

# HOW TO MAKE A COOL SCARF

## What is a cool scarf for the troops?

Troops that are deployed to the Middle East often face hot temperatures of 130 degrees and higher. Troops wear them like ties around their necks, which gives them a feeling of a cool wet cloth on the back of their necks.

A cool scarf is a strip of cotton woven fabric that has been filled nontoxic polyacrylamide granules (crystals) concealed in the casing of the scarf. When the scarf is soaked in water for 15-30 minutes, the granules absorb the water, expand 400 times, and turn into a crystalline gel. The cotton fabric absorbs water from the gel, and then the water evaporates for a cooling effect. Scarves stay cool and moist for hours due to the polyacrylamide's water-retaining properties. When the scarves are allowed to dry, the gel returns to crystal form.

Cool scarves are easy to mass produce from readily available materials.

Finished cool scarves measure approximately 1 1/2"x43" and will fit an average adult.

## Getting Started

Choose tightly woven 100% cotton fabric for its wicking properties (water-absorbing and cooling). Avoid loosely woven fabrics--the gel could seep through a loose weave. Scarves are worn wet, so select colorfast fabrics so the dyes won't bleed onto clothing or skin. Look for solid colors in tan/sand color or sage green (the only colors military personnel can use).

Choose medium-size crystals for best results. Throughout the process, do not soak the scarf. It should remain clean and dry until received and put into use by the troops. You may want to make one for an experiment to see one that has been put to use.

## MATERIALS NEEDED

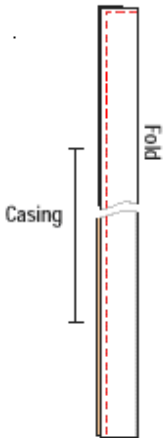
- 44/45" 100% cotton woven fabric
- Fabric needs to be solid color tan/sand color/ or sage green.
- No camouflage or muslin fabric, or embellishments please.
- Approximately 1 teaspoon of medium-size polyacrylamide crystals
- Matching all-purpose thread
- tube-turner

**Tip:** Polyacrylamide crystals are nontoxic, but they can create a fine dust. Some suggest wearing a dust mask when handling the crystals. For best results wear gloves and safety glasses, remove contact lenses, and wash hands after use.

## Cutting

Fold the fabric in half lengthwise. Cut 4 inch fabric strips for each scarf (9 @ 4" strips per yard). Fold the strip in half lengthwise, right sides together. Using a medium straight stitch, sew a 1/2" seam along the raw edges of one end and continue the entire length of the strip. You will be leaving one end open for turning and filling. Trim corners; turn and press. Fig. (1)

Figure 1



**Tube turners:** You can find different varieties of tube turners in fabric stores. However, you can make your own at home out of PVC pipe and a wood dowel. You can take a small diameter PVC pipe about 50 inches long, and a dowel that fits inside of the pipe.

After sewing the edges together, slip the pipe into the tube and stick the dowel in the closed end of the fabric. When you push the dowel through the PVC pipe, it turns the fabric around quickly. This helps with your mass-production efforts.

Press the scarf which is now turned right sides out. The entire casing should be 14". Fig. (2)

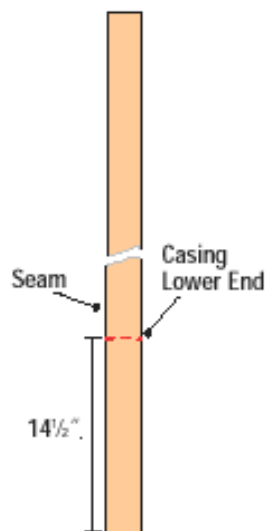


Figure (2)

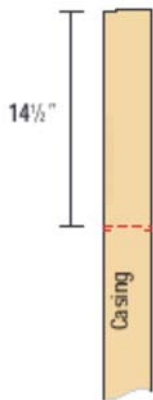
### Filling the scarf with crystals

Hold the open end of the scarf upright and use a teaspoon to insert 1 Teaspoon of crystals into the casing. You can insert a PVC pipe into the casing and pour the crystals into the PVC pipe so that they go directly to the lower end casing.

### Finish

Stitch across the scarf 14 ½" from the upper open end to close the casing to prevent crystals from leaving the casing. Be careful that you push all of the crystals to the far end of the casing so as not to stitch on top of crystals. Fig. (3)

**Figure 3**



Finish the open end by tucking the ends inside and machine stitch or hand whipstitch across the end of the scarf. You can press the end of the scarf.

### To Begin Using ...

**Soak the casing or the entire scarf** in cold water for 15 to 30 minutes, or until the crystals turn to gel; avoid over-soaking. Distribute the gel along the casing with your fingers. Tie the scarf loosely around your neck. To keep the casing cool while wearing, roll it to redistribute the gel or dip it in cold water for a few minutes.

### Cleaning

You can hand-wash crystal-filled scarves using a few drops of liquid detergent. Rinse well and hang to dry. *Don't* machine-wash or machine dry. *Don't* iron the crystals or expose them to iron temperatures.

Polyacrylamide is a super-absorbent, nontoxic polymer that was developed in the 1960s to retain water in arid soil. Polyacrylamide holds up to 400 times its weight in water--one pound of polymer can hold up to 48 gallons of rain water! Different forms of polymer are widely used in many industries and in numerous products, such as disposable diapers, hot and cold compresses, toothpaste, cosmetics and flower arrangements.

Package the scarves in a plastic bag with directions for wear and washing.

### Sources for crystal purchases

Polyacrylamide crystals are available under many brand names. Look for them in the garden section of home-improvement centers, discount department stores, nurseries, or in the candle, fragrance or flower areas in craft stores. Check packaging for granule size and to verify there are no additives.

Expect approximately 115 teaspoons per pound of medium-size granules.

For mail-order or Internet purchases, and for other project ideas:

- Watersorb/Polymers Inc., (501) 623-9995, [www.watersorb.com](http://www.watersorb.com).
- Polymer Crystals from The Artistic Shop LLC, (262) 691-1353, [www.theartisticshop.com](http://www.theartisticshop.com).
- Soil Moist from JRM Chemical Inc., (800) 962-4010, [www.soilmoist.com](http://www.soilmoist.com).
- Water Crystals from WaterCrystals.com, (719) 599-7141, [www.watercrystals.com](http://www.watercrystals.com).

### **Shipping Scarves**

When you have scarves ready to go, please contact the Cool Scarves Team Leader ([coolscarf@soldiersangels.org](mailto:coolscarf@soldiersangels.org)) for shipping addresses and information.