MegaSecur
ENVIRONMENTAL SECURITY

WATER GATE

User Guide

For the Water-Gate WT - Series

Hydro Response

CE

March 2017 Edition

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IMPORTANT NOTICE TO READ

IT IS STRONGLY RECOMMENDED THAT YOU READ ALL INSTRUCTIONS IN RED TO ENSURE THE SAFE INSTALLATION OF THE BARRIER.
Considering the length of the manual, a 3-code colour system has been devised based on the importance of the information required for proper installation.

EXTREMELY IMPORTANT, MUST ABSOLUTELY BE READ

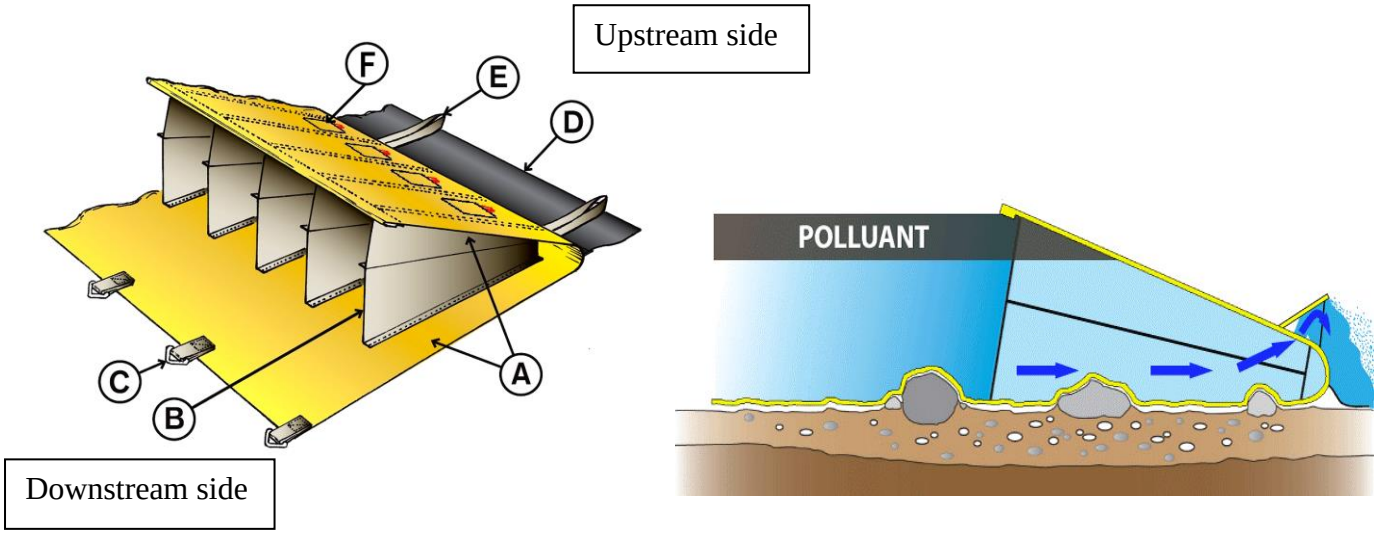
Important information based on your installation

Interesting information to know about the product

DESCRIPTIVE DIAGRAM

WT Series

Designed for stream or ditch applications, water supply, spill containment, underflow / overflow dam operations.



Main characteristics of the WT water barrier:

A – Polyester fabric coated with ultra-robust and abrasion resistant PVC for installations on all types of surfaces.
B – Stretched partitions providing better adherence on smooth surfaces.
C – Polypropylene straps to raise the barrier's extremities for particular installations.
D – Overflow back flap or mining bib to prevent stream bed mining.
E – Resistant polypropylene straps for easy handling.
F – Release holes or ports with flaps and Velcro type sealing for underflow dam operations. With straps to pull the Velcro lined flaps open. Side attachment straps to control flow downward.

RESPONSIBILITY

Before using your water barrier, it is essential to read the entire user guide and **conduct at least one preliminary test.** This is meant to ensure you master all the steps required for installing the water barrier. The vendor and manufacturer shall in no way be responsible for faulty installation and/or faulty use of the water barrier.

A trial installation is strongly recommended in order to be fully prepared in an emergency situation.

WARRANTY

Each barrier was manufactured and inspected according to strict quality standards. A registration number is printed on the ends of each barrier, which is warranted against all manufacturing defects.

SAFETY STANDARDS AND RESISTANCE

Above all, the water barrier is a working tool that must be reliable, safe and durable. Based on the standards set by MegaSecur, the Water-Gate water barrier will remain 3 times more resistant than required for a minimum water retention period of 3 days. For example, if 2 out of 3 partitions of the water barrier have come off when the barrier is filled to its fullest capacity, it will still retain its entire water volume for 3 or more days.

MAIN MATERIALS

PVC coated polyester canvas is used. The main advantage of this type of canvas is its resistance to abrasion. In other words, if the barrier is dragged along the ground, the risk of tearing is minimal.

All partitions are manufactured with woven polyethylene fabric. The sewing thread used is 100% polyester for all categories.

DURABILITY

Considering that the water barrier is entirely made of polymer, the estimated longevity of the product can be over 20 years if the product is used occasionally and/or for short periods. Ultraviolet rays remain the most harmful factor for the components of the water barrier. However, the polymer canvas has been treated to counter the harmful effects of ultraviolet rays. When used in spill containment or underflow dam operations, extra care should be taken to keep the Water-Gate contamination free. (See letter G of site selection principles.)

Since the barrier is entirely made of polymer, there are no risks of damage by humidity.

The barrier's materials resist temperatures of +50°C/+120°F to -40°C/-40°F. Even when stored for several years at these temperatures (maximum 10 years), the Water-Gate remains as effective.

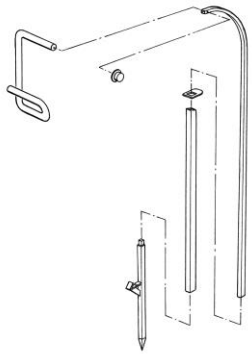
MAINTENANCE

It is strongly recommended to wash and dry the water barrier before storing it. This allows you to check for any damages that may have occurred during use. Cleaning the product with a pressure washer is strongly recommended. Dirt and trapped-in humidity do not affect the quality or the resistance of the barrier, but could lead to unpleasant odors when the barrier is used again.

To clean the barrier, hang it by the rear since it is equipped with at least one rear strap every 1.52 m/5 feet. A fence or side of a garage are excellent places to wash and dry the barrier. You simply have to install hooks on the top of your fence or on the edge of the garage. One hook will be required for each rear strap.

If you plan on making continuous intensive use of the barrier, you will need to have the right equipment for proper maintenance. Adjustable poles below are available for barriers with a water retention level of less than 71 cm/28 inches. These poles make it easier to hang up the barrier. All you need to do is fasten the back of the barrier at shoulder height, and then extend the poles above your hands. One pole will be required for each strap.

To measure the exact distance required to install the hooks or the adjustable poles, we suggest unrolling the barrier next to the place you've chosen for washing and placing a hook facing each rear strap.



STORAGE BAGS

The "blanket" type bag is used for the **WT Series**.

Model	WT-2115	WT-2125	WT-2130	WT-2150	WT-2815	WT-2825	WT-2835	WT-2850	WT-3915	WT-3930	WT-3950
Blanket	●	●	●	●	●	●	●	●	●	●	●

REPAIRS

In the event that your barrier is damaged in any way, we suggest you get it repaired by professionals who are used to working with this kind of material. Take your barrier to a business that usually works with canopies, canvas truck covers, tents or car shelters. This could even be your local shoe repair store. Repairs can vary in cost depending on the damages incurred.

If there's a tear or perforation in the PVC canvas, several methods can be used. These include contact cement for PVC, ultrasonic or thermal gluing, or sewing to another piece of material.

If there's a tear or perforation in the polyethylene fabric of the partitions, repairs are limited to sewing to another piece of fabric or applying adhesive tape specially made for that purpose.

If one or more partitions are torn along the seams, it could be very difficult and maybe even impossible to repair such damages. However, you can cut your barrier in half, pull out the ripped or damaged partitions, and glue your barrier back together.

STORAGE

The barriers can be piled one on top of the other, upright or flat, without this hampering their deployment. However, storing the barrier in a vertical position is highly recommended to maintain its shape when rolled up. We don't recommend setting the barrier directly on a damp surface. It is best to lay it on a wooden pallet.

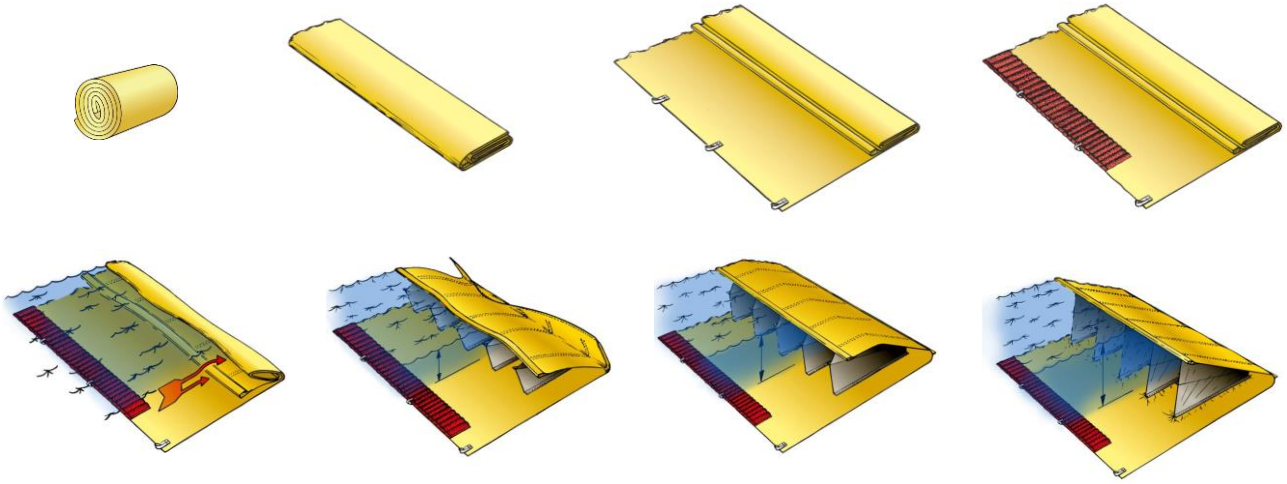
If there is water trapped inside the barrier during storage, this will not affect product longevity as long as the water is dirt free. Fallen leaves and other waste material left inside the barrier can damage and dry up the fabric, thus reducing the useful life of the barrier. When the barrier is properly washed and stored, it does not emit any odors. However, improper cleaning and storage may lead to some unpleasant odors when the barrier is deployed again.

Every barrier should be kept in its storage bag or crate for protection against UV rays, dirt, and damages, as well as easier handling during transport.

As far as rodents are concerned, they are not attracted to polymer canvas and will not chew this type of material.

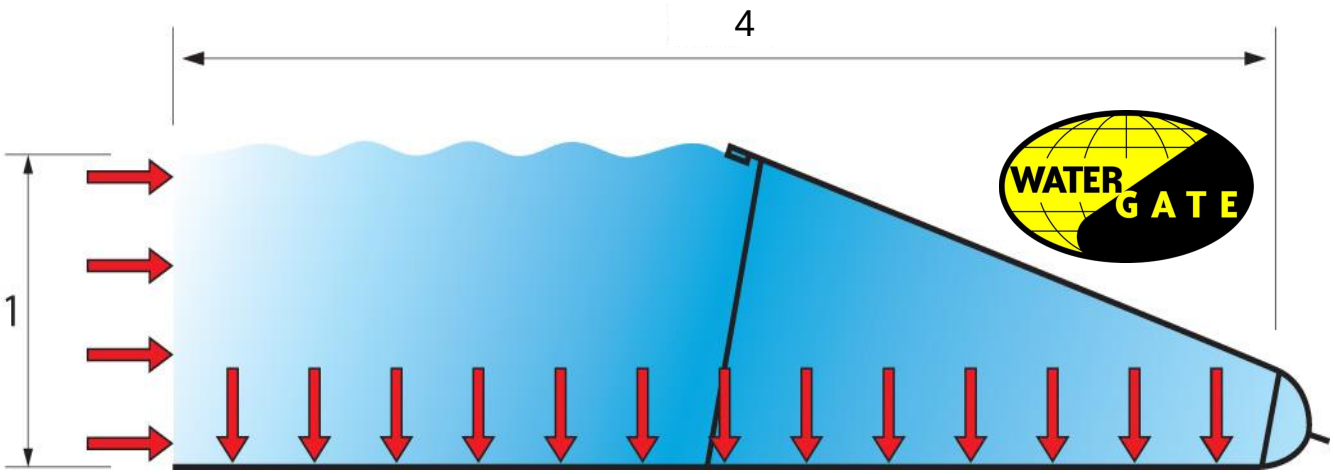
HOW THE WATER BARRIER WORKS

The principle is simple: water accumulates inside the barrier and exerts pressure on the bottom of the fabric, which keeps the barrier in place. The speed or direction of the incoming water is not important, as it is the water pressure that causes the barrier to open up.



WATER HOLDING BACK WATER

The surface of the barrier on the ground is 3 times greater than its water retention height, which means it has 3 times more vertical thrust (toward the ground) than horizontal thrust, allowing for good adherence. In order for water to be able to hold back water on most surfaces such as asphalt or grass, a ratio of 1 to 2½ is generally sufficient to ensure safety. With a ratio of 1 to 3, the Water-Gate barrier is obviously very safe and the chances of it slipping are very slim. The wider the barrier is, the less likely it is to slip.



RESISTANCE TO CHEMICALS

Fluid		WS Category
Inorganic Acids	Hydrochloric acid or Aqueous hydrogen chloride	12 hours resistant
	Hydrofluoric acid or Hydrogen fluoride	12 hours resistant
	Anhydrous hydrobromic acid or Hydrogen bromide	12 hours resistant Discoloration
	Nitric acid or Hydrogen nitrate	Not recommended
	Phosphoric acid or Orthophosphoric acid	12 hours resistant
	Sulfuric acid	Not recommended
Bases	Sodium hydroxide or Caustic soda	12 hours resistant Major repairs
Hydrocarbons	Gasoline, Diesel, Oil	12 hours resistant
Non-polar Solvents	Petroleum ether or Petroleum benzine or Light ligroin or Rubber solvent or Naphtha	12 hours resistant Major repairs
	n-Hexanes or Dipropyl	12 hours resistant Major repairs
	p-Xylene or Thinner fast dry TY25635	12 hours resistant
	Toluene or Toluol	12 hours resistant
	Chloroform or Trichloromethane	Not recommended
	Dichloromethane or Methylene chloride	Not recommended
Polar Solvents	Acetone or Methyl ketone	Not recommended
	Acetic acid (glacial)	12 hours resistant
	Ethanol or Ethyl alcohol	12 hours resistant
	Methanol or Methyl alcohol	12 hours resistant Inspection
	Formaldehyde or Formic aldehyde	12 hours resistant Inspection
	Methyl ether ketone or Ethyl methyl ketone	Not recommended
	Tetrahydrofuran or Butane	Not recommended
Others	Ethyl acetate or Acetic acid ethyl ester	Not recommended
	Acetic anhydrous or Acetic acid anhydrive	12 hours resistant
	Paint thinner	12 hours resistant Inspection
	Ammonium hydroxide or Ammonia solution	12 hours resistant
	Hydrogen peroxide or Hydrogen dioxide	12 hours resistant
	Calcium hydroxide	12 hours resistant
	Ferric chloride (anhydrous) or Iron trichloride	12 hours resistant
	Sodium hypochlorite (5%) or Bleach	12 hours resistant

Hours resistant:	The Water-Gate will resist for 12 hours
Not recommended:	The Water-Gate is not resistant to this fluid
Inspection:	Check for possible alterations of the containment shell (appearance, rigidity)
Major repairs:	Degradation of the containment shell

FOUR GOLDEN RULES TO FOLLOW FOR ALL CATEGORIES

1. Pump the water at the back of the barrier

Normally, in stream or ditch installation, the slope or grade is strong enough to prevent water from accumulating in the back of the WT or WA Series barrier. When used in flood control and if the slope is almost inexistent, it's very important to leave a reasonable amount of space between the building and the back of the barrier. This space will allow you to move freely and install one or more water pumps. The water seeping underneath the barrier should not be left to accumulate behind the barrier, this area should be kept dry with the help of water pumps.

2. Place an even amount of weight at the front

Do not tie the barrier to the ground, as it uses the weight of the water to stop oncoming water. However, it is very important to place even weights along the entire length of the front flap to minimize water infiltrations underneath the barrier and keep it on the ground. Depending on the required application, MegaSecur offers models with integrated ballast weights for quick installation. Make sure these weights are well secured to the front flap and cannot come loose. Stakes may be used to fix the extremities of the barrier going up the embankment if slope is steep.

3. Prevent water from accumulating under the barrier

Remove all objects likely to create water infiltrations under the barrier flap. The barrier is designed to stay in place on all surfaces such as asphalt, gravel, lawns, and concrete paving blocks, but if there is too much water under the flap, the barrier will not adhere as well and may slip. It is thus important to make sure that the ground is free of objects that could cause water to accumulate under the barrier.

4. Never try to contain a leak at the back of the barrier

If there are leaks, stop the water from coming in at the front of the barrier. In most cases, such problems are caused by water infiltrations at the front. Trying to contain a leak at the back of the barrier will create a pool of water and make the barrier unstable.

SITE SELECTION PRINCIPLES

A. Select a streambed that provides a maximum grip. Look for the presence of small rocks on bottom or rugged terrain/relief. If possible, avoid sandy or clay type streambeds if not, add rocks at the projected location of the barrier in order to obtain an increased grip and limit possible fail.

B. The ideal set up is laying a few inches of the edge of the ground tarp on an even surface while setting the back part on gripping material as stated above. Avoid leaning the downstream part of the barrier on tree stumps or larger rocks/ boulders that would limit the use of the release holes.

C. The flooded zone at maximum retention height should be evaluated prior to selecting the installation site. It should preferably be free of shrubs, high weeds, recess or any other obstacles.

D. For slow flowing streams, to limit the intervention area, select a stream zone that is as narrow as possible. For a fast-flowing stream, use a wider area, this will optimize the use of the release holes and increase the underflow dam capacity.

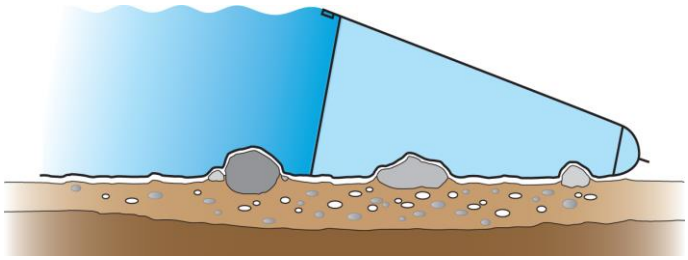
E. Select a site with easy access for the intervention team and their equipment.

F. A visual reference upstream (i.e. marked stake) can be used for monitoring the height level and prevent overtopping. This will help monitor the upstream zone level and manage the release holes necessary for proper underflow dam operations.

G. In a spill situation, absorbent booms can be installed upstream to temporarily block the contaminants. Once the Water-Gate barrier is installed, booms can lean against the upper portion of the barrier. The Water-Gate can also be propped open by inserting dowels or stakes though the holes located in the inner partition walls. See text page 17 and pictures page 18.

TWO PRINCIPLES OF ADHESION OF THE BARRIER INSTALLED IN STREAMS

1st principle: The pressure of the water on the bottom fabric of the barrier makes the barrier stick closely to the uneven bottom of the stream. It is as if there were studs holding down the bottom of the entire water filled surface of the barrier. The more the bottom of the stream is uneven, the more the barrier adheres perfectly well.

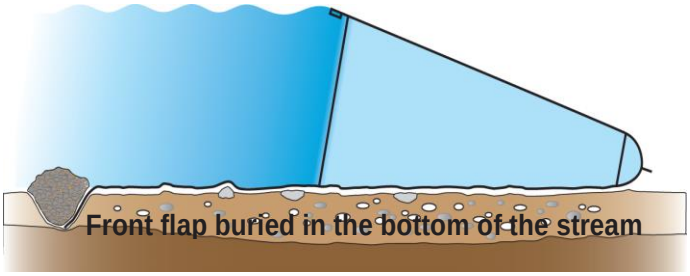


The water barrier will adhere very well in the great majority of streams and rivers. However, the bottom of some streams may cause problems if they mainly consist of sand or hard and smooth clay. Here are 3 types of bottoms that you are likely to come across:

a) Bottom of a normal stream composed of gravel: ± 95%
b) Bottom of a stream only covered with sand: ± 3%
c) Bottom of a stream composed of clay: ± 2%

A. **Bottom of a normal stream composed of gravel:** This type of bottom is found in the great majority of streams and rivers (± 95% based on our estimate). It consists of small gravel and/or big rocks. The barrier responds very well in this case. However, if the gravel is very thick, water infiltrations are likely to occur. To keep water from flowing under the barrier, make a trench across the stream and bury the front flap of the barrier, specially for water reserve application.

B. **Bottom of a stream only covered with sand:** This type of ground is rarely found in streams (± 3% based on our estimate). The barrier adheres well to a sandy bottom, but you have to make sure that there are no water infiltrations under the barrier during installation. If this occurs, what may start out as a small leak can become difficult to control and especially to stop. After some time, the leak can become so big that the barrier will sink into the hole made by the water and end up slipping. This phenomenon is called piping.



Setting up the barrier in this type of stream is not recommended. However, if it has to be done, the following precautions should be taken: 1) Bury the front flap of the barrier in the sand at a depth of more than 15 cm / 6 inches. 2) Place sandbags along the entire length of the front flap of the barrier. 3) Insert a plastic tarp under the joints if 2 barriers have to be tied together in order to prevent infiltrations that could lead to piping.

C. **Bottom of a stream composed of clay:** Certain streams are completely covered with clay (± 2% based on our estimate). The clay can be either solid and very slippery or unsteady and viscous. This type of bottom is rather rare, but when encountered, caution should be taken by better insulating the front of the barrier.

The Water-Gate water barrier adheres to this type of ground. However, as soon as the water level reaches the full capacity of the barrier, the danger of slipping is increased because of the slippery surface. The following precautions should be taken in these conditions: 1) Place stakes behind the barrier so that it can lean against these stakes if it starts to slip. 2) Put ballast weights along the full length of the front flap to prevent water infiltrations under the barrier or bury the front flap.

TWO PRINCIPLES OF ADHESION OF THE BARRIER INSTALLED IN STREAMS (cont'd)

2nd principle: The adhesion of the water barrier in a stream also depends on the following factors:

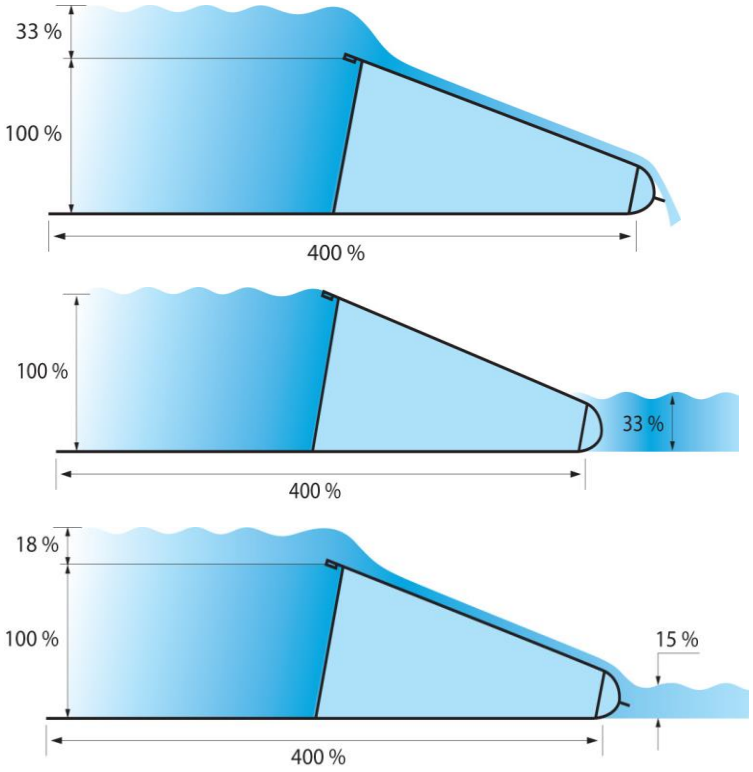
a) Overflow of water over the barrier
b) Surplus of water at the back of the barrier
c) Overflow of water over the barrier with a surplus of water behind it

The examples below are based on an installation in a stream with a bottom covered with medium size rocks and gravel. The result can be very different if the surface on which the barrier rests is more uneven or smoother.

A. **Overflow of water over the barrier:** The situation shown in Figure 1 is not likely to occur because there is no accumulation of water behind the barrier. In this case, the barrier can hold a surplus of water of up to about 33% on top. This approximate percentage represents the point at which the barrier will slip.

B. **Surplus of water at the back of the barrier:** The situation shown in Figure 2 is the opposite of that in the previous figure. The risk of slipping is the same as in Figure 1, as the maximum acceptable amount of water behind the barrier is also ± 33%.

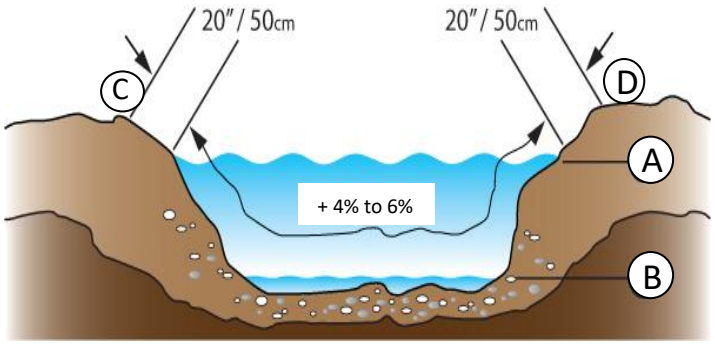
A. **Overflow of water over the barrier with a surplus of water behind it:** The situation shown in Figure 3 occurs regularly. The water over the barrier added to the water behind it adds up 33%. Based on the slope and the flow of the stream, the surplus upstream can vary but the total amount of excess water cannot exceed 33%.



IDENTIFYING THE MINIMUM BARRIER LENGTH REQUIRED FOR A STREAM

Before deploying and installing the water barrier in a stream, it is important to determine the required barrier length.

Start by identifying the maximum water level A height that will be reached by the water as it accumulates where the barrier will be installed. B Is the water level prior to installing the dam. For stream width, consider the projected flooded zone once the dam is filled to its maximum height. Add an additional distance of about 50 cm / 20 inches on each side. When the distance is determined, add another 4% to 6% to your initial measurement. This additional length will compensate for the fact that the fabric is stretched over an uneven surface and has to go around the large rocks at the bottom of the stream. Total length should be from C to D along the stream bed = retention height (bottom of stream to A X 2) + width of the dammed stream,
+ (20''/ 50 cm X 2) + 4 to 6% of total length.



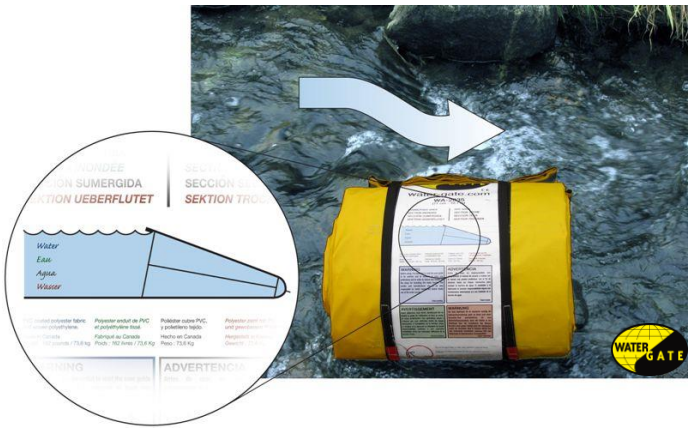
IDENTIFYING THE MINIMUM BARRIER LENGTH REQUIRED FOR A STREAM (cont'd)

The barrier must be long enough to prevent the water from flowing out at the sides, otherwise it is almost sure to slip. On the other hand, it can't hurt if the barrier is longer than required. The opposite illustration shows the perfect efficiency of the half-deployed barrier in this situation.

PREINSTALLATION ADVICE

Here is some practical advice for a successful installation right from the first try.

1. Make sure that the barrier is facing in the right direction based on the pictogram and instructions on the barrier.



2. Here are two good comparable methods to install the water barrier across a stream.

a. From one side of the stream, unwind the barrier flat on the ground and pull it across the stream.

b. Unwind the barrier directly in the water. This method can only be applied from one side of the stream because of the direction of the stream and the direction of the rolled-up barrier.

The speed of the current in a stream does not generally affect the installation of the barrier. The unwound barrier will float if the current is very weak; if it is strong, the water barrier will sink to the bottom of the stream. There is little chance of the barrier drifting away with the current or being automatically deployed.

PREINSTALLATION ADVICE (cont'd)

3. One last word of advice before installing the barrier: think about the possibilities for easy removal. There are various ways to remove the barrier but the most used is the fast method of removal. To do this, identify the side where the water has to be released from the barrier. This side will have its end slightly above the limit of the level of the accumulated water. By proceeding this way, the barrier becomes as easy to remove as it is to install.

INSTALLATION OF THE WATER BARRIER IN A STREAM

After the water barrier has been unwound across the stream, make sure that the water does not go over the sides because the barrier is not long enough. (See the section entitled "Identifying the Minimum Barrier Length Required for a Stream" on pages.13 & 14)

The following step is crucial for the successful installation of the barrier. Based on our estimates, we recommend having one person for every 3 m / 10 feet of stream width.

- Stream 3 m / 10 feet wide: 1 person is generally sufficient
- Stream 6 m / 20 feet wide: 2 people are strongly recommended
- Stream 9 m / 30 feet wide: 3 or more people are required

Of course, having an extra person will always be useful, especially if the current is strong.

1. Plan to put ballast weights or rocks the size of your fist and even 3 times as large upstream from where the barrier will be installed. Use at least one rock or set of ballast weights for every foot or 30 cm / 1 foot along the part of the front barrier flap that will be underneath the water.

2. After identifying the exact location for your installation, begin to deploy the front flap and MAKE SURE THAT NO WATER ENTERS THE BARRIER by lifting up the front flap.

3. Quickly push the front flap of the barrier to the bottom of the stream. Once this step has been completed, no more adjustments can be made.

INSTALLATION OF THE WATER BARRIER IN A STREAM (cont'd)

4. At the same time, place your feet on the front flap to weigh it down temporarily while you put your previously gathered ballast weight, rocks, or sandbags in place.

5. Continue to place other ballast weights along the entire front flap. It is easier to use rocks already available in the stream to place them on the front part of the front flap.

6. To prevent water from seeping under the barrier, remove long pieces of grass, branches and any other objects that are likely to create infiltrations.

N.B.: The water tightness of the barrier will mainly depend on how much water gets underneath it. No barrier installed in a stream can be completely watertight because the bottom of the stream is generally covered with rocks and gravel. However, if you make a groove at the bottom of the stream, you can use it to bury the front flap of the barrier and obtain very good water tightness.

REMOVING THE BARRIER

1. After removing the ballast weights, lift the corner of the front flap and let the water flow under the barrier.

2. Continue by lifting a wider part of the front flap until the barrier begins to slip.

3. Move forward with the slipping barrier and support the front flap to keep it out of the water. This precarious operation is recommended to prevent the barrier from rolling up and make it easier to take it out of the stream.

REMOVING THE BARRIER (cont'd)

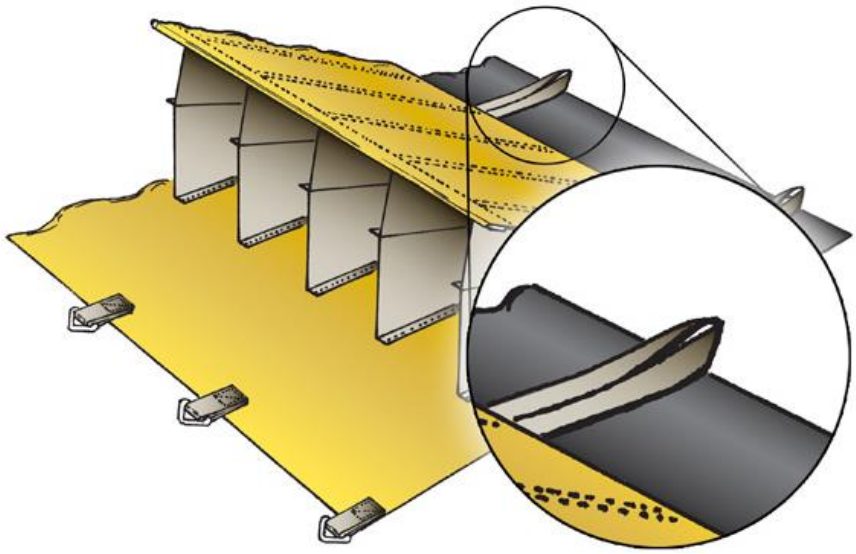
4. As soon as the barrier is stabilized, allow the water in the stream to flow normally.

5. To remove the water barrier, pull toward the back. Use the handles specially provided for this operation.

USE OF THE BACK STRAPS

The back straps are mainly designed to remove the barrier from the water and hang it up to facilitate cleaning and drying. Do not pull on the back straps if the weight to be supported is no more than 150 kg / 330 lbs. The solidity of every back strap was tested at 200 kg / 440 lbs. Although the straps resisted at that level of tension, the material was slightly deformed.

In certain conditions, the back straps can also be used to hold back the fabric of the barrier when there is a steep slope or prevent the barrier from drifting if the water is flowing toward the back of the barrier.



TYING TOGETHER TWO WATER BARRIERS

To tie together two water barriers, both barriers must be completely unfolded at the attachment joints.

All our barriers, regardless of size can be tied together.

To tie together two water barriers, a straight surface is required, especially under the joint where the two barriers will be attached. Do not tie barriers together in moving water. If the temperature is below freezing, the water in the velvet strips and hooks may freeze, making it impossible to tie the barriers together.

Step 1) completely unroll and unfold the two barriers and lay them one next to the other.

Step 2) both barriers must be **aligned at the back.** Make sure the joints are open.

Step 3) open the top fabrics on each side to uncover the bottom joints and insert the barrier on the right into the one

Step 4) close up the velvet strips and hooks by laying them one on top of the other from the back. Good dexterity is required to close up the back.

Step 5) keep closing up the velvet strips and hooks from the back until you end at the front.

Step 6) when you are done with the joint at the bottom, insert the partition of the barrier on the left in the partition of the barrier

Step 7) close up the velvet strips and hooks by laying them one on top of the other, the same as you did for the bottom joint.

TYING TOGETHER TWO WATER BARRIERS (cont'd)

Use the same method to tie together two barriers of different sizes. Make sure the two barriers are aligned at the back.

Follow the same instructions as in **steps 1 thru 5.**

Follow the same instructions as in **step 6.**

Follow the same instructions as in **step 7.**

The two barriers are now attached. Refer to the category of barrier you possess to know how to proceed with the configuration you require.

IDENTIFICATION NUMBER

To properly identify its barriers, MegaSecur assigns them a number identifying their category and size. The first two letters represent the category and the two numbers after the dash designate the maximum water retention height in inches. The last two numbers show the length of the barrier in feet.

Example: WT-2115 model

WT	=	Identifies the barrier's category.
21	=	Water retention height: 21 inches or 53 cm
15	=	Length of the barrier: 15 feet or 14,6 m

OPTIONAL FULLY OPENED OR PROPPED OPEN WATER-GATE UNITS

Once deployed in a stream, the barrier will open up and deploy the way a parachute does in the wind. In the process or after full deployment, partial or complete overtopping can occur and folds can form in the top bib/floater edge. This is due to partial sinking of the floater or top bib in certain configurations.

One way to deal with this partial overtopping is to prop open the Water-Gate as soon as it is installed in the stream or ditch. There are small holes at the base and top of the partitions (or retaining walls) in which stiff rods or wooden dowels can be inserted to keep the barrier open at all times. We suggest that you use dowels that are 1 inch shorter than the required or preferred retention level and a diameter of approximately ¾ inch (1/2 to 1 inch).

Floaters such as insulating foam for hot water pipes or pool noodles for children can also be placed under the top bib edge, under the floater to improve floating and limit overtopping. Use plastic spring clamps to fix these floaters. Sorbent booms can also be set at this location or filtering sorbent cloth can be set on the pole or wooden dowels of propped open units. (see pictures on the next page).

OPTIONAL FULLY OPENED OR PROPPED OPEN WATER-GATE UNITS (cont'd)

Propped open unit with red dowels

Propped open unit with red dowels

Filtering sorbent cloth set on propped open unit

Propped open unit with red dowels

IMPORTANCE OF NOT TYING THE WATER BARRIER TO THE GROUND

We do not recommend tying the water barrier to the ground since the barrier tends to contract as it fills up with water. Tying down the barrier will put tension on the front flap, which will create spaces for the water to flow through because the fabric will not be able to mold against the obstacle on the ground.

FOLDING UP THE WATER BARRIER FOR STORAGE

1. After cleaning and drying the barrier, stretch it out on a large flat surface.
2. Using a stick, make sure all partitions are smoothed out to enable you to fold up the barrier tightly so that it can easily be inserted in its bag once rolled up.
3. Before folding the barrier, keep all the joints open to make it easier to tie a second barrier to it, if need be.
4. Start folding from the back. First the black tarp anti-mining flap, then the two back folds. Use the folds already appearing on the fabric as a reference. Then do the first two front flaps.
5. Roll up on the side opposite to that of the instruction banner.
6. After being properly rolled up, the barrier should look like this.

1

2

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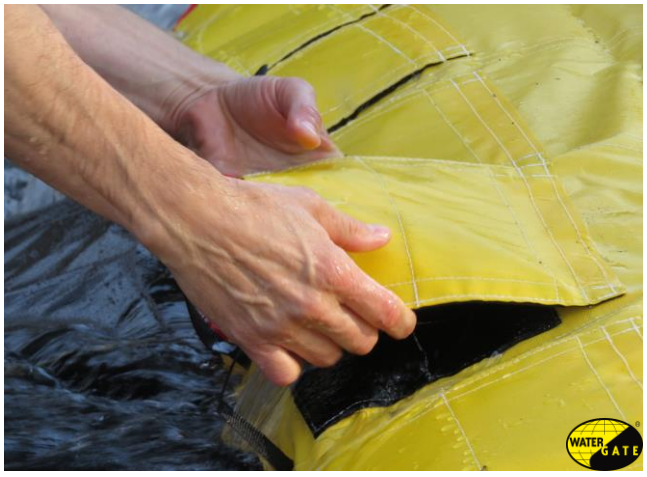
4

5

6

Demonstration on a WT-2835

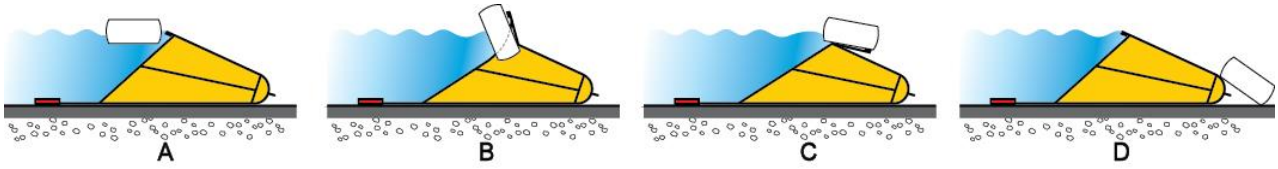
INSTALLATION AND TRAINING PICTURES



QUESTIONS OFTEN ASKED BY OUR CUSTOMERS

What happens if fragments in and on the water smash against the Water-Gate barrier?

Rigid systems are vulnerable and dangerous if they are hit by large fragments. Systems filled with water or air will deflate and lose their rigidity (hold) if fragments hit and damage their structure. As for sandbags, if they are pushed out of the way by large fragments this can create a large gap in the dam and flood control will be lost.
The Water-Gate water barrier has the amazing ability to hold back all fragments in the water due to its great flexibility. If one or more large objects are being projected at high speed against the barrier, be it from a parallel, sideways or perpendicular angle, the barrier will act like a spring. The object being thrust against the barrier will automatically be pushed away from the barrier with little risk of damaging it.
If there are fragments floating on the water, they will fold down the top of the barrier as they hit it, go over it and end up at the back of it. Should the barrier get hit very hard by a floating object, it could tear at the top. However, we are confident that it would hold out until the flood was contained.



If a wall or a tree falls on the barrier during a flood, what solution do you propose?

The water barrier will simply wrap itself around the object that fell on it and only a small amount of water will go over the barrier. All you have to do is remove the fallen object, and the barrier will regain its original position. The risk of tears from an object falling on the barrier is pretty low. Should there be a hole or a tear, it can easily be repaired by placing a piece of fabric inside the barrier. The fabric will adhere to the inside wall simply from the pressure of the water entering the barrier.
We believe that in the case of a heavy object falling, the Water-Gate barrier and sandbags would be the only flood control devices that would hold out.

What skills are required for installation? Is training necessary?

No particular skills are required. However, basic training is recommended. Installation is simple but does require a minimum of understanding. Our User's Manual explains all applications and shows how easy it is to install the water barrier. Chances are you will find everything you need to know in this manual. If you have any questions after going through it, a technician at MegaSecur will be happy to give you more information

Will the barrier withstand parallel water flow?

Parallel water flow is not a problem. In the example on the right, there was more water flowing than the barrier is intended to withstand, and the current was swift. In this same trial with lots of parallel flowing water, we attempted to damage the barrier with wood fragments. Our testing process was rigorous but did not result in any damage to the barrier.

Will the Water-Gate barrier withstand freeze-thaw cycles?

Our PVC fabric manufacturer warrants its product against cracking at a temperature of –30ºC, and the polyethylene partitions are guaranteed to withstand temperatures as low as –40º C.

The PVC fabric and polyethylene used to make our barriers are the same as those used for road transport and car shelters. They are very resistant to extreme temperatures and have proven their worth over several decades of freeze-thaw cycles.

The water barrier in the photograph on the right was placed in a stream at a temperature of –20ºC for a period of three days. A layer of ice formed on the inside, at the top of the PVC (yellow) fabric, but was very easy to remove by just tapping the barrier. The ice came unstuck, immediately floated to the top of the barrier, slid over it and ended up behind it. We were then able to dismantle the barrier in the same way as in summer, with the exception that the remaining water quickly formed into ice crystals, and the barrier became instantly dry and clean.

Notes

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