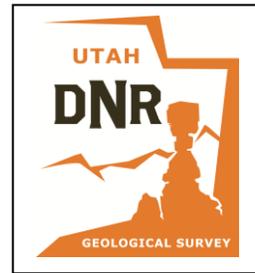


# Shade tarp parts and instructions:

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UGS Paleo's shade tarp setup at an excavation in eastern Utah. Tarps on rectangular frames with legs. Additional tarps strung from sides of frames.

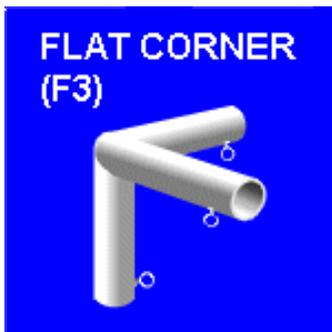
## Parts:

### 1) Shelter corner connectors

**#F3** Flat Corner 3/4" Anodized zinc coating - gold color \$6.25 each

**#FO3** Through Corner Connector 3/4" \$6.25 each (The trough corners allow for height adjustment if the leg poles are long but are prone to slipping.)

<http://www.shelters-to-go.com/flatconnectors.shtml>



Eye bolts are used to tighten the corner connectors onto the conduit. Tighten firmly but not so much that they break!



**2) EMT (electrical metal tubing) Conduit, Trade Size 3/4 Inch, Length 10 Feet, ~ \$ 10.00**



Electrical Conduit can be found at any hardware store or home improvement center. They typically come in 10 foot lengths that can be cut to length using an electric saw with a metal blade, a pipe cutter, or hacksaw. These are used to make the frame for the tarp and various lengths for the legs. We have been using 8' x 10' frames because that is a common tarp size. Square frames and tarps would make set up more straightforward.

**3) Tarps** It is critical that **only neutral colored tarps** be used so as to not impede vision on the quarry. One of the great advantages of shade tarps is the **even lighting** in provides over the work area.

**Mesh tarps** (vinyl) are durable, good in the wind, and let air through. They are more expensive and do not provide as deep shade as solid tarps. ~\$75.00 for 8'x10'

**Poly tarps** are inexpensive, provide deep shade, and are water-proof. They do not work as well in the wind and deteriorate after a few seasons of use. ~\$10.00 for 8'x10'

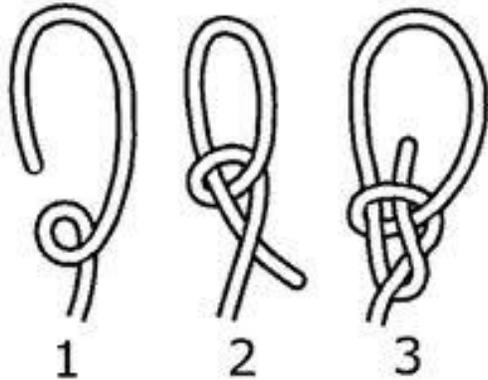


<http://www.tarpsplus.com/>

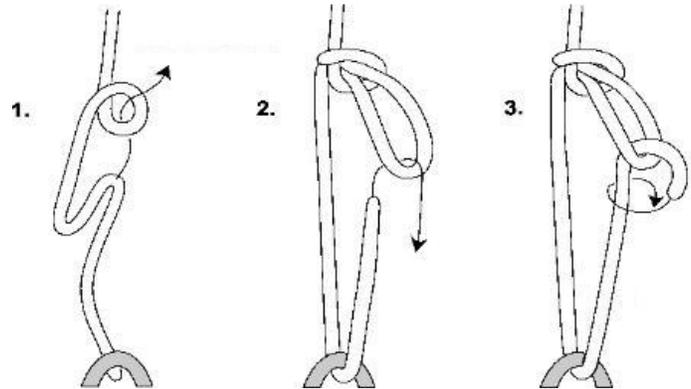
**4) Toggle balls (Bungee balls)** Used to connect the tarp to the frame by placing the bungee through the grommets of the tarp and wrapping around the conduit and slipped over the ball. These make set up quick and easy and allow for quickly removing the tarps in the event of wind and storms.



**5) Rope** Hardware store rope - cotton, nylon, or polypropylene - is used to secure the frames to keep them from moving in the wind and for stringing extra tarps off of the frames.



**Bowline**



**Trucker's hitch**

**2 useful knots** are the **bowline** for attaching the rope to the frames and the **trucker's hitch** for securing the rope to spikes or rebar pounded into the ground. Other knots can be used but these have the advantage of being easy to untie. To make the trucker's hitch easier to untie use a second slippery half hitch (1) to tie off the loop in 3.

**6) Spikes &/or Rebar** are pounded into the ground (a 5 lb. sledge hammer is useful for this) in order to tie and secure the frames from being blown over in the wind and for attaching additional tarps off of the sides of the frames.



10 or 12 inch spikes are essentially big nails and can be found at hardware and home improvement stores.



Safety caps are recommended over the end of the rebar to protect against impalement!

## Instructions:

- 1) Construct a rectangle (or square) to the size of the tarp to be used using 4 conduit poles and 4 corner connectors.
  - 2) Attach shade tarp to the frame using toggle balls.
  - 3) Place conduit pole legs of the desired size into the corner connectors.
  - 4) Move completed tarp structure to desired location (having one person for each leg is the easiest).
  - 5) Tie rope to corners of the frame using a bowline then tie down to spike or rebar using a trucker's hitch.
- Several frames can be place together to enlarge the shaded area
  - Remove tarps at the end of the work day to avoid damage by wind during the night



-Additional tarps can be strung off of the frames (lean-to style) by attaching with toggle balls along one side then using 2 conduit poles, spikes, and rope

A spike is place through the tarp grommet and into the conduit then a rope is slipped over the top and cinched down to a spike using a trucker's hitch

