WATER FILLED COFFERDAM INSTRUCTION MANUAL

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Introduction

Detroit Tarp Water Filled Cofferdams are used as a temporary water diversion system in construction projects, flood protection, spill containment and other applications. Detroit Tarp Water Filled Cofferdams are light-weight, easily deployed and removed, compact in storage, repairable and reusable.

Stabilization Components

Three components interact together to stabilize the Detroit Tarp Water Filled Cofferdam.

The internal baffle system

The patented internal restraint baffle(s) lock into place when the barrier is exposed to uneven hydrostatic pressure on one side.

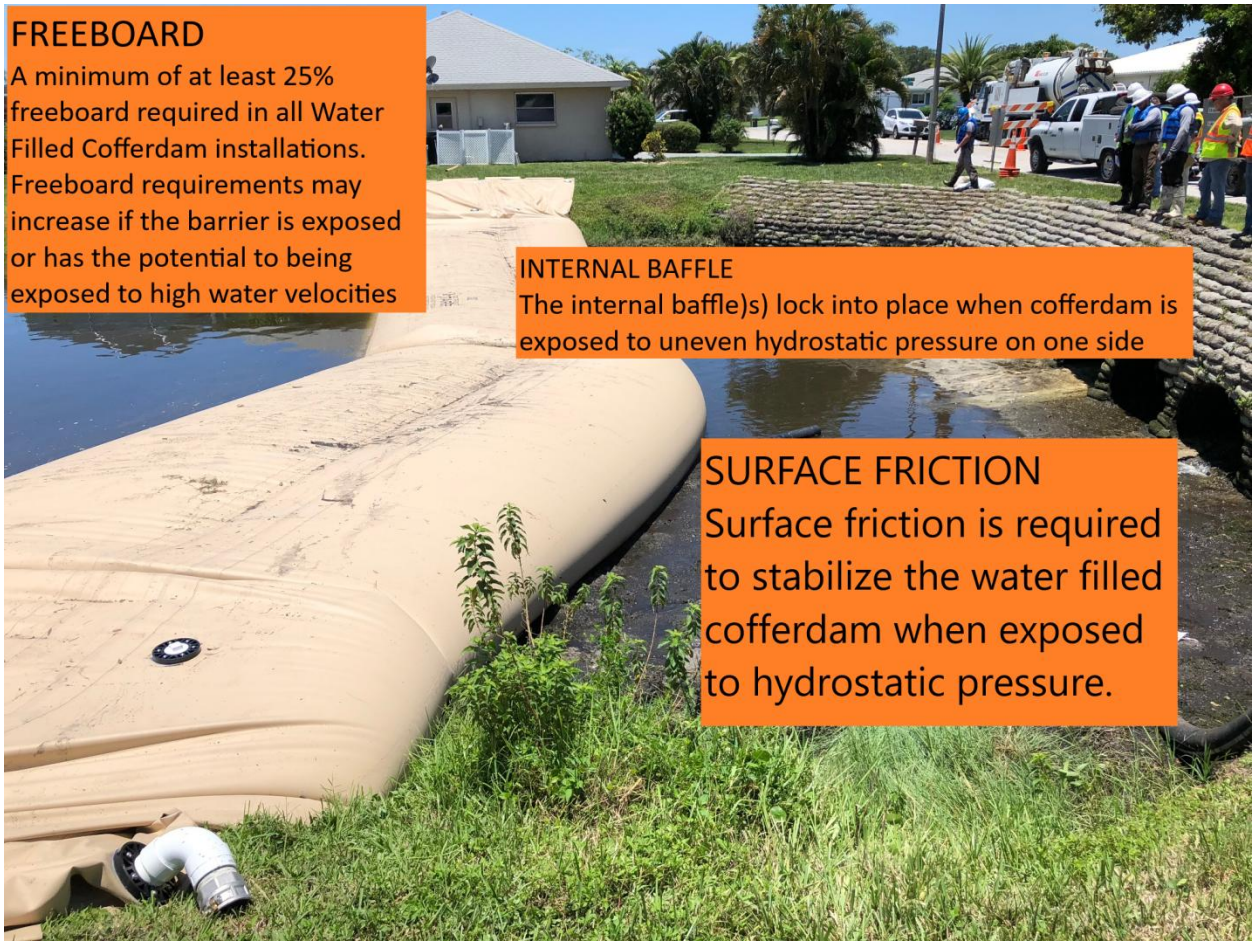
Freeboard (amount of inflated barrier above the surrounding water level)

A minimum of at least 25% freeboard required in all Water Filled Cofferdam installations. Freeboard requirements may increase if the barrier is exposed or has the potential to being exposed to high water velocities (3-ft or more per second), slick soil conditions and other relevant hydrostatic conditions.

Surface Friction

The Water Filled Cofferdam(s) also require surface friction to stabilize when exposed to uneven hydrostatic pressures. Dams that are exposed to weak soils and/or slick soil conditions may require pipe support, a wider footprint or additional freeboard

Stabilization components



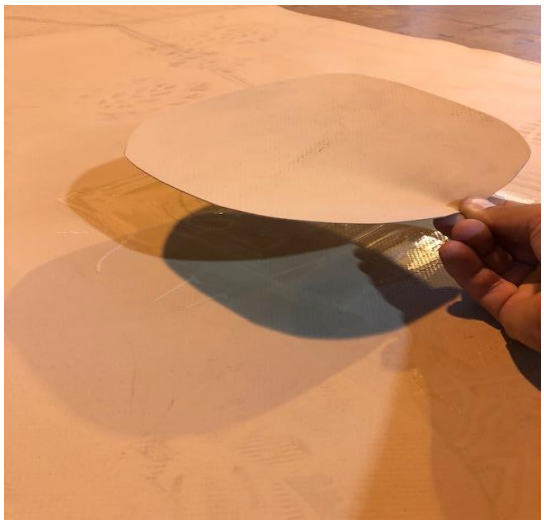
Key Features

Detroit Tarp Water Filled Cofferdams are equipped with unique key features to assist in the installation and removal of the water control system.

End Pipe Loops

Fill & Drain Ports

90 Degree Fill Elbow



Reparability

Baffle Stabilization Behaviors

Detroit Tarp Cofferdam Water Filled Cofferdam gains its stability through the tensioning of the inner restraint baffle(s).Once the system is inflated the baffles prevent the barrier from rolling. As the barrier is exposed to water pressure there is a natural adjustment towards the side of the least hydrostatic (water) pressure.

MEASURE COFFERDAM HEIGHT FROM THE LOWEST ELEVATION ALWAYS
INFLATE AN WATER FILLED COFFERDAM TO ITS FULLEST HEIGHT

These adjustment lengths are based upon a Detroit Tarp Water Filled Cofferdam being inflated to its recommended height with the baffle being cross-sectional centered. The cofferdam adjustment length could increase or decrease if not properly inflated and or if slopes or grades are present. These adjustments should be considered when determining the installation location of the cofferdams. The chart below illustrates the maximum adjustment per each cofferdam height

Water Filled Cofferdam Height (ft)	Maximum Baffle Adjustment Length (ft)
2 Ft.	1 Ft.
3 Ft.	1.5 Ft.
4 Ft.	2 Ft.
5 Ft.	2.5 Ft.
6Ft.	3 Ft.
7Ft.	3.5 Ft.
8 Ft.	4 Ft.

Cofferdam Connections

Detroit Tarp Water Filled Cofferdams are joined together by an overlapping technique. Once the initial Cofferdam has been filled, the adjoining cofferdam is positioned and pulled up onto the end of the filled cofferdam. The chart below illustrates the standard cofferdam overlap lengths.

MEASURE BARRIER HEIGHT FROM THE LOWEST ELEVATION ALWAYS INFLATE AN AQUA-BARRIER TO ITS FULLEST HEIGHT

The cofferdam positioned on top of the filled dam is then inflated. The weight of the second cofferdam will provide downward force to seal the connection joint. Detroit Tarp Water filled Cofferdams can be joined end to end or at various other angles.

Water Filled Cofferdam Height (ft)	Overlap Length (ft)
2 Ft.	3 Ft.
3 Ft.	4.5 Ft.
4 Ft.	6 Ft.
5 Ft.	7.5 Ft.
6 Ft.	9 Ft.
7 Ft.	10.5 Ft.
8 Ft.	12 Ft.

End to End

Corner to Corner (90 Degree, 45 Degree Ect.)

Detroit Tarp Water Filled Cofferdams can be connected to make any lengths or configurations.

Lifting Pipe & Procedure

NOTE: All steel pipes must be continuous lengths with no joints or connections. Schedule 40-80 steel pipe is recommended for listing cofferdam(s)

Water Filled Cofferdam Height (ft)	Steel Pipe Length (ft)
3 Ft.	8 Ft.
4 Ft.	10 Ft.
5 Ft.	15 Ft.
6 Ft.	15Ft.
7 Ft.	21 Ft.
8 Ft.	21 Ft.

Step 1. Insert pipe into pipe loop using required steep pipe length, locating the cut outs use 1000 lb or greater lifting straps and rig to the inserted pipe.

Step 2. Using the lifting straps rigged to the steel pipe; attach the other end of the straps to the lifting apparatus.

Worksite safety

When working within the Cofferdam dewatered area it is required that all federal, state and local safety procedural laws are followed. At a minimum, the company utilizing the Detroit Tarp Water Filled Cofferdam system must comply with OSHA trench and excavation safety procedures. These regulations can be found online at www.osha.gov. A competent person(s) is required onsite at each work shift during the use of the Cofferdam system when workers are present. The competent site person is required to inspect the water filled cofferdam(s) if there has been any change in water depth, height of inflated dam(s) or change in position.

The OSHA definition of a competent person is as follows:

COMPETENT PERSON *is an individual who is capable of identifying existing and predictable hazards or working conditions that are hazardous, unsanitary or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate or control these hazards and conditions*

Hazards

Due to close proximity of water, Detroit Tarp, Inc recommends the use of a Coastal Guard approved Personal Floatation Device during the installation and removal process of an Water Filled Cofferdam. Water Filled Cofferdam(s) can slide into the dewatered worksite in the event that the designated freeboard requirement provided by the Detroit Tarp, Inc. representative is exceeded. Minimum freeboard requirements are 25%. Water Filled Cofferdams can be pushed or floated downstream in a moving water environment. Detroit Tarp Water filled Cofferdams can slide into the dewatered area if the surface friction is not stable enough to support the cofferdam. Water Filled Cofferdam(s) can lose their stability and be forced into the dewatered area if its recommended inflation height is not maintained. Water Filled Cofferdam(s) can be vandalized by cutting the exterior of the system or removing the drain ports.

Please inquire and adhere to all Overhead Power Line Safety laws and OSHA requirement when elevating the Cofferdam(s). Detroit Tarp, Inc. Cares about the safety of those working near electrical sources. Accidents involving contact with high voltage can result in serious injury or death. When power lines are present on or near the work site, the safety of the equipment operation is the responsibility of the personnel in charge of the work site. Before setting up or operating equipment on any project: EVALUATE THE WORK SITE FOR ELECTRICAL HAZARDS, including both overhead and underground, and if present EXERCISE EXTREME CAUTION.

The preceding paragraphs of hazards do not represent every conceivable potential hazard that may appear at a given worksite. Any change in the water filled cofferdams original installation positions must be evaluated before workers and equipment are allowed into the work area. The local Detroit Tarp, Inc. representative or our installation department (800-457-5054) must be contacted to discuss the safety of the Cofferdam system before workers or equipment are allowed back into the work area.

Safeguards and precautions

Caution: Read the safeguards and precautions prior to installing or removing Detroit Tarp Water Filled Cofferdams. Follow instructions and heed all warnings in this manual. The below stated precautions are only a few of many. Each potential Cofferdam installation location may require different precautions. **It is required that a Detroit Tarp, Inc. representative be contacted and consulted prior to installing or removing Water Filled Cofferdams.**

-The OSHA trench & excavation guidelines should be followed at all times when working with Water Filled Cofferdams

-Due to proximity of water, Detroit Tarp, Inc recommends the usage of a Coastal Guard approved PFD (Personal Floatation Device) during the installation and removal of a Cofferdam(s)

-Each individual involved with installing Water Filled Cofferdams is required to have a cutting tool (i.e. knife, razor) readily accessible in the event of being trapped by a cofferdam.

-Every work site should have a deployment and recovery plan. Assistance can be provided regarding this plan by your local Detroit Tarp representative

- Recommended safety space between workers and water filled cofferdam is 10ft to 12ft. If excavation is occurring near a water filled dam more distance may be needed

-Personnel should avoid walking on inflated or deflated Cofferdam

- A 10-ft operating distance should be maintained between heavy equipment and water filled cofferdams

- Personnel involved in the installation process should **never** position themselves beneath any elevated portion of a cofferdam or piece of equipment.

- Please inquire and adhere to all Overhead Power Line Safety laws and OSHA requirement when elevating the cofferdam(s)

Safeguards and precautions

-When work requires excavating in a dry environment provided by the Detroit Tarp water Filled Cofferdam and the excavation depth will exceed 1-ft, allow an additional easement area of 1ft in addition to the required 10-12ft from dam(s) and excavation area for each additional foot excavated

- When installing, working around water filled dam(s), or removing water filled dam(s) a minimum crew size of 3 workers is mandatory

- In construction applications it is recommended to monitor the water filled cofferdam(s) 24-hours a day. This will deter any vandalism and also be a source of information if any problems occur

- If dam(s) are installed near major roads, overpasses, or recreational boating areas it is recommended a puncture resistant cover be placed on dam(s) to protect against thrown objects

- An Detroit Tarp Cofferdam, empty or inflated, should never be dragged or pulled across any surface. This may cause permanent surface damage to the cofferdam. Detroit Tarp Cofferdam(s) are only a surface treatment. Water can transmit under the cofferdam(s) depending on soil porosity. Sump pump area(s) are required in all dewatering projects. The size and number of sump pumps will depend upon the porosity of the soil.

Site preparations

Installing Water Filled Dam(s) in any type of environment requires thorough preparation. The following represents several general guidelines that need to be complied with when installing Detroit Tarp Cofferdam(s)

• All ground objects that could puncture Cofferdam(s) (i.e. sharp rocks, broken glass) should be carefully removed or avoided when deploying. If deploying in a standing or moving water environment, manually walking the site or drag netting will insure a properly cleared area. When the deployment site cannot be totally cleared of problem objects, it is required that a protective material be installed on the site (i.e. nonwoven geo textile or other forms of puncture and abrasion resistant plastic sheeting) prior to deployment.

• In construction and flood protection applications, 24-hour monitoring is recommended. This will deter any vandalism and also be a source of information if a cofferdam failure occurs.

• Avoid deploying Water filled Cofferdam(s) near any electrical source (i.e. ground transformers, power poles and lines, junction boxes and switch gears). Please inquire and adhere to all Overhead Power Line Safety laws and OSHA requirement when elevating the Aqua-Barriers.

• Assessment of slopes and land contours is very important when evaluating an optimal area for installing Water Filled Cofferdam(s). If the area needing protection is characterized by hills and valleys, dams may only be needed in the valleys. A Water Filled Cofferdam will only fill to its expected inflated height at the lowest point it encounters along its length. It is important to consult your local Detroit Tarp representative for assistance prior to deployment if faced with extreme land contours. Identify the water source that will be used to fill cofferdam(s) and maintain clear access to it. Deploy cofferdams where fill ports will be in close proximity with water source. Using the shortest length of hose to fill the cofferdam(s) is preferred because less hose transmits more water volume.

Installing in freezing conditions

In freezing conditions, it is recommended that all ice and snow be removed prior to installation. Failure to do so may affect cofferdam stability and integrity.

The Detroit Tarp Water Filled Cofferdam material is good to -22F. Anything below -22F makes the material brittle. Typically water inside the barrier is 10 degrees warmer than outside temperature. You can keep the water inside from freezing solid by using products such as glycol tuber, insulated thermo blankets, water proof heat cord and ground heaters.

If you think the cofferdams will freeze you need to leave the fill ports open and release a little water out of the barriers. Water expands at a rate of 10% when it freezes. You want to make room inside the cofferdam to prevent rips in the material as water turns to ice. If the body of water in which the water filled cofferdam(s) are installed starts to freeze you may risk damage from ice ramming the cofferdam. To minimize this damage you can cover the dam(s) with a geo textile protective membrane or place something in front of them to “catch” chunks of ice. Concrete jersey barriers work well and sometimes PE construction fence has been used. When it comes time to remove the barriers they must be fully thawed and drained before the track hoe begins to pull them out of the water. Do not attempt to remove a barrier with ice inside as it could cause damage.

(Water Filled Cofferdam Installed In Freezing Conditions)

Important information when using Water Filled Cofferdam(s)

Establishing a temporary cofferdam system and dewatering the enclosed area is a process with inherent problems. These problems arise from the inability to gather exact site conditions because water coverage prevents visibility of the underwater surface conditions. Soil conditions directly under the visible surface may also pose unexpected problems such as objects that could damage the cofferdam and or porous soil conditions. Extensive site evaluations can be performed; however, it is impossible to precisely determine all relevant conditions that could affect the success of the water filled cofferdam system.

Debris removal: It is imperative that all surface debris (ex. sharp rocks, rebar, stumps, etc.) that can puncture a plastic membrane be removed from the area where the barriers will be installed. An additional protective membrane can be deployed to provide additional puncture protection. The membrane must be formidable enough to provide the proper puncture protection according to the debris that the cofferdam will be exposed. If the debris is not removed you can potentially experience one or more of the following problems:

• Complete inability to keep a Cofferdam filled if large punctures occur. Recommended solution to problem is to remove cofferdam, perform onsite repair, and remove debris that caused the problem or apply protective membrane. If the damage has rendered the cofferdam un-repairable, a replacement unit will be needed.

• Loss of inflation due to small leaks in the cofferdam. Recommended solution would be either one of two options: 1. remove cofferdam, perform onsite repair, and remove debris that caused the problem or apply protective membrane. 2. Maintain recommended inflated height of cofferdam by adding water as needed.

Thorough site preparation is essential to avoiding the costly problems mentioned above

Important information when using Water Filled Cofferdam(s)

Moving water environments: Bodies of moving water can behave in unusual ways when partially or completely blocked with a temporary damming system. Reducing the normal channel dimensions can cause water depths and velocities to increase. Rain events, channel flows, irregular surface conditions, soil makeup, and other relevant information may affect the overall effectiveness of the damming system. Do to these unknown behaviors; the original cofferdam design may require alterations.

Slick soil conditions: In environments exhibiting limited surface friction; adjustments to the freeboard (amount of filled cofferdam above the surrounding water) and or a temporary structure may be required for cofferdam stabilization. Environments such as lakes, ponds, or other standing water environments are susceptible to long term silt build up. This soft silt media offers very little surface friction. Slopes, grades, and other relevant information can affect the ability of the inflated cofferdam to perform successfully in these environments.

Evacuation procedures

In the event the water depth where the Detroit Tarp Water Filled Cofferdam(s) are to be installed is expected to exceed the recommended 25% freeboard or recommended freeboard requirement, the worksite should be evacuated.

The evacuation plan is as follows:

All personnel should be evacuated from the dewatered worksite. The worksite equipment can be evacuated if the competent person believes that it is safe. The Cofferdam removal process can begin if it is determined that there is sufficient time for removal of the Cofferdam(s) before the 25% freeboard requirement is exceeded. All personnel involved with the removal process should position themselves on the upstream side of the dam(s) before the actual removal process begins. Water should then be released from the dam(s) into the drained worksite area to equalize the water pressure on both sides of the dam(s) before opening the drain ports on the dewatered side of the cofferdam. Each installed cofferdam is to be removed from the worksite. A Detroit Tarp, Inc. trained advisor will instruct onsite personnel with regard to the proper removal process during the installation training and removal session which may take place on site or by telephone prior to installation

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Seepage Disclaimer

The Detroit Tarp Water Filled Cofferdam system when properly installed is a temporary dam against surface water. Detroit Tarp, Inc. accepts no responsibility for water migrating under the cofferdam system. The volume of water migrating under the cofferdam is a function of soil porosity. A sump area where water can gather and be evacuated during the life of the project is required. The size and number of sump areas would depend on the size of the area being dewatered and porosity of the soil.

To control seepage under the cofferdam due to weak soil porosity, use a pump on the dry side of the cofferdam system and pump excess water over top of the cofferdam back to the wet side. This will capture the seepage before it enters your worksite.

Installation Configurations

Straight Shoreline

Partial Block

Canal Block

T-Pee

Detroit Tarp Water Filled Cofferdams can be designed to create many different lengths and configurations to fit the project needing a temporary cofferdam.

Bypass Pump Applications

In applications that require the water flow of a river or creek to be completely cut off, such as the canal block on page 17, it may become necessary to maintain water flow using diversion pipes or bypass pumps. Below are examples of how this is done. For more information contact your Detroit Tarp, Inc. representative

Large pumps are placed on the upstream side of the cofferdam. The pumps push the river or creek around the worksite and restore river or stream flows back to normal conditions.

Installation Procedures

There are three primary types of Water Filled Cofferdam installations. The following descriptions of the various types of installations are simplified, and are only meant to give a general overview of the installation process. More detailed installation information must be provided by a trained Detroit Tarp representative on all cofferdam installations. During all water filled cofferdam installations the dam(s) can tractor or rotate toward the side which possesses less hydrostatic pressure or water depth. The maximum length of movement toward the side of least water resistance is 1/2 of the properly inflated cofferdam height (i.e.,6 ft high dam can adjust as much as 3 ft).The same adjustment behavior can occur if a slope or grade exists from one side of a barrier to the other. Cofferdams which are not inflated to their proper height can tractor toward the dewatered area more than 1/2 of the recommended inflated height. (See Baffle Behavior)

Dry surface installation: The location where the cofferdam(s) are to be installed has no water present. The dam(s) are simply unrolled and in inflated. This style of installation is generally used in anticipation of flood waters.

Static water installation: Non-moving water is present at installation location. The cofferdam(s) are buoyant and float on the water's surface. The cofferdam(s) are placed at the water's edge, unrolled on the water's surface and floated into position.

Moving water installations: Dynamic or moving water is present at installation location. Cofferdam(s) are positioned properly by controlling the ends of the unit with hydraulic equipment (i.e. track hoe, crane) and/or anchoring at least one end of the cofferdam at the shoreline.

Moving Water Installation

Identify the location where the water filled cofferdam will be placed. It is extremely important to survey the area and be sure to clear the area of any hazardous and foreign objects (sharp rocks, rebar, glass, logs and other damaging objects) At that time you should have developed a bypass plan (pump around, diversion channel, flume pipe ect.)

During the site survey, locate the deepest location where the water filled cofferdam will be installed. Once that area is located take a few measurements to find the depth. Depth should be measured from a solid bottom, if there is silt, this will also need to be included in the measurement.

Moving Water Installation

After the area is surveyed and the site has been measured and cleared from all debris, the installation can begin. The Detroit Tarp water filled cofferdams will arrive on a pallet as small as four feet wide by four feet long and can be moved to installation location easily with onsite equipment. The dam is in a roll form and direction of unrolling should be identified.

Place the cofferdam in an area large enough to open all the way up until it is unfolded fully. Begin attaching your hose to the fill port for filling the cofferdam later. You will need to attach one end of the cofferdam to a shoreline anchor point and another end to the excavator using the pipe loop feature. We recommend using a continuous schedule 40 steel pipe for lifting from the pipe loop and the properly rated lifting straps

Moving Water Installation

You are now ready to move the cofferdam into place. Utilizing your equipment begin pumping the water into the cofferdam. As the cofferdam builds head pressure and tension slowly lower into place. Repeat this multiple times until the dam is fully in contact with the ground below the surface of the water. Continue filling the dam to its recommended height. And you can now safely dewater your worksite. Monitor the cofferdam height, water levels and possible movement of the dam multiple times a day. If there is any concerns call a STOP WORK and have all personal in the cofferdam area meet in a safe location to discuss. Every project is different and this is just an overview of a installation process so be sure to contact your Detroit Tarp cofferdam rep for further instructions at

800-457-5054. http://detroittarp.com/contact-us/

Static Water Installation

Identify the location where the water filled cofferdam will be placed. It is extremely important to survey the area and be sure to clear the area of any hazardous and foreign objects (sharp rocks, rebar, glass, logs and other damaging objects.)

During the site survey, locate the deepest location where the water filled cofferdam will be installed. Once that area is located take a few measurements to find the depth. Depth should be measured from a solid bottom, if there is silt, that will also need to be included in the measurement.

Static Water Installation

After the area is surveyed and the site has been measured and cleared from all debris, the installation can begin. The Detroit Tarp water filled cofferdams will arrive on a pallet as small as four feet wide by four feet long and can be moved to installation location easily with onsite equipment. The dam is in a roll form and direction of unrolling should be identified.

Place the cofferdam at the top of the bank near the water that the installation will take place in. Unroll the dam down the bank and into the water, once the cofferdam is in the water it will become buoyant and can be easily moved. Enter the water wearing the proper recommended PPE and begin to unroll the cofferdam in the desired path

Static Water Installation


After the cofferdam is unrolled in the right location you will notice a series of folds. Unfold the cofferdam until it is opened all the way and laying flat. The dam is still buoyant and will float at the top or a few inches below the surface of the water


The water filled cofferdam is now in place and you can begin filling. Thread the 4" PVC elbow provided with the dam into the "Fill Port" and begin hooking up your discharge hose. Prior to filling stake and tie off each end of the cofferdam using the pipeloop feature provided on the ends.

Static Water Installation

Begin filling the dam, you will notice the water will begin to cover the top of the cofferdam. It is now sinking to the bottom for the body of water and will begin to raise out of the surface as if approaches maximum capacity. Enter the water and take a measurement from the deepest location where the dam is installed and measure for maximum height. When the cofferdam reaches the appropriate height you can shut the pumps off and take an additional height measurement of the cofferdam to ensure it is at the correct capacity.

Disconnect your discharge hose from the water filled cofferdam and move it to the non dewatered side. Following all environmental procedures, begin the dewatering process until the worksite is dry enough that you can begin your project. Monitor the cofferdam height, water levels and possible movement of the dam multiple times a day. If there is any concerns call a STOP WORK and have all personal in the cofferdam area meet in a safe location to discuss. Every project is different and this is just an overview of a installation process so be sure to contact your Detroit Tarp cofferdam rep for further instructions at 800-457-5054. http://detroittarp.com/contact-us/

Removal Procedure

There are three primary types of Detroit Tarp Water Filled Cofferdam removal procedures. The following descriptions of the various types of cofferdam removal procedures are simplified and are only meant to give a general overview of the removal process. More detailed removal procedure information must be provided by a trained Detroit Tarp, Inc. representative on all cofferdam removals.

Dry surface removal: When no water is present on either side of the Cofferdam(s) Locate all drain ports along the sides and ends of the dam and remove all plugs. After the majority of the water has drained from the cofferdam you will be able to force the remaining water toward a drain port by pushing on the cofferdam with your hands. Evacuate all water. Fold and the roll the cofferdam to fit on the pallet it arrived on making sure no part is hanging off the pallet.

Standing water removal: When standing water is present on one side of the cofferdam only: First attach one end of the dam to the hydraulic equipment arm (ie: track hoe, crane). Water must be equalized on both sides of the cofferdam prior to removing it from the water. Locate the drain ports on the dry side of the dam only and remove all plugs. Once the majority of the water has drain from the cofferdam you can remove the plugs on the opposite side. You can now pull one end of the cofferdam over the top and down the length of dam. This process will evacuate the remaining water and prevent cuts and abrasions on the bottom of the unit. Fold and the roll the cofferdam to fit on the pallet it arrived on making sure no part is hanging off the pallet.

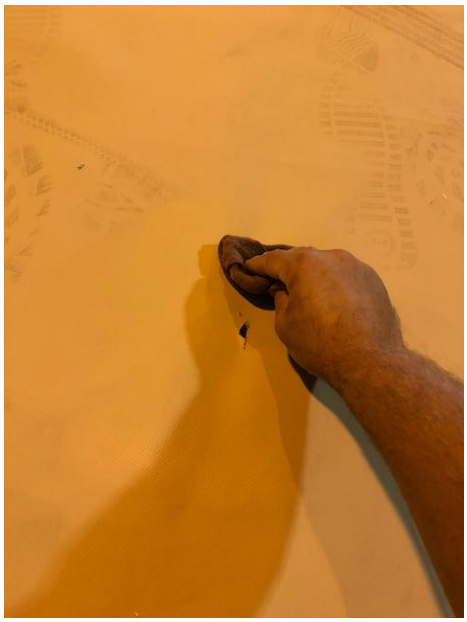
Moving water removal: When moving water is present on one side of the dam only: First attach both ends of the dam to the hydraulic equipment arm (ie: track hoe, crane). Water must be equalized on both sides of the cofferdam prior to removing it from the water. Both ends of the cofferdam must have attached pipes controlled by hydraulic equipment arm (i.e. track hoe, crane). Locate the drain ports on the dry side of the dam only and remove all plugs. Once the majority of the water has drain from the dam you can remove the plugs on the opposite side of the dam. You can now pull one end of the dam over the top and down the length of the dam. This process will evacuate the remaining water and prevent cuts and abrasions on the bottom of the unit. Fold and the roll the dam to fit on the pallet it arrived on making sure no part is hanging off the pallet.

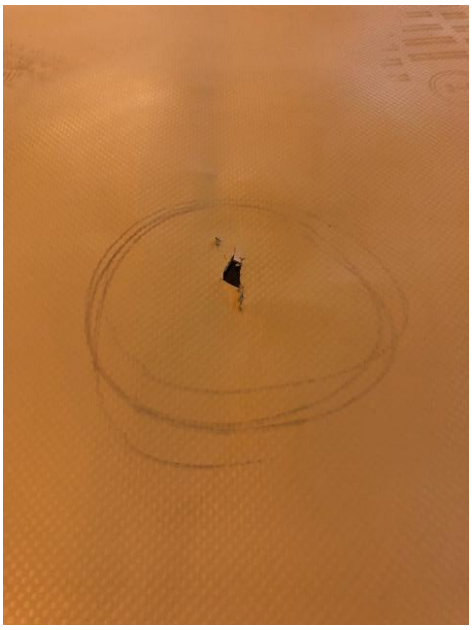
Repair Instructions

MAINTENACE: To maintain water filled cofferdams simply repair worn and punctured areas with available repair material. Repairing is best accomplished when the cofferdam surface has been cleaned. Follow the repair instructions provided on this page or on the can of Vinyl adhesive HH66. If additional repair adhesive is needed, call R H Products to locate the nearest distributor. It is recommended that the cofferdam(s) be inflated with air in order to inspect for problem areas, and repair as needed. Always allow the cofferdam to dry before tightly rolling up for storage.

STORAGE: Store cofferdam(s) in a covered area always away from harmful UV rays. Do not store where dam(s) will be in contact with solvents, acids, rodents or other harmful objects. Do not store in an area that experiences temperatures that fall below 32* F or above 150* F.

REPAIR INSTRUCTIONS:

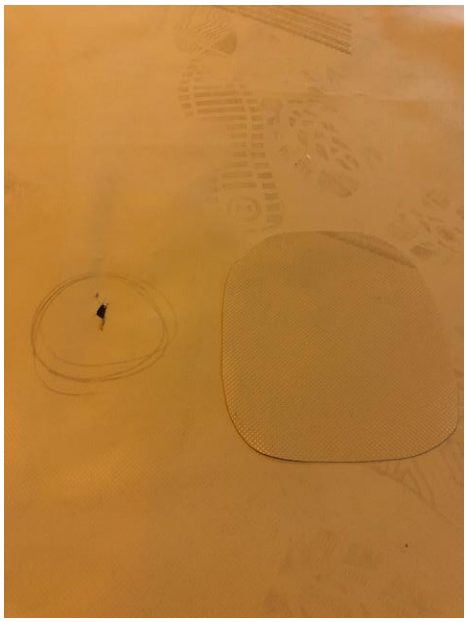




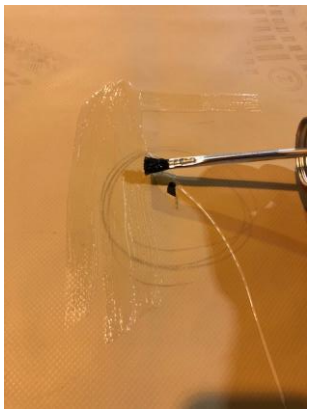
1). Clean Water Dam surface with a mild solvent. (Acetone)

2). Locate the damaged, worn or punctured area.

Repair Instructions

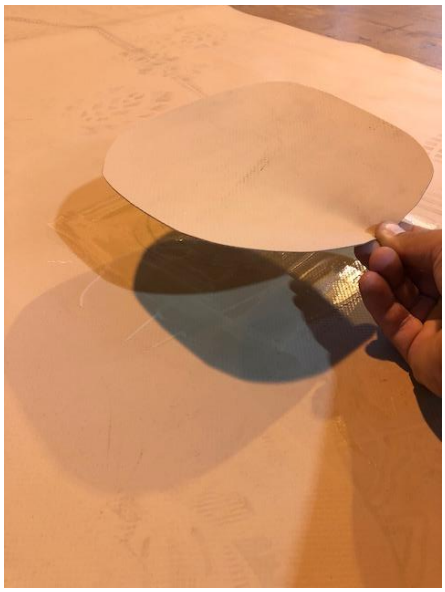


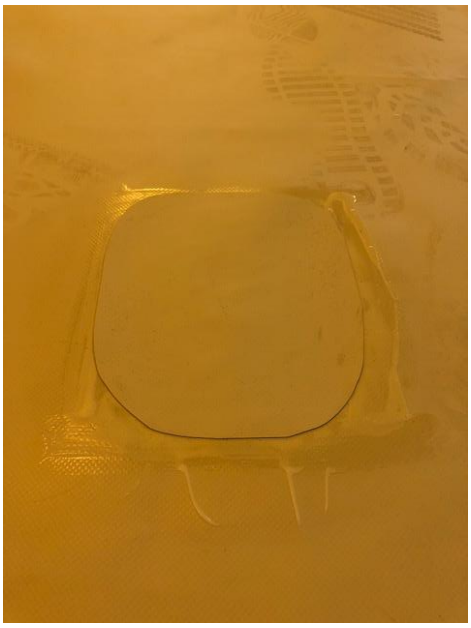
3). Cut appropriate size patch of vinyl fabric and round the corners



4). Generously apply HH66 vinyl adhesive to both the Water Filled Cofferdam and the patch. Allow a few minutes for the glue to dry. The drying process is complete when the glue exhibits a frosty color and is tacky to the touch.

Repair Instructions





5). Apply patch material rubbing into place continually for 1-2 minutes. You can also call (800)457-5054 to arrange for shipping the Cofferdam back our facility for factory repair.

Water Filled Cofferdam Material Specifications

Base Fabric

Weight Of Base Fabric	12oz psy
Type Of Coating	PVC (Polyvinyl Chloride)
Fiber Of Base Fabric	Polyester
Denier Of Base Fabric	1500D
Weave	Panama

Coated Fabric

Vinyl Weight	18oz psy
Overall Weight	30oz psy
Width Of Fabric	61.5 in
Finish	Matte

Mechanical Properties

Tensile Strength	700x650
Tear Strength	170x140
Adhesion	20x17
UV Resistance	Ultra Violet Light Resistant
Cold Crack	-30 Degrees C

Statement of Limited Warranty

A. General. This warranty is intended solely for the benefit of the original (retail) purchaser ("Purchaser") of the products ("the Products") supplied by Detroit Tarp, Inc. This warranty is effective only in the United States of America. **B**. Limited Warranty. Detroit Tarp Inc. warrants its products against manufacturing defects for 90 days from the date of the original purchase of the Products. The Water Filled Cofferdam(s) and all parts and accessories associated with them are warranted for only the purchaser's first installation, which is the inflation, draining, and repositioning, or site removal, of the Water Filled Cofferdam. After an Water Filled Cofferdam has been partially or completely drained, repositioned, or removed from the initial installation location, no stated or implied warranty or product protection shall apply. The Company's responsibility for defects in the Products is limited to the Company's choice of repair, or replacement. This warranty gives purchasers of the Products specific rights, and such purchasers may also have other rights that vary from state to state. This warranty shall be effective only if the Products manufactured by the Company have not been subjected to negligent use, misuse, or abuse (including any usage not in accordance with the Product instructions, or failure to perform the required preventive maintenance). This warranty is limited to the cost of the manufactured Products that are found to be defective. No agent, employee, or officer of the Company, or any other person, is authorized to give any other warranty, or to assume any other liability on behalf of the Company. Detroit Tarp Inc. is not responsible for Water Filled Cofferdam replacement or repair if static water levels exceed 75% of the proper cofferdam inflation height, i.e. 4.5 ft water level on a 6ft high properly inflated cofferdam. In moving water environments, or potentially moving water environments, Detroit Tarp Inc. will designate a maximum water percentage height on a given cofferdam height. If water levels exceed either of these limitations, this warranty shall be null and void. Water Filled Cofferdam(s) are not warranted in moving water environments unless a Detroit tarp agent or representative is on site to monitor the project from commencement to end. A moving body of water shall be defined as any body of water that exhibits movement or any static body of water that becomes dynamic (i.e. rainfall runoff, water released by a dam, etc). THE COMPANY SHALL NOT BE LIABLE FOR ANY INDIRECT, SPECIAL, OR CONSEQUENTIAL DAMAGES OF ANY NATURE WHATSOEVER, WHETHER TO THE PRUCHASER OF THE PRODUCTS, OR TO THIRD PARTIES, IN TORT, CONTRACT, OR OTHERWISE (some States do not allow the exclusion or limitation of incidental or consequential damages, so the preceding limitation or exclusion may not apply to all Purchasers). THE COMPANY ASSUMES NO REPSONSIBLITY OR LIABILITY, WHETHER EXPRESS OR IMPLIED, WHETHER IN TORT OR IN CONTRACT, AS TO THE CAPACITY OF ITS MANUFACTURED PRODUCTS TO SATISFY THE REQUIREMENT OF ANY LAW, RULE, SPECIFICAITON, OR CONTRACT PERTAINING THERETO, INCLUDING, BUT NOT LIMITED TO, ANY CONTRACT BETWEEN ANY PURCHASER OF ITS PRODUCTS AND CONTRACTING PARTIES WITH WHOM SUCH PURCHASER HAS CONTRACTED. THE WARRANTIES EXPRESSED HEREIN ARE IN LIEU OF ALL TORT LIABILITY AND ALL OTHER WARRANTIES OR REPRESENTATIONS, WHETHER EXPRESS OR IMPLIED, BY LAW OR BY CONTACT. THIS WARRANTY IS EXPRESSLY IN LIEU OF ANY OTHER WARRANTIES, EXPRESS, OR IMPLIED INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR PURPOSE, AND OF ANY OTHER OBLIGATION OR LIABILITY ON THE PART OF THE COMPANY (SOME STATES DO NOT ALLOW CERTAIN LIMITATIONS ON IMPLIED WARRANTIES, SO THE PRECEDING LIMITATION MAY NOT APPLY TO ALL PURCHASERS).

•Repair and Replacement. As a condition precedent to any remedy described herein or otherwise available to Purchaser. Purchaser shall seek and accept the Company's reasonable effort to repair or replace the allegedly defective or nonconforming Products (hereinafter "Affected Products: In furtherance of such undertaking, if Purchaser reasonable believes that (1) any Product contains a defect or nonconformity for which the Company is responsible; or (2) the Purchaser otherwise has a claim pursuant to the warranties contained herein, Purchaser shall inform the Company (in writing by completing a customer complaint form), of the nature of such defect, nonconformity, or claim in reasonable detail and shall request authorization from the Company to return the Affected Products to the Company for repair or replacement. All Products authorized for return shall be shipped prepaid to the Company's facility or authorized service center at:

Detroit Tarp Inc.
6760 Metroplex, Romulus, Michigan, 48174
1-800-457-5054

If the Company repairs or replaces the Affected Products within a reasonable time (normally six to eight weeks) after Purchaser has so returned them to the Company, Purchaser shall be entitled to no further remedy at law or equity. D. Certain Hazards Related to Products. Purchaser acknowledges that there are hazards associated with the use and storage of the Product(s) delivered hereunder, and Purchaser acknowledges that Purchaser understands and accepts such hazards. Purchaser shall be responsible for warning and protecting Purchaser's employees and others who may be exposed to such hazards due to Purchaser's storage and/or use of Product(s). Purchaser assumes all liability for loss, damage, or injury to persons or to property of Purchaser or others arising out of the delivery, presence or use of the Products whether used singly or in combination with other Products.