

## **How to Buy Swift Water Rescue Equipment**

Swift water poses many dangers to the rescuer. It is a dynamic environment, and one small mistake or misjudgment can snowball into catastrophe.

In past years, one third of drowning victims in the United States were would-be rescuers. Many of these victims either lacked proper training or equipment. It is paramount, then, for rescue teams to not only purchase the proper equipment, but also to train and practice in swift water.

### **Levels of Training**

NFPA standard 1670 outlines three levels of training for swift water rescue:

- 1.1. Awareness
- 1.2. Operations
- 1.3. Technician

Before purchasing equipment, your agency should decide which level of training you will pursue, for there is a different equipment list for each.

### **Equipment list each level**

1. Awareness: This level of training is designed for Agencies and rescuers who have a minimal exposure to swift water. Typically, the requirements to reach this level of training are an 8 hour course. Awareness level rescuers will not be entering the water, but may be operating in proximity to the water.

Minimum Equipment:

1. Helmet
2. Personal Floatation Device (PFD)
3. Proper Footwear
4. Throw-bag

2. Operations: This level of training is designed for agencies and rescuers who will be assisting in-water rescues and could be exposed to accidental swims. Typically, the requirements to reach this level of training are a 16 hour course.

Minimum Equipment:

1. Helmet
2. PFD
3. Thermal Protection
4. Proper Footwear
5. Throw-bag

3. Technician: This level of training is designed for agencies and rescuers who will be conducting in-water rescues, either swimming or by boat. Typically, the requirements to reach this level of training are a 24 hour swift water course and 24 hour technical ropes course.

Minimum Equipment:

1. Helmet
2. PFD
3. Thermal Protection
4. Gloves
5. Proper Footwear
6. Throw-bag

### What to look for in Swift Water Rescue Equipment

**Helmets:** There are many manufacturers of water sports helmets, each with its own strengths and weaknesses. The most important factor when deciding on a helmet is comfort. An uncomfortable helmet will usually end up unbuckled or taken off, either way, it will not be doing its job.

After comfort, the helmet should be assessed for coverage. There are an assortment of styles, from full face to over the ears. One of the most important aspects of coverage is that of the forehead. Many helmets will slide back, leaving the forehead exposed. This is not acceptable in whitewater.

The final consideration for helmets should be whether or not a skull cap or beanie will fit underneath it. In the west, many rescues occur during spring run-off, when the water is 30-40 degrees fahrenheit. Extra warmth is a necessity during these rescues. Many helmets allow you to easily adjust the padding inside to accommodate this.

**Personal Flotation Devices (PFDs):** The U.S. Coast Guard has developed standards for PFDs. It is necessary that the PFD chosen is designed for whitewater use and is a Type III or V (Type V will generally provide more floatation).

The PFD should fit comfortable on the rescuer, and should be snug when adjusted. The typical way of testing this is by pulling the shoulder straps upwards. If the PFD pulls up the torso and covers the rescuer's chin, then it should be tightened.

A Swift Water Rescue Technician should consider purchasing a rescue PFD. These PFD's are outfitted with a quick release harness, allowing the rescuer to perform a tethered swim. *Caution: Tethered swims require training to perform. If your agency*

*does not have a Technician level rescuer, avoid the purchase of a rescue PFD. This will prevent the misuse of the harness.*

All PFD's should have a whistle and knife attached to them.

Beware of purchasing a PFD with too many pockets. Although they can be convenient during rescue operations, they can often become a nuisance or entrapment hazard in the water.

**Thermal Protection:** There are really only two choices here: wetsuit or drysuit.

Wetsuits:

Benefits:

1. Relatively inexpensive
2. Provides abrasion and impact protection
3. Provides warmth in the water
4. Relatively comfortable
5. Durable

Weaknesses:

1. Does not provide significant warmth out of the water
2. Can be restrictive and increase difficulty with swimming

Drysuits:

Benefits

1. Provides for maximum warmth in and out of water
2. Non-restrictive and ease with swimming
3. Provides Body Substance Isolation
4. Entire body coverage (except for hands and head)

Weaknesses:

1. Expensive
2. Latex gaskets around neck and wrists can be uncomfortable
3. No impact/abrasion protection
4. Can tear and become ineffective in water

For rescue teams functioning in cold water, the decision is fairly simple. Drysuits provide for the maximum amount of thermal protection.

**Gloves:** Simple neoprene gloves will protect hands from rope burns and provide warmth. Avoid other materials.

**Footwear:** Footwear is the most overlooked, and perhaps most important part of the swift water ensemble. Most injuries on the river occur, not in the water, but on loose, jagged rocks on shore. Proper footwear should be worn by all members of the rescue team.

There are many options for river shoes. Most are constructed out of neoprene. Rescuers must balance foot protection with flexibility for swimming. Large lace up water rescue boots are great for walking and working on shore, but can be difficult to swim with. Thin neoprene booties are great for swimming but provide little protection for walking.

If swimming fins are a consideration for the rescue team, then assure that the river shoes fit inside the fins.

**Throw-Bags:** Throw-bags come in many different shapes and sizes, and are made of many different materials. The minimum length for a rescue team should be 50-60 feet of rope. Consider purchasing a more expensive low-stretch rope like spectra or dyneema. This will allow the rescuer to use as a tensioning tool if necessary. Technician level rescuers should consider a belt-bag. These bags fit around the waist, allowing the rescuer to swim while transporting the bag.

## **Conclusion**

There are many choices in swift water gear. It is important that each agency and individual assess their potential use of the gear, and choose appropriately. Keep in mind, though, even the best, most expensive gear is only as good as the rescuer using it. Swift water rescue requires training and practice.