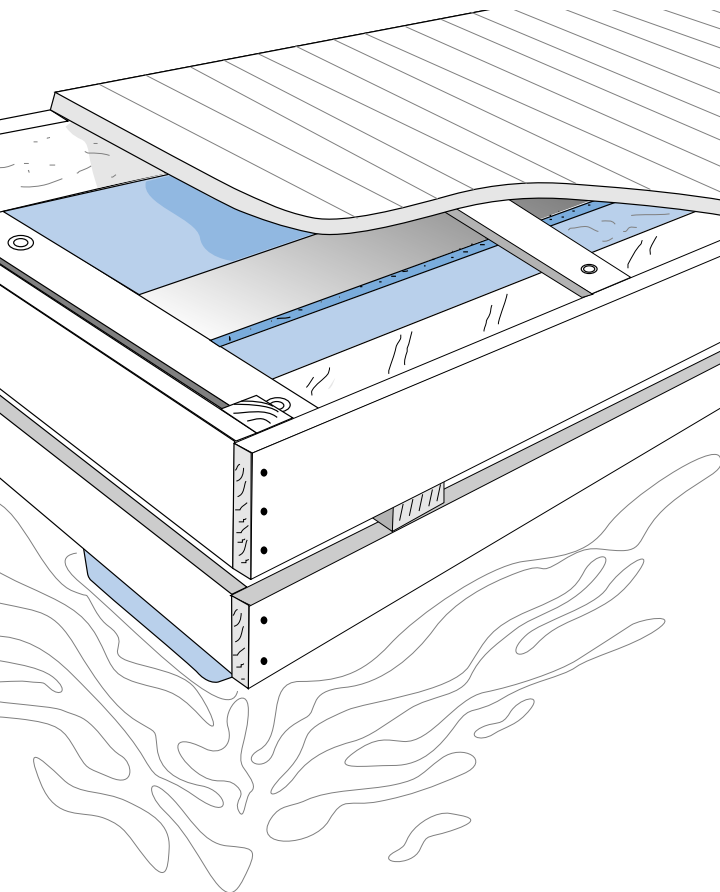


# Plans For Build-It-Yourself

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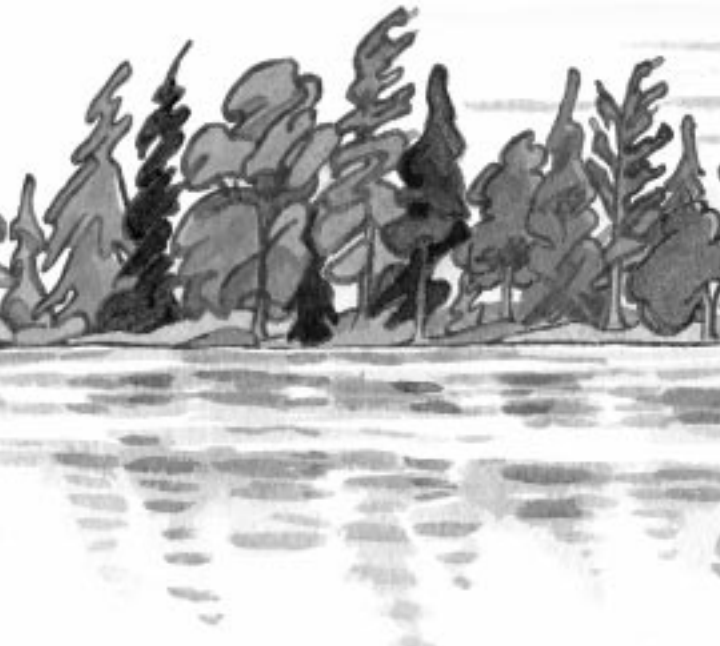
# FLOATING DOCKS, RAFTS AND BOATWELLS

With STYROFOAM\* Brand Buoyancy Billets



\*Trademark of The Dow Chemical Company

# STYROFOAM\* BRAND BEAT ANYTH



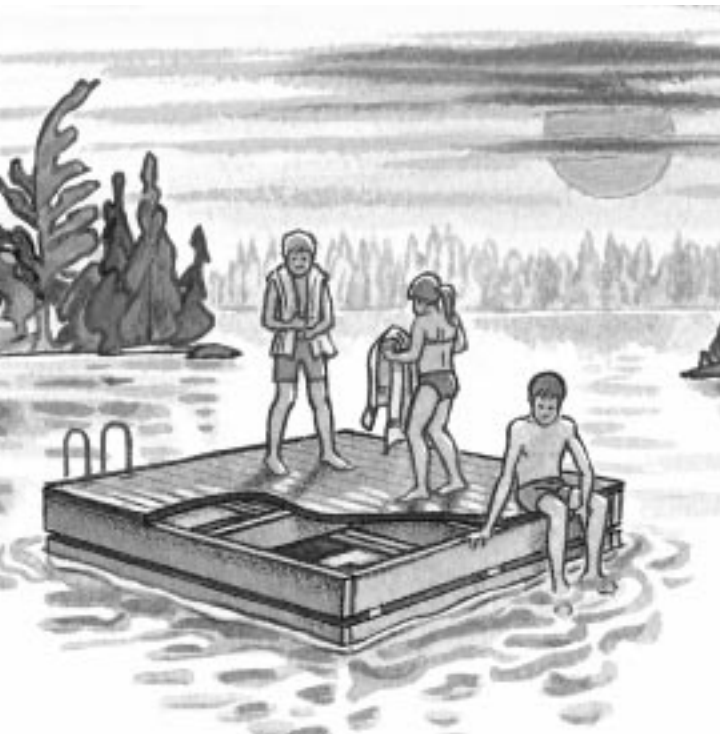
## Extremely Buoyant

STYROFOAM\* brand buoyancy billets are one of the best materials to use for floating structures such as these. This extremely buoyant, yet durable material is composed of millions of tiny non-interconnecting air cells, each serving as an independent buoyancy chamber. It takes only one cubic foot of STYROFOAM brand buoyancy billets to float 55 pounds.

## Rugged

STYROFOAM brand buoyancy billets won't lose their buoyancy, even if punctured. The light weight of STYROFOAM brand buoyancy billets reduces the racking of the wooden framework of a floating structure, and helps minimize damage from storms. Rocking, usually experienced in drum-floated structures, is greatly reduced by using STYROFOAM brand buoyancy billets – and there are no hollow drumming noises to listen to at night.

# BUOYANCY BILLETS ING AFLOAT!



## Durable

STYROFOAM brand buoyancy billets stay on the job year after year under normal conditions. They do not waterlog or corrode. They resist the attack of destructive marine growths and are unaffected by salt or fresh water. Because of their light weight, these billets are easier to handle and install, too, keeping installation costs low!

Wooden portions of your floating structure can be subject to decay and insect attack. For the protection of such portions, use only treated wood or wood naturally resistant to decay and insect attack. Treated wood should be clean, dry, and free from oil residue.

# Replacing Existing Drums

You can easily replace drums with buoyancy billets while a floating structure is still in the water.

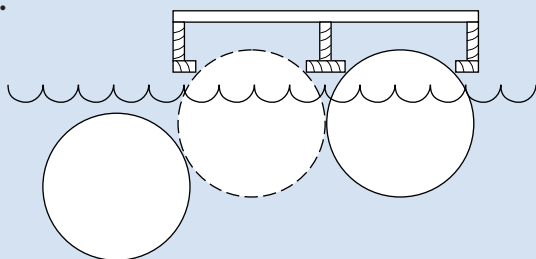
Note: one 10" x 20" x 8' STYROFOAM\* brand buoyancy billet has an average buoyancy approximately one and a half times greater than a 45 gallon drum. Locate replacement billets of foam 10 to 15% closer together if the buoyancy provided by the drums proved barely adequate.

**Table 1 – Comparative Size and Buoyancy Data**

BILLET SIZE	CUBIC FEET	APPROXIMATE WEIGHT (lbs.)	APPROXIMATE BUOYANCY (lbs.)
7" x 20" x 8'	7.7	14	425
10" x 20" x 8'	11.1	20	610
†7" x 20" x 9'	8.6	16	480
†10" x 20" x 9'	12.5	23	690
†10" x 24" x 8'	13.3	24	730
45 Gallon Drum, 18 ga.10	7.82	48.5	440

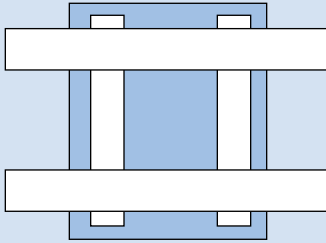
† Available in the US only.

1.



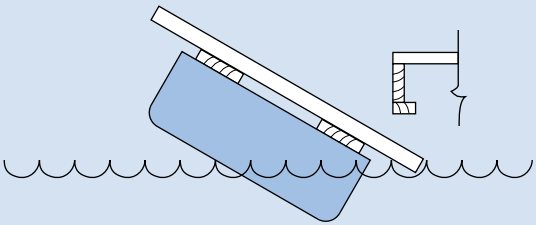
Sink and remove two drums at a time. Build a crib (2 x 8's suggested) and fasten it to the ...

2.



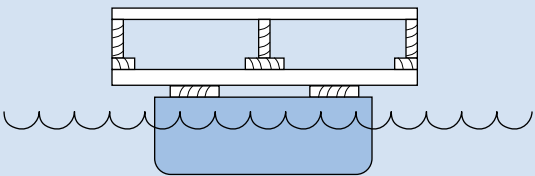
STYROFOAM\* brand buoyancy billet. Cross members should be longer than wharf is wide.

3.



Tilt crib; push under wharf using the 2 x 8's as handles.

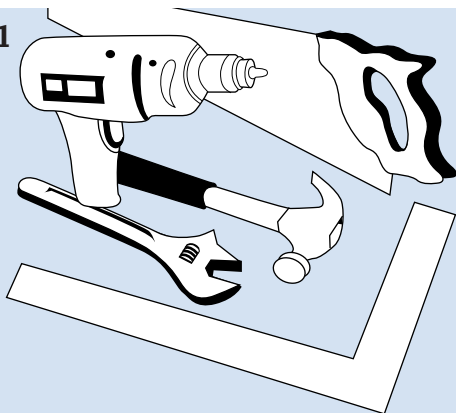
4.



Center under wharf. Secure with 16d nails. Saw off protruding 2 x 8 handles.

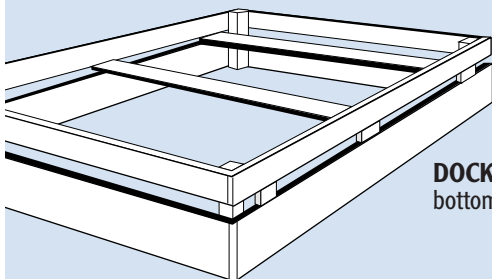
# Step by Step Construction

## Step 1



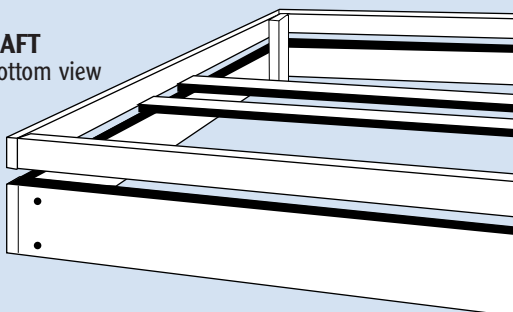
Gather the five tools shown above.

## Step 2



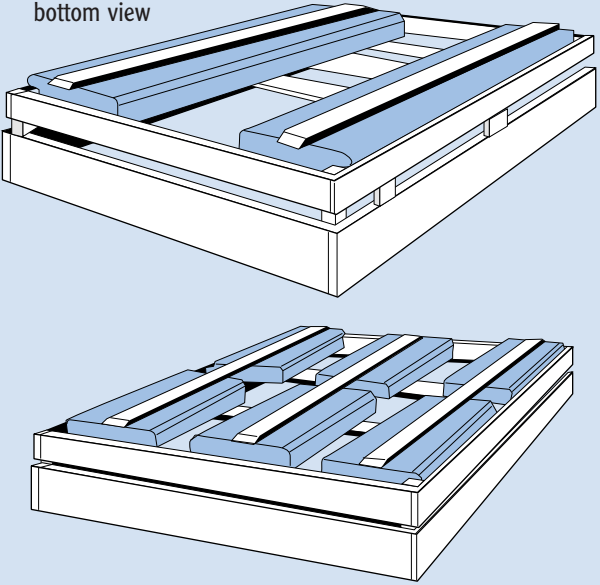
**DOCK**  
bottom view

**RAFT**  
bottom view



With frame structure upside down, nail on cross ties and “skirt” boards. Three cross ties are required for the dock, four for the raft. See assembly design for construction of the boat well.

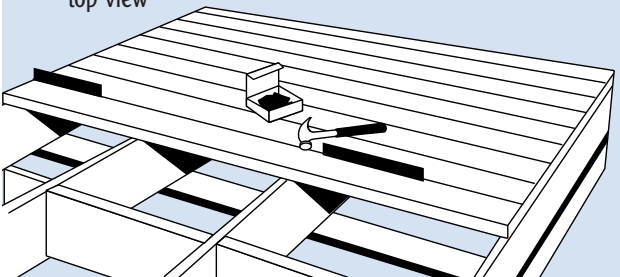
**DOCK**  
bottom view



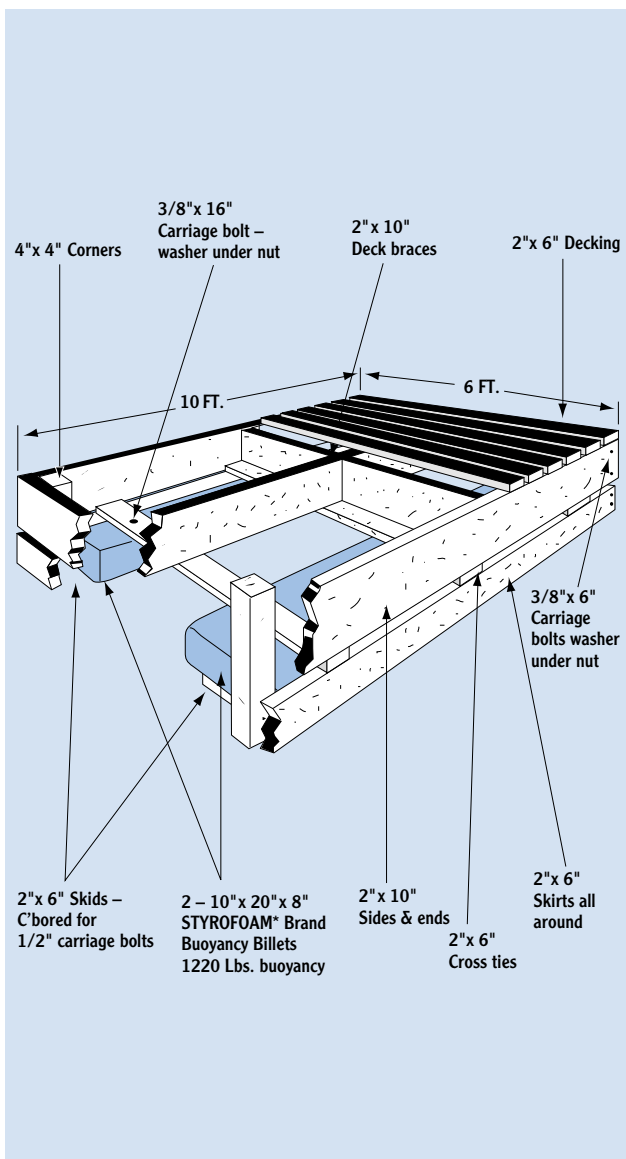
After laying STYROFOAM\* brand buoyancy billets across the cross ties, place skids on the foam; drill holes through skids and cross ties; insert bolts; reach under to apply washers and nuts.

After inverting the structure, tighten nuts to a snug fit. Install lengthwise bracing first, then cross bracing. Nail on dock boards using a piece of 1/2" plywood to space boards 1/2" apart.

**RAFT**  
top view



# Build-It-Yourself Plan For Floating Dock



† This plan is for one section of a floating dock. Additional sections can be made to increase the length of the dock to the builder's desire.

Note: 3/8" Galvanized bolts may be replaced by a threaded rod cut to the required length.



# (6' x 10')<sup>†</sup>

Table 2 – Materials for Dock

PART NAME	SIZE	QUANT. REQ.
Sides	2" x 10" x 10'	2
Ends	2" x 10" x 5'9"	2
Deck Braces	2" x 10" x 9'9"	1
Deck Braces	2" x 10" x 2'9 <sup>3</sup> / <sub>4</sub> "	2
Skirts	2" x 6" x 10'	2
Skirts	2" x 6" x 5'9"	2
Cross Ties	2" x 6" x 6'	3
Decking	2" x 6" x 6'	20
Skids	2" x 6" x 9'	2
Corners	4" x 4" x 16 <sup>1</sup> / <sub>4</sub> "	4
Bolts with Nuts	3/8" Dia. 16" Lg. Galv. Carriage	6
Bolts with Nuts	3/8" Dia. 6" Lg. Galv. Carriage	16
Nails	3 <sup>1</sup> / <sub>2</sub> " Galv.	6 lbs.
Washers	3/8" Galv.	22
STYROFOAM* brand buoyancy billets	10" x 20" x 8'	2

# Build-It-Yourself Plans For Swimming Raft

**Table 3 – Materials for Swimming Raft  
(8' X 12')**

PART NAME	SIZE	QUANT. REQ.
Sides	2" x 10" x 12'	2
Ends	2" x 10" x 7'9"	2
Deck Braces	2" x 10" x 11'9"	2
Deck Braces	2" x 10" x 2'6"	3
Skirts	2" x 6" x 12'	2
Skirts	2" x 6" x 7'9"	2
Decking	2" x 6" x 8'	24
Cross Ties	2" x 6" x 8'	4
Skids	2" x 6" x 11'2"	3
Corners	4" x 4" x 16 <sup>1</sup> / <sub>4</sub> "	4
Bolts with Nuts	3/8" Dia. 16" Lg Galv. Carriage	12
Bolts with Nuts	3/8" dia. 6" Lg Galv. Carriage	16
Nails	3 1/2" Galv.	6 lbs
Washers	3/8" Galv.	28
STYROFOAM* brand buoyancy billets	10" x 20" x 8'	3

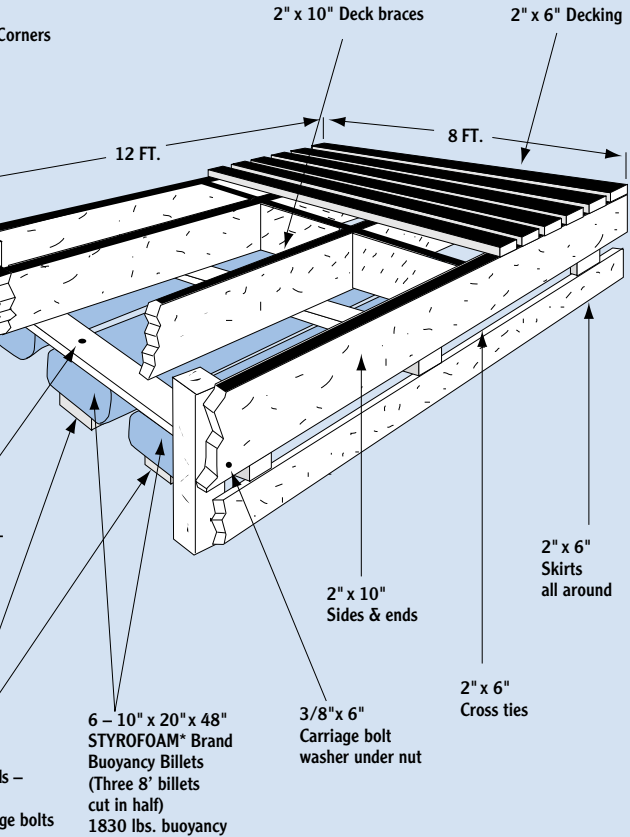
NOTE: 3/8" Galvanized Carriage bolts may be replaced by a threaded rod cut to the required length.



3/8" x 16" –  
Carriage  
bolt –  
washer  
under nut

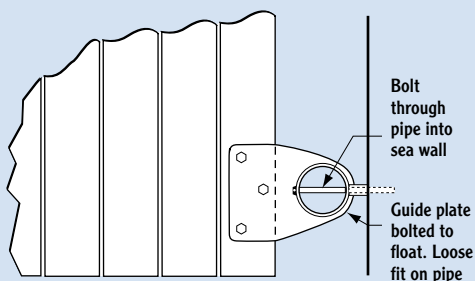
2" x 6" Skid  
C'bored for  
1/2" carriage

# (8' x 12')

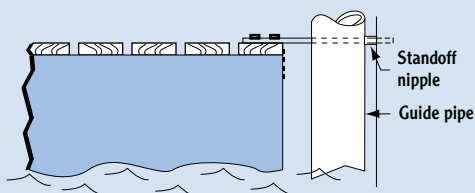


# How To Secure Floating Docks & Rafts

## Dock To Seawall For Tidal Variation

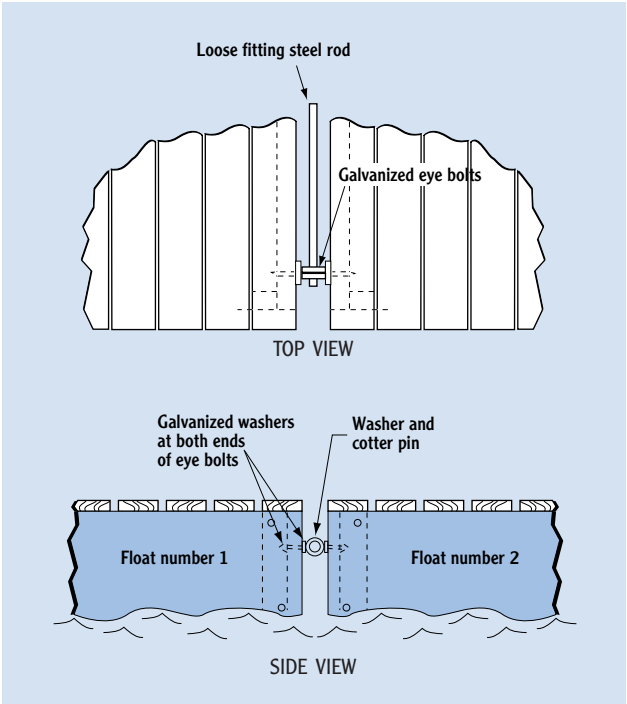


TOP VIEW

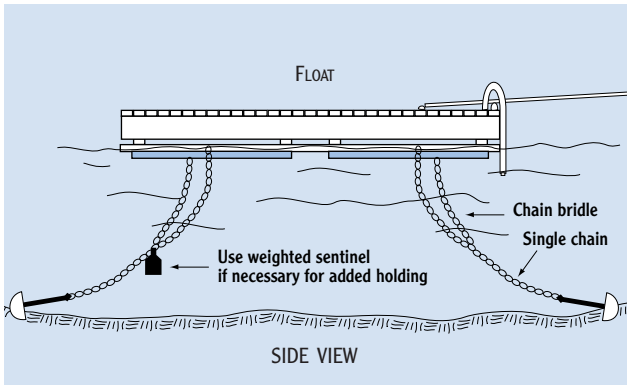


SIDE VIEW

# Dock To Dock

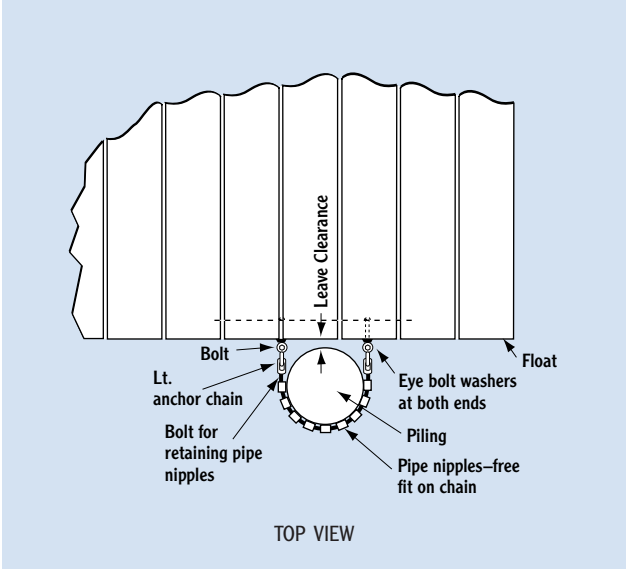


# Raft To Bottom

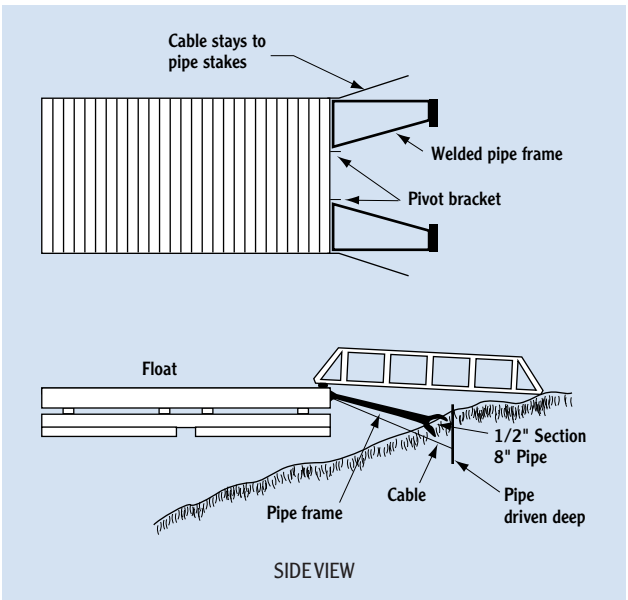


# How To Secure Floating Docks & Rafts (Continued)

## Dock to Piling for Tidal Variation



## Dock to Shoreline



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## Precautions:

STYROFOAM\* brand buoyancy billets are sold only for use in marine applications. Care should be taken not to expose material to open flame or other ignition sources.

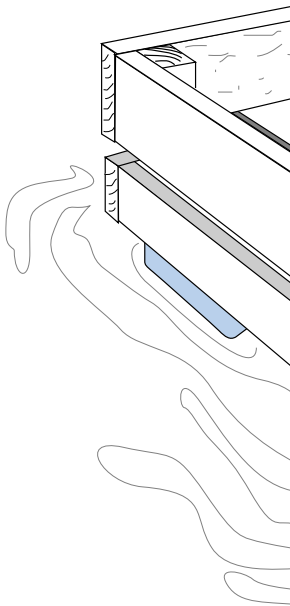
The foam is subject to attack by some chemicals including concentrated quantities of gasoline and oil. If this, or pollution by industrial waste is suspected, reaction of the foam should be checked prior to construction. Additional protection – such as epoxy coatings (solvent free) – in case of extreme pollution may be required. Compatibility of the coating to the billet should be checked prior to applying the coating. Skirt boards will protect foam from mechanical damage and ultra-violet light degradation.

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Published March, 1997.

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For more information on  
**STYROFOAM\* Brand buoyancy billets, call:**  
1-800-441-4369 in the U.S.  
1-800-363-3500 in Canada



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