

Double-Tube-Boom Set Information for handling and deployment

Content

- 1.0 Introduction**
- 2.0 Technical data**
 - 2.1 Stability**
- 3.0 General handling instructions**
 - 3.1 Deployment of the clamping system**
 - 3.2 Uncoiling from the core**
 - 3.3 Surface conditions**
 - 3.4 Countermeasures for small leaks**
 - 3.5 Re-use**
 - 3.6 Disposal**
 - 3.7 Installing tube onto the core**
- 4.0 General tactical considerations**
- 6.0 Building**
 - 6.1 Open areas (I.E. roadways)**
 - 6.2 Closed emergency container**
 - 6.3 Flood water dam**

1.0 Introduction

The Double-Tube-Boom is a multi-use piece of fire fighting equipment whose deployment environment can be summarized into four major categories:

- Oil and HazMat retention and damming
- Extinguishing water (retention and preparation)
- Container for liquids
- Flood water dam

Aside of the very diverse application environment the equipment has the additional advantage, that it can be stored in a small space on board of a fire engine or in a storage container. The plastic material (LDPE) is very durable, robust and even re-usable if certain rules are followed during its use! In all instances of deployment few people and no additional technical equipment are required.

2.0 Technical data

Each set contains the following parts:

1. 1 x 150m (app. 500ft) Double-Tube-Boom (white, red print)
2. 2 x Clamping sets complete
3. 1 x Hose reel with removable side panel for easy tube change
4. 1 x Protective cover (black), with Velcro tape
5. 1 x transport and storage bag for clamps and accessories
6. 1 x Expansion material, 10 kg (app. 25 lbs)
7. 1 x 30m (app. 100ft) training boom to preserve the main system boom.

The Double-Tube-Boom is to be used within a temperature range of -30 to +60 °C (app. -20 to +140 °F). It is to be noted that at the extreme negative temperature only half of the pliability and at the extreme high temperature only half of the stretch and tear capability can be attained.

2.1 Stability

The polyethylene foil material (LDPE) is resistant against a large number of chemicals (see separate listing on CD); in addition the material has been treated anti-statically for which a warranty of 18 months is provided.

However, as far as any data can be delivered during a deployment, it is recommended to always check the stability of the tube material in advance.

3.0 General handling instructions

For protection of the foil material it is recommended to cover the Double-Tube-Boom and the core with the included protective black UV protecting cover during storage or transport.

3.1 Deployment of the clamping system

To fasten the Double-Tube-Boom the upper portion of the clamp must be opened and the two filling inserts must be removed. The filling inserts must be inserted approx. two thirds into the two tube chambers and then pressed with the Double-Tube-Boom into the two indentations in the lower clamp portion. It is recommended to use two people for this procedure.



Place filling plugs into the boom chambers and press the plug firmly into the seats.

After the positioning of the tube the upper portion of the clamp must be placed in top and secured with the four stainless steel T-shaped screws.



Lock with upper clamp piece

The screws are to be inserted through the openings on top of the upper portion of the clamp and pushed through the clamped foil material and then tightened. Hand tightening is sufficient to give the system the required integrity.



Push locking nails through the plastic material and screw hand tight until the system is secured



Filling clamp is ready to use

The screws can now also be used as grips and thereby eliminate the need for additional tools.

3.2 Uncoiling form the hose reel

The Double-Tube-Boom should be wound off the hose reel on land by two people. The unwinding can be supported by two people holding the hose reel with one hand each, while using the other hand to assist the unwinding process as they walk away from the boom.



Unroll the Double Tube Boom to its intended length

3.3 Surface conditions

All surfaces which are contacted during the assembly and uncoiling of the Double-Tube-Boom should be level and clean. The deployment on brush growth or gravel should be avoided.



The use on land

Put end clamp in position; lock (refer to steps 1 – 4)
Close Storz couplings with end caps and fill up the boom with water to its intended height. Fill both chambers at the same time in a consistent way.

3.4 Countermeasures for small leaks

Small holes may be covered with a strong tape and/or weighed down with sand bags.

3.5 Re-use

Undamaged Double-Tube-Boom material, which is not contaminated, may be re-used for another deployment. Vacuum and/or remaining air must be removed from the system as much as possible. The following hint helps:

Vacuum may be removed by blowing air from a fan or pump, which can be removed when rolling up the Double-Tube-Boom. Remaining water can be removed by lifting the hose of the ground. Water will not damage the Double-Tube-Boom. The Double-Tube-Boom should be as dry as possible. Substances which are hazardous or react with water may not be filled into used Double-Tube-Booms.

3.6 Disposal

Contaminated Double-Tube-Boom material is to be disposed in accordance to the disposal regulations of the responsible authorities. Uncontaminated Double-Tube-Boom material can be recycled or disposed of through the normal garbage system.

3.7 Installing tube onto the hose reel

The Double-Tube-Boom comes wound onto a plastic core from the factory. This core is installed onto the reel. To avoid damage to the edge of the Double-Tube-Boom it is recommended never to place the core with the tube vertically. It has proven useful to insert the reel into the core of the required Double-Tube-Boom.

4.0 General tactical considerations

A change of Double-Tube-Boom is only to be done on a clean surface or area. When the Double-Tube-Boom is being filled its position must not be changed. Damage can result.

6.1.1 Lifting of the filled boom

Lifting of the filled Double-Tube-Boom is not possible. A different method has to be used for moving: Carefully lift the Double-Tube-Boom, so water may escape and it is empty at the desired spot. Then position the Double-Tube-Boom at the desired location.

6.1.2 Drive-over load (of the filled Double-Tube-Boom)

A deployed and filled Double-Tube-Boom can be driven over or onto under certain emergency situations by observing the following cautions: Aside of the fact that the terrain conditions must be carefully monitored, it is to be ascertained that neither upper nor lower portion of the Double-Tube-Boom is filled too far, to allow the displaced medium (water, air, etc), to move to the side without rupturing the system. Therefore the system may only be driven onto very slowly. Also watch for hot exhaust pipes, etc. which may melt the material.

Observe sufficient ground clearance.

Low hanging chains, snow chains may damage the system as well.

6.1.5 Emptying of the system

Extinguishing water / flood water barrier:

If the Double-Tube-Boom is only filled with water, the clamps have to be opened. First let the water drain out, then lift the tube, which will remove the rest water. Clean the Double-Tube-Boom and replace onto the core.

Container

If the Double-Tube-Boom has been used as a depository for contaminated liquid, then the first step must be the removal of that liquid. To achieve this the lowest placed coupling is to be connected to a pumping device and the liquid should be removed into a proper container until the level has reached the coupling. The remainder can be removed by lifting the tube. The contaminated tube must be disposed according to the relevant instructions from the local authority.

6.2 Building

Deploy the Double-Tube-Boom within a safe distance from the building, while observing proper precautions (debris etc.). The clamps should be placed at the highest points. If less than the complete length of the Double-Tube-Boom is required, the remaining portion should be left on the reel. This way the reel may also serve as an end seal. The reel must be protected against rolling away.

Alternately both ends of the tube may be crossed. The overhang at each end must be at least 10 feet from the tube crossings. If necessary the entire building can be dammed. Depending on the location the Double-Tube-Boom system may be placed in a U-shape. The height differential is to be observed (see chapter 6.1.2).

Both chambers should be filled with water simultaneously. Do not attempt to move filled tube. Terrain variations (train tracks, curbs, roadways) should be treated with expansion product (see chapter 6.1.1), dirt or other suitable material. Sewage drains which are at or near the dammed area must also be protected with proper equipment. The dammed area must be inspected for potential soil intrusion.

The maximum height of the retained liquid is 300mm (app. 1ft.). The chambers of the Double-Tube-Boom need not be filled completely to attain this height. As a rule the top of the Double-Tube-Boom should be 1 inch higher than the liquid level. Excess volume may be removed by plumbing. Liquid may also be pumped into the tube chambers.

Flammable liquids should first be covered with sufficient amounts of foam.

The retained liquid must only be disposed with the permission of the responsible local authority.

Empty the Double-Tube-Boom and prepare for re-use. (See chapter 3.4) or dispose of (see chapter 3.5)

6.3 Open areas (i.e. roadways)

Example:

Leak from a truck loaded with a hazardous, flammable liquid. The basic tactical rules in dealing with hazardous goods are to be strictly adhered to at the place of the accident (i.e. proper or triple fire protection measures).

Deployment of the Double-Tube-Boom at a safe distance from the accident location. Consider the approaches for emergency crews to the accident location (see chapter 6.1.4).

The clamps should be placed at the highest points. If less than the complete length of the Double-Tube-Boom is required, the remaining portion should be left on the reel. This way the reel may also serve as an end seal. The reel must be protected against rolling-away.

Alternately both ends of the tube may be crossed. The overhang at each end must be at least 10 feet from the tube crossings. If necessary the entire building can be dammed. Depending on the location the Double-Tube-Boom system may be placed in a U-shape. The height differential is to be observed.

Both chambers should be filled with water simultaneously. Do not attempt to move filled tube. Terrain variations (train tracks, curbs, roadways) should be treated with expansion product (see chapter 6.1.1), dirt or other suitable material. Sewage drains which are at or near the dammed area must also be protected with proper equipment. The dammed area must be inspected for potential soil intrusion.

The maximum height of the retained liquid is 300mm (app. 1ft.). The chambers of the Double-Tube-Boom need not be filled completely to attain this height. As a rule the top of the Double-Tube-Boom should be 1 inch higher than the liquid level. Excess volume may be removed by plumbing. Liquid may also be pumped into the tube chambers.

Heated surfaces (from the sun) should be cooled with water within the area of the deployed Double-Tube-Boom. Any hazardous liquid will float to the top of the water if it is not mixable with water. Possible leaks under the Double-Tube-Boom will therefore only consist of water. Always cover flammable liquids with foam. Do not cover with gel products. If necessary renew foam cover.

The retained liquid must only be disposed with the permission of the responsible local authority.

Empty the Double-Tube-Boom and prepare for re-use (see chapter 3.4) or dispose of (see chapter 3.5).

6.4 Closed emergency container

The Double-Tube-Boom system is designed for short term emergency storage use of chemicals. The condition of the tube and the Storz couplings must be checked (see chapter 2.1) first. Eventually proper couplings must be installed. For planned activities different couplings with proper specifications maybe inserted into the clamps.

Deploy Double-Tube-Boom in ground depressions with proper terrain conditions or on a flatbed truck (observe maximum gross weight). Only use equipment with proper material resistance.

Prior to and during the transfer and emptying the damaged container must be aerated. Leakages may be plugged temporarily with foil or sandbags. All rules for dealing with explosive or flammable liquids must be observed. Avoid great fall heights and high pump pressures while filling the Double-Tube-Boom. For aggressive and/or reactive (with water) substances DO NOT use a previously used Double-Tube-Boom system.

Vapor creating or pressure generating chemicals can lead to the bursting of the Double-Tube-Boom. Proper pressure relief is to be provided. The filled system must be checked regularly.

Empty the Double-Tube-Boom and prepare for re-use (see chapter 3.4) or dispose of (see chapter 3.5).

6.5 Flood water dam

The Double-Tube-Boom system can be used for damming flood water up to 300 (app. 1ft) if the water level rises slowly.

For flood protection of curbs or terrain differentials a generous amount of extra tube must be planned during deployment to assure later correct damming and retention. Small ground variation should be treated with expansion product (see chapter 6.1.1).