



Water against Water



QUALITY IS REMEMBERED LONG AFTER PRICE IS FORGOTTEN...

www.internationalfloodcontrol.com | www.usfloodcontrol.com

THE TIGER DAM™ SYSTEM

Due to an ever increasing demand for an innovative alternative to sandbags, U.S. Flood Control Corp. developed a simple rapid deployment system designed to act as a temporary emergency diversion dam suitable for use in a wide variety of situations.

The Tiger Dam™ is the only engineered flood control solution on the market. The Tiger Dam™ is the ONLY system that is patented to join together to form a dam of any length and is the ONLY system that is stackable, from 19" to 32' in height. The Tiger Dam™ can be filled in minutes, with minimal man power and no heavy equipment. The Tiger Dam™ System is a UV rated re-usable system that leaves NO environmental foot print behind.

The Tiger Dam™ is used to create temporary dykes, protect critical infrastructure, divert river flow, keep roads open and protect essential utilities.....among a host of other applications. The rapid deployment system is both labor and energy efficient as well as environmentally friendly when compared to sandbags.

Thanks to applying the principle "water against water", it is no longer necessary to build sandbag dams. The Tiger Dam™ can be a great help for all rescue units as they may be deployed on all types of ground, in unlimited lengths and heights, and they may be shaped according to the landscape. Adopting the system and its consequential integration into the existing flood protection may significantly improve the effectiveness of the work of the rescue units and thus minimize casualties as well as damage to properties.



You will find, as have other Emergency Managers that the Tiger Dam™ of any size will be a valuable tool to your teams flood fighting efforts and as part of your long term mitigation planning. In all Government and independent engineering tests, when anchored with our patented anchoring system, the Tiger Dam™ proved to be the most stable product in the flood control business. As such, the Tiger Dam™ is used by more Governments and Emergency Managers around the world than all other flood products combined!



The Standard Emergency Response Trailers (S.E.R.T.) are also a key product we have available for mobilized rapid deployment. The 7' x 16' trailer comes stocked with 3000' ft of Tiger Dam™ tubes, and ALL the latest equipment (generators, pumps, hoses, anchors, straps, valve connections etc.) and technology to deploy the Tiger Dam™ in any emergency. Each unit is outfitted with waterproof rhino liners and non spark stay dry shelves to house and organize your tools and equipment safely. The company's Standard Emergency Response Trailers (S.E.R.T.) are a completely self sufficient and the most effective way to respond directly to a disaster site.



THE TIGER DAM™ SYSTEM

The Tiger Dam

The weight of one tube is 60 lbs. when empty and the tube may be filled within 90 seconds. When filled with water, one tube weighs about three tons.

The stability of the Tiger Dam™ System is provided by its weight. The Tiger Dam™ may be deployed upon any surface and shaped as needed. The tubes are tied together by polyester straps and anchored to the ground by anchor screws to withstand the horizontal pressure of water.

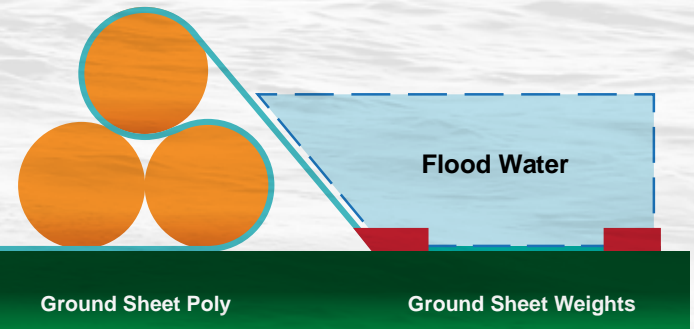
As shown in the image below, it is possible to weave a poly through the dam to prevent ground seepage.

Once the flood has recessed, simply empty the tubes, roll them up and store them in a suitable place where they are ready for the next deployment. The life of the system, if properly maintained and the maximum UV level is taken into consideration, is 17 years. The products life span may even be extended if not excessively exposed to direct sunlight.

The Tiger Dam™ is also easy-to-repair. Temporarily, they may be repaired using adhesive tape; permanent repairs are done using adhesive patches..

A Generalized Cross-section of the Tiger Dam™ System with respect to the Flood Water

The vapor barrier will help minimize ground seepage.



TECHNICAL SPECIFICATIONS

Tiger Dam Tubes

Standard tubes are 19" in diameter and 50' long, made from patented fabric welded along the full length and at the ends. Two plastic fittings are installed in the tube wall – a black fill fitting and a yellow vent and drain fitting. The standard weight of an empty tube is 60 lbs. When filled with water, the tube will be slightly heavier than the water itself.

Sleeves

To interconnect the tubes, 4' long sleeves open at both ends are used. They are made from the same material and have the same diameter as the tubes. In these sleeves the drained, dried and rolled up tubes are stored, which further simplifies the handling.

Filling and Draining Hoses

When filling the Tiger Dam™ from a hydrant, standard fire hoses attach to the fill valve through an adapter and a ball valve. Filling the tubes from other sources requires using a pump and a suction hose (the green hose in the picture on the right) with a strainer basket.

Polyethylene Sheet

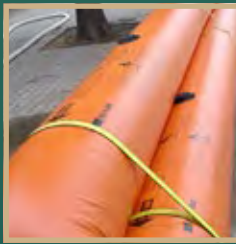
Weaving the polyethylene sheet through the barrier helps prevent ground seepage. Even without it, the barrier provides effective flood protection.

Tie Straps

To secure the dam, 2" wide nylon webbing straps are used to tie the tubes together.

Anchors and Chocks

Plastic chocks are used to provide the maximum stability of the flood protection levee, especially if the ground is sloped. They are also helpful when building multilayered levees as they prevent the dam from sliding while being filled with water. Another part of the system is special anchoring screws, made from various materials to suit various types of ground soil to which the levees are anchored.



Tiger Dam Tubes



Sleeves



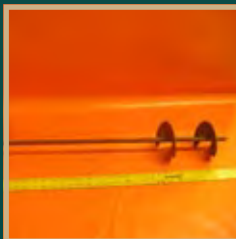
Filling and Draining Hoses



Polyethylene Sheet



Tie Straps



Anchors and Chocks



Fill and Drain Set

A standard fill and drain kit consists of a gas pump, a ball valve for hydrants, fill and drain hoses, a strainer basket, an adapter and a CAMLOCK adapter. All components are optional and are sold individually according to the customer's wish.



Product Testing

The engineered testing of the system was done by the Intertek Testing Services in their Ocean Engineering Test Centre at the University of British Columbia, Canada.

According to the test results, the system exceeded the required parameters and gave a great performance in various situations.

During the testing, the TIGER DAM™ SYSTEM worked flawlessly and never failed.

- The system underwent a wave test staying entirely stable.
- The system was also subjected to a burst pressure test, withstanding the internal pressure of 1.2 kg/m². At normal conditions, the system works at 0.14kg/m².
- The system succeeded also in a puncture test complying with or exceeding oil ISO standards.
- The system is made of patented fabric properly coated with polyester. This material demonstrates high resistance to a number of chemicals and UV radiation.
- The system uses 2" check valves with a bayonet joint.
- The tie straps are 2" wide and made from heavy duty polyester of the tensile strength of 4.5 tons.

Comparing the flood control barriers of Tiger Dam to sandbags when building 150 meters of flood protection

HEIGHT	0.45m	0.85m	1.25m
Number of Tiger Dam Tubes	10	30	60
Time necessary for one person	4 hours	8 hours	12 hours
Number of Sandbags (20kg per bag)	5,000	9,500	14,500
Time necessary for one person	140 hours	265 hours	390 hours

Advantages of the Tiger Dam™ compared to sandbags

- One 50' long and 19" high can replace 500 sandbags at comparable purchase cost
- Filling one tube takes 90 seconds using hydrant and 3 minutes using a standard pump.
- Building a flood protection barrier using the Tiger Dam™ is at least 30 times faster than using sandbags with a smaller working capacity demand.
- The Tiger Dam™ is resistant to UV radiation and can be customized to resist most chemicals.
- The Tiger Dam™ is reusable, environmentally-friendly and negate extra costs associated with contaminated waste disposal.
- The Tiger Dam™ is easy to clean and maintain.
- The Tiger Dam™ does not pollute ground water or burden dump sites.
- The Tiger Dam™ has multiple uses – flood protection, environmental accident/ chemical leakage response, well protection, water retention system for irrigation, potable water storage, as well as fire extinguishing water storage for disposal.
- Permanent concrete solution – filled with concrete, Tiger Dam™ forms a firm flood protection dam.
- Easy transportation, one empty tube may be folded into a package of 1' x 3'.

Variants for flood protection configurations using 100 lineal feet:

- Dam length **100 feet long**
Protective height **1.6 feet**



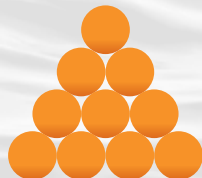
- Dam length **100 feet long**
Protective height **3 feet**



- Dam length **100 feet long**
Protective height **3.8 feet**



- Dam length **100 feet long**
Protective height **5 feet**



The vast majority of flood damage is caused by water up to 3'. The Tiger Dam™ System can, if necessary, provide protection against higher levels. The picture shows a dam 5 feet high.

WAYS OF APPLICATION

Various other uses for Tiger Dam™

In case of hazardous organic materials, sewage or liquid chemical leakage, Tiger Dam™ may be capable of preventing their further spread. One 50' long tube, which weighs only 60 lbs. when empty, is ready to deploy within 90 seconds. Immediately, it may be filled with up to 3 tons of chemicals or other liquid wastes. It is as simple as pumping the liquid, sand or debris into the tube using a 2" pump. The tube then becomes an air-tight container. The dangerous material may then be pumped to a special truck from the tube and disposed of according to environmental legislation.



Permanent Flood Protection Dams

As an alternative, Tiger Dam™ may be easily filled with concrete, providing a permanent flood protection dam that can be covered with soil and plants to organically fit into the environment without complicated construction preparations. For semi permanent project using concrete as a fill, can after the project, be recycled and used for aggregate.

Telephone, Fiber Optics, Hydro Dams and Utilities

The Tiger Dam™ can replace the use of sandbags and crews needed to build and man the sandbag walls for protection of the utility building equipment in times of flood.

Private Property Protection

Prior to the expected flood onset, property owners may quickly and effectively protect their property by placing this flexible barrier strategically around their house. This helps to substantially eliminate flood damage.

Sewage System Protection

Many cities still use the combined sewage system for sewage and rainwater. In times of heavy rainfalls the system is not able to cope with such a load and the sewage then flows directly into the river without going through any water treatment facility. A well built dam is capable of retaining a large amount of liquid and minimizing the volume of sewage escaping to the river.

Potable Water Provision

Sometimes floods may cause damage to the water-supply system and consequently stop potable water supplies for the households. Tiger Dam™ can be filled with water to provide a temporary potable water supply.

Irrigation Systems

The Tiger Dam™ System may also be used to transport or divert river water, similar to an irrigation channel. The Tiger Dam™ System is capable of connecting rivers with agricultural areas and can significantly decrease the costs of building irrigation channels used only in times of low rainfall.

Chemical/Hazmat

Tiger Dam™ can be used to help prevent leaked chemicals from spreading. They are a much cheaper alternative to various ground works and protective casings that are generally used for these purposes.

Refineries

- Protect refineries from potentially threatening flood water
- Used as storage tanks for the chemical spills
- Easily transported for safe disposal



Hazmat Containment

- Contains spills
- Easily moved
- Change size, dimension or direction halfway through a project
- Less expensive than permanent earthen berms
- Cost savings will be enormous
- Currently protects refineries, chemical plants, tank farms and critical industrial infrastructure
- Customers using the system includes: nuclear power plants, The U.S. Strategic Petroleum Reserve, Exxon Mobil and Conoco Phillips

Homeland Security

The Tiger Dam™ can be used to contain spilled bio-hazardous materials, wastewater and terrorist intended chemical liquids.

WAYS OF APPLICATION



Golf Courses

The Tiger Dam™ is used by golf courses to divert rivers or other water bodies.

Retention

A critical element in any action plan is the ability to control, divert and contain water to certain areas and to have the ability to respond in a rapid, flexible fashion during an emergency. Tiger Dam™ is the rapid and flexible product that can be an effective tool able to assist with water conservation during periods of drought. The dams can be set up to store water inside the dam structure as well as storage of water inside the contours of the dam itself.

Engineering measures differ with location, slope of land, soil type and amount and intensity of rainfall.

Tiger Dam™ has the flexibility and is engineered to be placed on almost any surface of land with the ability to assist with erosion control, water retention and detention as well as windbreaks and shelterbelts.

Footbridges

The Tiger Dam™ System offers an inexpensive and environmentally friendly solution to diverting part of a river course for repairing a footbridge

Road Construction

The Tiger Dam™ System offers an inexpensive and environmentally friendly solution to diverting part of a river course for repairing a footbridge.





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