



THE FIRST LINE OF DEFENCE



CONTROL THE DAMAGE

**26x
FASTER**
to build

CHEMICAL
RESISTANT

UV RESISTANT

**L SAVES
TIME**
to respond to
an emergency

**FLOOD
CONTROL**
TIGER DAM™ SYSTEM



GET PREPARED

USE THE WORLD'S #1 FLUID PROTECTION PRODUCT.

Tiger Dam™ is completely reusable, and is the ONLY system patented to connect together to create an impervious barrier for miles, in any shape (circles, 90 degrees turns etc.) and is the ONLY system that is stackable, from .45m to 10m high.

Tiger Dams™ are 1/2 the price of sandbags on their first use. Each dam replaces approx. 500 sandbags. Tiger Dams™ protect our environment with no environmental damage.

Tiger Dams are water filled bladder technology, when deployed properly, this system may be able to divert up to 100% of floodwaters. Our System can be assembled within minutes using floodwaters or any water source.

Tiger Dams fill in as little as 90 seconds, with minimal man power and no heavy equipment. Each tube weighs 27 kg dry and 2860 kg when filled with water.

They roll up for easy storage after each deployment.

The Tiger Dam™ system is unique, affordable and effective. The pyramid shaped structure forms a barrier to create temporary dykes, protect critical infrastructure, divert river flow, keep roads open and protect essential utilities....among a host of other applications.

Our patented Tiger Dam™ System is the only thing you may need for any future flooding problems.



OUR TESTING FACILITY

TIGER DAMS VS SANDBAGS

COMPARISON FOR 150 metres

1  = 500 sandbags

.45m
PROTECTION HEIGHT
10 Tiger Dams
4HRS ONE PERSON
BUILD-UP TIME
VS
Equivalent to 5,000
sandbags
125 HRS ONE PERSON
BUILD-UP TIME

.85m
PROTECTION HEIGHT
30 Tiger Dams
8HRS ONE PERSON
BUILD-UP TIME
VS
Equivalent to 15,000
sandbags
350 HRS ONE PERSON
BUILD-UP TIME

1.2m
PROTECTION HEIGHT
60 Tiger Dams
12HRS ONE PERSON
BUILD-UP TIME
VS
Equivalent to 30,000
sandbags
800 HRS ONE PERSON
BUILD-UP TIME



CHEMICAL
RESISTANT

**26X
FASTER
to build**



UV RESISTANT



TIGER DAM BENEFITS SUMMARY

One Tiger Dam replaces 500 sandbags.

After using the Tiger Dam once the costs will be amortized compared with normal sandbags.

At least 26 times faster to build than a sandbag dam.

Less transport capacity needed.

Less environmental pollution by multiple usage.

Less storage costs.

UV resistant.

Chemical resistant.

More efficient use of manpower.

Usable without preparation, no filling bags with sand.

Flexible in applications, e.g. for property protection or fresh water reservoir.



SAVES TIME
to respond to
an emergency





HISTORY AND DEVELOPMENT



Due to an ever increasing demand for an innovative, feasible alternative to sandbags, International Flood Control Corp. developed a simple rapid deployment system designed to act as a temporary emergency Tiger Dam™ suitable for use in a wide variety of situations. Designed over 10 years with contributions globally from Emergency Management, First Responders, Public Works Council Departments.

Soaring fuel costs to operate dump trucks, loaders, conveyer belts, and sandbag machines, coupled with the lack of labor during critical notice of the accident or impending disaster, our rapid deployment system is both labor and energy efficient as well as much more environmentally friendly when compared to sandbags.

The problem of flooding is wide spread and its effects are catastrophic when left unchecked.

Property damage may be mitigated and lives may be saved by implementing a proactive strategy to deal with floods.

A critical element in any action plan is the ability to control, divert, and contain flood waters to certain areas and to have the ability to respond in a rapid, flexible fashion during an emergency, especially when resources are stretched to the limit.

Our inflatable Tiger Dam™ system may be able to meet the needs of emergency response personnel and integrates with existing systems to allow the response teams a greater opportunity to control the flood and mitigate damage.



Low labor and quick filling time minimizes people's time on the front lines who may be in harms way. Plus no heavy sandbags to lift will MINIMIZE Employee Health claims.

Environmentally friendly so it leaves no foot print and can be filled with the flood water (fresh or salt).



DESIGN FEATURES

The system has been designed to be rugged, stable and adaptable to a wide variety of situations and climates. The product was originally designed for ice flow in rivers, making it a very durable product.

It is comprised of a series of engineered, interlocking Tiger Dam's™ that when filled with water form a (temporary) diversion Tiger Dam™.

Can be configured in a wide variety of shapes and sizes ranging from a few feet in length to a few miles in length and from 1m to 10m high.

Modular and simple to use (like building blocks). The universal components are easily connected and can be stacked. This avoids wasting valuable time and resources keeping people out of harms way with the most precious commodity during a storm - TIME.

With speed as a critical component in building an emergency barrier, the system was designed to be deployed rapidly. Depending on the method of filling, a standard tube (.45m x 15m long) can be filled in as little as 90 seconds.

Each component (tube weighs approx. 27 kg empty) can be handled by one or two people, thus eliminating the need for heavy equipment. When full of water it weighs over 2860 kg, (2.8 tons) to help ensure Tiger Dam™ stability.



Can form 90 degree angles.



After the flood the equipment is simply drained, cleaned and rolled up for future use.

Can be temporarily repaired with duct tape or permanently repaired with an adhesive patch.



ENGINEERING

The system has been independently assessed for function and safety by a leading certified engineering laboratory.

Research and development was conducted at the University of British Columbia's Ocean Engineering Test Center (Oceanic Institute).

Test results showed that the system exceeded its design criteria and performed well under a wide variety of situations.

During the test, the Tiger Dam™ can be topped without failure.

The system was stable when subjected to wave action.

Burst test demonstrated a maximum internal pressure of 17 pounds per square inch. The system typically operates at 2 pounds per square inch.

Puncture tests met or exceed all applicable ISO standards.

The proprietary fabric is resistant to a wide range of chemicals and is UV stable.

The valves are 2 inch check valves with a bayonet style connector (that fit normal Australasian pumping equipment).

The standard connecting straps are 5cm polyester with approximately ten thousand pound tensile strength.





POTENTIAL PRODUCT APPLICATIONS

- HAZARDOUS SPILLS
- RETENTION PONDS - URBAN AREAS
- RETENTION PONDS RURAL AREAS
- TELEPHONE, FIBER OPTICS, HYDRO DAMS AND UTILITIES
- CHEMICAL / HAZMAT
- CONTAINMENT FOR SEWAGE
- GOLF COURSES
- PERSONAL PROPERTY
- ROADWAYS
- RIVER CROSSINGS
- BRIDGE REPAIR
- WATER STORAGE
- REFINERIES /CHEMICAL PLANTS



Hazardous Spills

The Tiger Dam™ system may be able to contain spilled bio-hazardous materials, wastewater and chemical liquids.

The 90 second rapid deployment diversion Tiger Dam™ weighs 27 kg when empty, can be immediately filled to 15m holding 2860 kg of chemical liquid or slurry type mixtures. Simply use a 2" pump to pump the sand/debris into the tube. The tube becomes an airtight holding tank, with over 2860 kg capacity. Once contained in the holding tank, the spill can be pumped out at a safe and convenient time into a bio-hazardous tank truck/water truck and disposed of according to environmental standards.

Retention Ponds – Urban Areas

The Tiger Dam™ system can be used as an alternative to reduce the number of acres required for storm water retention and the costs associated with excavating and removing fill material from subdivisions.

Personal Property

The Tiger Dam™ system can quickly protect your property from the onset of floods. By strategically placing the flexible barrier around your home, you can prevent floodwaters from destroying your property and assets.

Chemical Plants / HAZMAT

The Tiger Dam™ system can be used to contain spills versus expensive earth works and containment membranes.

Retention Ponds – Rural Areas

The Tiger Dam™ system can retain spring run off for future seasonal irrigation.

Telephone, Fiber Optics, Hydro Dams and Utilities

The Tiger Dam™ system can replace the use of sandbags and crews needed to man the sandbag walls to protect the utility and the employees in a time of flooding.

Containment for Sewage

Many cities in older areas have combined sewer systems (sewage and storm water). During peak rain events, the system cannot handle the capacity and spills directly into the river system, bypassing the sewage treatment. Containment, specifically placed could control large volumes of water accumulation to reduce the threat of the combined system reaching its capacity causing raw sewage from going into the river system.

Golf Courses

The Tiger Dam™ system can be used to protect golf course fairways and greens through the process of diverting rivers and other threatening water sources.





Road Ways

When constructing roadways, crews can effortlessly implement the Tiger Dam™ system to block waters. This enables a hassle free environment to easily and efficiently complete a project.

River Crossings

Whether the need is to contain parts of a river for environmental reasons or simply to repair walkways or bridges, the Tiger Dam™ system is an economical and environmentally friendly product that assists in making any project easier.

Bridge Repair

The Tiger Dam™ system can assist in creating safe work areas for crews working on jobs such as major bridge repairs. The products also enables crews to maneuver around with ease.

Water Storage

Some floods cause irreparable damages, including to a towns water supply. When the Tiger Dam™ system is filled with clean water it can be used for safe drinking water in case of emergencies.

Irrigation Ditches

The Tiger Dam™ system can be used to transport/ divert water from rivers similar to irrigation channels. The product can be used to contain/channel water to agricultural areas versus excavating costly irrigation ditches, used only in low precipitation years.

Refineries / Chemical Plants

The Tiger Dam™ system can be used to protect refineries from potentially threatening flood water as well may contain many spills.





HAZMAT PROTECTION DURING DEEP HORIZON OIL SPILL

The Tiger Dam™ system was utilized by British Petroleum for shoreline protection on the Louisiana coast line as the last line of defence against the Deep Horizon Oil spill.

A 128 km barrier; 1m high was anchored into the beach so as to withstand the force of the gulf and was found to be an effective tool in protecting the fragile estuaries beyond the shoreline from the oil washing ashore.

Tiger Dams™ are a versatile system - year after year, emergency managers are successful in mitigating a variety of issues and discovering new and creative applications, none are too big or too small.





BUILDING PROTECTION



LEVEE TOPPING



INFRASTRUCTURE PROTECTION



**PROVEN IN FREEZING
CONDITIONS**



INSTANT HAZMAT DUMP



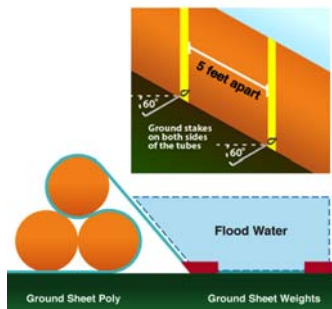
**LARGE SCALE INDUSTRIAL
APPLICATION**



SUPER TIGER

The Tiger Dam™ System is ideal for retention ponds on top of river banks, levees and road ways; anywhere you are able to use heavy equipment for access, ie. forklift.

- Tiger Dams™ can be joined together to form any shape, squares, triangles etc. The added benefit of the Tiger Dam™ system is that all tubes can be joined or stacked along the river bank or levee depending on flood elevations.



- Each .96m, 1.8m, 2.75m and 3.65m Super Tigers are available in 30m tubes with two 2.4m sleeves and provide approx. 30m of flood protection from .96m to 3.65m high. The dry weight of the .96m Super Tiger is 127kg. Custom sizes available.
- 2 "x 2" heavy duty air check valves are located on both ends for filling or draining. These tubes can be filled with water, salt water, mud slurry or concrete. Each filled tube is approx. 22302 liters.
- All of our Tiger Dam™ super sized bags have a minimum of three valves; two valves for filling and one main air drain valve. The filling valves are located on both ends of the tube to provide easy access for filling or draining individually or simultaneously to increase the filling or draining speed. All have a 5 year guarantee on product materials.
- The fabric is made of heavy duty double coated nylon or PVC made of proprietary ingredients.



- You can join or stack small and large Tiger Dam™ systems together.
- 18 anchors are required for every 30m of tubing. We recommend anchors with 18 large straps x 18 x .9m anchors. This will provide you with 10,000 lbs. of added stabilization strength per anchor or approx. 180,000 lbs. for every 30m depending on soil conditions.
- We recommend use of our helical anchors - at minimum .9m x 2.2cm galvanized steel shaft with two 10cm helical discs - depending on soil conditions.
- A soil test was done by a University of Manitoba Engineer in March of 2011. The test was performed on frozen and unfrozen ground ranged from 18,000 to 30,000 lbs. of pull resistance both straight and on a horizontal pull. There were varied results for the unfrozen ground tests: Some were not able to be pulled out of the ground because the equipment was not strong enough. None of the frozen ground anchors were able to be pulled out. All of these anchors were 1.2m x with 2 x 15cm discs or .9m x 2.2cm galvanized steel with a 7.6cm disc with a bottom for penetration and a 10cm disc for holding power. Both tests were done on the Red River in Winnipeg Manitoba.

Call before you dig. Please check with your local utilities department, as well as your local soil engineer for soil strength before digging or drilling.



CLEARING UP MISCONCEPTIONS

TIGER DAMS™ VS THE COMPETITION



TIGER DAMS™ are, by far, the World's fastest deployed flood control tool, period. Tiger Dams™ are a product of their environment and must always be deployed in a proper and safe manner. Our goal is to keep the public and first responders out of harm's way.

TIGER DAMS™ SUPER TIGERS have air release valves conveniently located in the middle of the tube and 2 x 2 inch heavy duty air pressure valve connections on both ends, allowing the SUPER TIGERS to be filled or drained from both ends simultaneously. These are the only DAMS in the WORLD that can be pressurized to create taller barriers without a wide base, using less material. Tiger Dams™ circular shape yields less of a waterbed look and is able to achieve greater height on a smaller base, which is invaluable on narrow river banks, levees and around trees and buildings.



VS • No valves • An elephant trunk tie off system, • Very wide square waterbed shape (3.3m wide base and a egg shape still rolls)
• Very slow to fill and nearly impossible to drain.

TIGER DAMS™ • Pump in or pump out, • 2, 3, 4 or 6 inch pumps all fit to our Tiger Dams™ connections including a fire hydrant, • or water truck connected directly to the Tiger Dams™.

VS • No valves. • No direct connection.



TIGER DAMS™ can be stacked and / or joined continuously to form any shape or length. At this time, SUPER TIGERS at 6m in diameter are our largest. Our 0.48m Tiger Dams™ can be stacked 9.1m high.

• They cannot be stacked or joined continuously.

TIGER DAMS™ SUPER TIGERS are .9m x 30m, weigh 127kg and can protect 96.5cm with our patented Tiger Dam™ system which may include straps and anchors, depending on standing water or severity of water flow/current.

VS • They would need greater than 1.5m bladder x 3.3m base system to equal our heights. • The cost of their product to reach our true height will far exceed ours. • .9m high x 30m over 272 plus kg when filled protects 0.6m (off their official chart). • Because you cannot go beyond 75/25% water VS tube height rule for all bladders with standing water and flowing water decreases dramatically.
• When we have seen theirs filled, they cannot achieve full height because there is no valve to force water into, especially when any uneven ground. • Technically they say their 1.5m dam will yield .95m of protection, but with the 75/25% rule for all bladders, they will need an excess of 1.5m high to reach our protection heights.



TIGER DAMS™ - THE MOST IMPORTANT FOR ALL BLADDER SYSTEMS, Tiger Dams™ can be strapped for extra strength and anchored with many different kinds of anchors such as ocean anchors, boat anchors, earthen anchors, shovel anchors etc. They have even seen them tied to trees and pillars.

VS • They absolutely cannot be anchored or tied, as their material is so thin and fragile that the straps will cut into it and rip them it to pieces. (made from a thin film water bed material).



TIGER DAMS™ - All Tiger Dams™ are made with super strong materials with proprietary blends of, but not limited to, PVC, polyurethane and nylon which can be filled with fresh and salt water, mud slurry, amp gel, oil, hazardous materials and concrete etc.

VS • ONLY can be filled with water.

TIGER DAMS™ SUPER TIGERS can be joined and stacked with our standard 19 inch Tiger Dams™.

• Cannot be stacked or joined seamlessly to our Tiger Dams™.

SUMMARY:

The use of bladder systems has been around since the 1950's and with so many makeshift shops manufacturing them in the garage, they were doomed to fail. We think the idea of a reusable system to fight water with water is still genius. International Flood Control believes in starting with QUALITY and using the very best products including our highly engineered valves, fabrics made in Canada and the USA, and then assembled and manufactured them in Vancouver, Canada and New Orleans, USA. Our state-of-the-art SERT trailers are made in Winnipeg, Canada, and our patented system of sleeves, stacking, anchoring and joining make us the very best in both SAFETY and PERFORMANCE.

International Flood Control has learned from their mistakes and is a stronger company because of them. International Flood Control has worked with many governments, engineers' tests/ questions, demonstrations, customer feedback and extensive challenges around the world, always striving to be better. International Flood Control, Tiger Dams™, our products and our people are not perfect and continue to have an open mind about our products and wish to be a student of flood mitigation for many years to come.

Tiger Dams™ is such a versatile tool with so many different uses for our products - THAT is why they are the preferred Flood Control System of Governments, Fortune 500 companies and Emergency Managers around the world.





STANDARD EMERGENCY RESPONSE TRAILER





DROUGHT MITIGATION - RETENTION

Drought is a natural hazard, it has a slow onset, and it evolves over months or even years. It may affect a large region and causes little structural damage. The impacts of drought can be reduced through preparedness and mitigation.

Drought preparedness and mitigation can be accomplished with the following practises, soil and water conservation and herd management.

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™ are 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.

The Tiger Dam™ have the flexibility and are 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.

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- Prevent soil erosion and obstruct flow of runoff. This retained water increases soil moisture and recharges the groundwater;
 - Used as check dams, water use planning, rain-water harvesting, runoff collection using surface and underground structures, improved management of channels and wells;
 - Rainwater harvesting collects rainfall or moisture for immediate or eventual use in irrigation or domestic supply (rainwater collected from roofs can be stored in the Tiger Dam™ for later use) as well as use in landscape contouring to assist in directing runoff into areas planted with trees shrubs, turf, vines and agriculture;
 - Percolation ponds – for storage of water for livestock and recharged the groundwater, Tiger Dam™ can be used as a reservoir to form a retention pond;
 - Used as a drought affected paddock by providing local water facilities for pasturing animals.
 - Store water for firefighting reservoirs.
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Each 1.8m x 30m Tiger Dam™ holds approximately 38,000 litres.



Diameter

.45m

Height/Length

15m

Cubic Metre

2.8

CONCRETE

Each 15m tube contains when full 2.8m³ of concrete, and weighs 6500 kg.

Each Tiger Dam™ will fill in approximately 5 minutes. A typical Schwing Concrete Pump SP88 or similar will fill one tube in approximately 5 minutes. The concrete is a very small aggregate or non aggregate mixture with a flow additive.

This system interlocks seamlessly. Minimal manpower to assemble.

Leaves no footprint, can be filled with water, new or recycled concrete, upon removal the concrete can be recycled again. No Environmental issues as with semi-permanent sand filled systems.

For extra protection, you can get 100 thousand pounds of added extra strength using our patented anchor system.

Using the 15m vapor barrier provides several beneficial factors including: Decreasing the hydrostatic pressure from the head of the Tiger Dam™, as well as scouring and ocean erosion, further strengthening the levee itself.





SECONDARY HAZMAT CONTAINMENT

The Tiger Dam™ rapidly deploys in as little as 90 seconds with minimal manpower and can be custom manufactured to resist most chemicals at no extra cost. Each standard dam is .45m x 15m and can be filled with water or concrete. The Tiger Dam™ is the only system that is patented to join together to form a dam of any length and the ONLY system that is stackable (from .45m to 10m high).

The re-usable Tiger Dam™ can be used to contain spills; it can be easily moved, change size, dimension or direction halfway through a project unlike the more expensive permanent earthen berms, cost savings will be enormous.

The Tiger Dam™ system is currently being used to protect refineries, chemical plants, tank farms and critical industrial infrastructure. Customers using the system include nuclear power plants, The US Strategic Petroleum Reserve, Exxon Mobile, and Conoco Phillips.





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