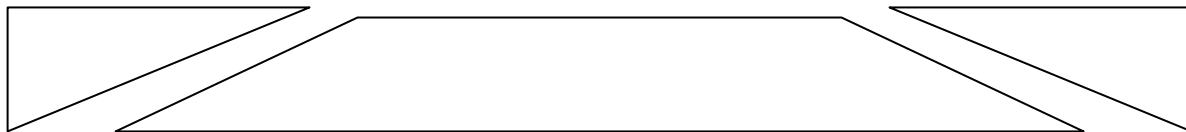
- 1/8 yard of 44 to 45" (100% cotton fabric, prewashed preferred)
- Approximately one level teaspoon of the **AgSAP™** Water Crystals **Type M** or **L**).
- Matching all-purpose thread
- Water-soluble marker
- Ruler
- Scissors
- Pins
- Sewing Machine
- French curve (optional for curved-end tie)
- Tube-Turner (also known as a "Bodkin")
- Point Turner (bamboo or plastic)

CUTTING

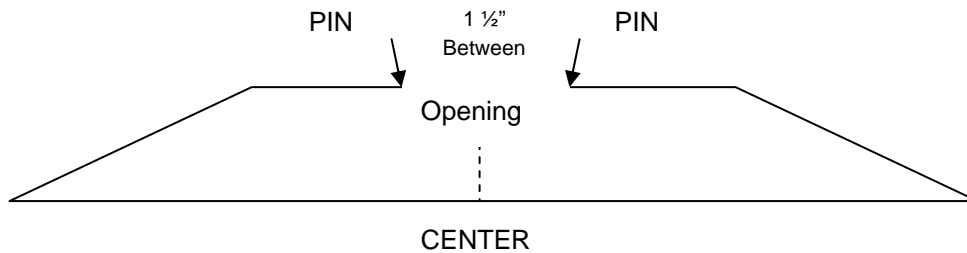
Cut a 7"x45" fabric strip for each scarf. Fold the strip in half width-wise and match the short ends. Snip-mark both long edges 7" (8") from the fold. The area between the snips will be the casing.

Note: Five Cool Ties can be cut from one 45" bolt of fabric.

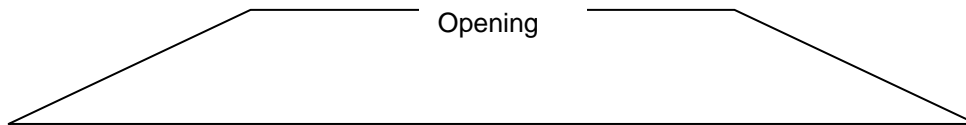
Fold fabric strip in half lengthwise, right sides together. To form pointed end, cut a 45-degree triangle from each folded end. Cut back from the fold toward the selvages.



Locate the center of the folded strip (lengthwise). Put 2 pins 1 ½ inches on each side of the center of the strip. The pins mark the area to be left open to reverse the tie. Sew from point to center on each side, with about a 5/8th inch seam allowance. Leave the area between the pins open.

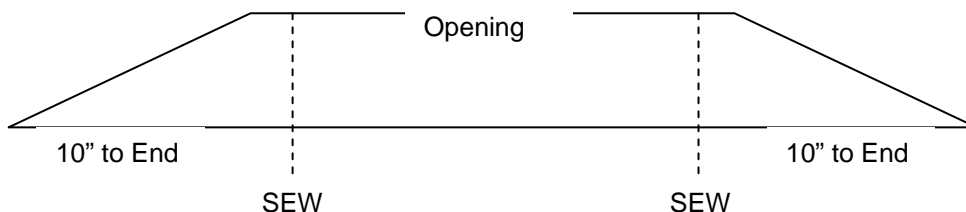


Take scissors and carefully notch seam allowance next to the tie point. Use a Point Turner to turn the tie inside out through the center opening. Press flat and sew all seams around edges – EXCEPT the center opening!



Take the Point Turner again and turn the tie right-side out now.

Measure 10 inches up from each pointed end, and mark location with a pin. On each side, sew directly across the tie from end to end, backstitching at the beginning and end of the stitching line. This stitching creates a center pocket for the polymer Water Crystals and the 10" end provide fabric ties.



Add 2 level teaspoons of *AgSAP*TM Water Crystals into center of the tie through the opening in the seam.

That's right! Just 2 teaspoons! The *AgSAP*TM Water Crystals swell nearly 200 times their size, and will completely fill the tie when wet. One pound of polymer granules will make more than 50 **cool ties!**

Stitching close to the folded edges, **sew the opening closed.**

To use, soak cool ties in water for about 45 minutes. After the granules have fully expanded, pat the tie gently with a towel to remove excess water.

Tie around your neck or head for fast cooling relief!