



Fire Hose Mat (with no hardware option) Instructions

With permission, adapted from instructions by
Kelli Araujo – Senior Animal Care Specialist, SeaWorld San Diego

General Information

This fire hose environmental enrichment device (EED) only requires two hoses. The mat can be modified so that it will float, sink, or be neutrally buoyant in the water. The loose ends can be secured with either hardware or with stitching (see Sewing Fire Hose - Hand Nailed Technique). It can be made out of any width of hose and size is only limited by the length of hose that you have. It can also be configured differently, for example, PVC can be inserted into the hose to ensure more structural stability. The mat can be secured at the corners to an existing structure to create a soft hanging hammock, screwed on to a base to create a bed, or simply stitched at the four hose ends to create a malleable mat for the animals to play with or rest on.



Safety Concerns

- † Make the mat an appropriate size so that it cannot be folded and ingested by the animals who will have access to it.
- † Keep the weave of the mat tight enough so as not to create an entanglement hazard. To help ensure that the mat will not be an entanglement hazard if the unsecured weave is pulled on, it can be secured with stitching or hardware.
- † If using hardware to secure the loose fire hose ends, make sure that the animals who will have access to it will not chew on the hardware and break a tooth or consume the hardware.
- † As always, check with the veterinarians, curators, and superiors to ensure that the mat is approved and appropriate for your species of animal.
- † Check that the mat is a proper size so that it will not break the facility's filtration system. Thinner, malleable items could be sucked into skimmers that are loose or stuffed into the inflows of the system.

Items needed

Fire hose (ribbon is used in the photos for these instructions)
Bolts, nuts, and washers or items for sewing if hardware will not be used
Short length of rope, clamps, or zip ties to secure start point

Optional items

Pool "noodles" to insert into fire hose for floatation
PVC pipe to insert in the middle for stability
Wooden base



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STEP 1 Determine the size you want the mat to be. The larger the mat, the longer each fire hose length needs to be. Place an outline on your work surface the size that you want the mat to be (4 pieces of wood, 4 pieces of PVC, chalk or tape markings, etc.). Note that the mat will shrink when the weave is tightened.

STEP 2 Begin with 2 equal lengths of fire hose. Fold each piece of fire hose in half and mark it in the middle.

STEP 3 If adding more structure to the mat with PVC, put PVC in the hose. As a general guide, for 1.5" fire hose use 1" PVC, for 3" fire hose use 2" PVC, etc. Cut the PVC to the desired length, anticipating the width and length of the mat. For example, a 2' x 2' mat requires 2 PVC pieces approximately 20-24" long, a 3' x 3' mat requires 2 PVC pieces approximately 33-36" long, etc. Larger animals may need 2" PVC in their EEDs to keep them from breaking it. Insert the pieces of PVC into each fire hose and keep moving them until they are centered at the middle of the fire hose.

STEP 4 Position the fire hose at 90 degree angles to each other with the marked middle lines crossing. Secure the marked middle of each piece of fire hose to each other with clamps, rope, or zip ties, which will be removed later. (A paper clip was used for this ribbon example.)



STEP 5 Take one length of fire hose and weave it up and down, keeping the fire hose folds in the same direction with each turn. Keep the other fire hose length straight as shown below.

STEP 6 Continue to weave up and down until the fire hose covers the span of the size guide, adding one more to compensate for the size of the mat shrinking when it is cinched down later.





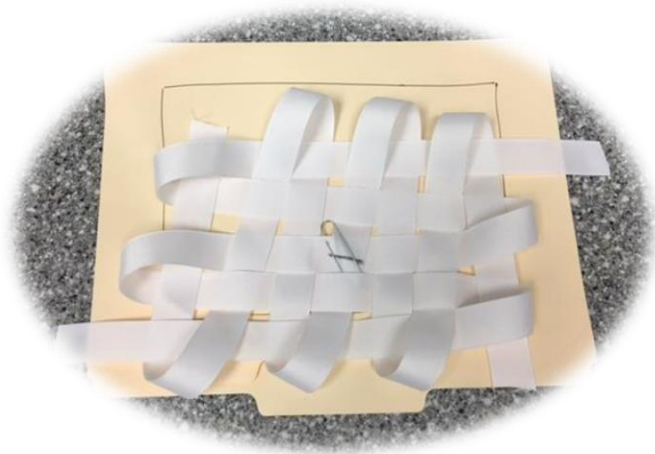
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STEP 7 Weave the other length of fire hose from right to left, over and under the up and down lengths. Keep the fire hose turns folded over so that they are smooth on the edges and there are no irregular folds. In the picture, there are 5 lengths right to left and 7 lengths up and down.

STEP 8 Continue to weave and fold until the mat is about the size of the guide or a little bigger (since it will lose size when the weave is tightened in a later step).



STEP 9 Starting from the middle, to tighten the weave, pulling extra fire hose length out to the ends.

STEP 10 Finish the mat by cutting the excess fire hose length at an angle to hide it in the weave. Then use hardware (bolts, washers, and nuts) or a fire hose sewing technique to secure the ends.