



There's a pretty good chance that if you're on the lookout for a tent, you've come across the term "waterhead rating" or a number like "1500 mm" or "3000 mm" listed in the tent specifications... right?

So, the curiosity over what on earth this rating means led you to your favourite internet browsing device where you asked Google, and voilà! You've landed on this article where we're going to explain it all for you!

### **So, what is a waterhead rating?**

In simple terms, waterhead rating is a measure of how waterproof the tent is. Or to be more precise, a measure of how much water pressure the tent fly fabric can withhold before it starts to seep through.

Keep in mind that this only refers to the ability of the fabric to resist the penetration of water, it has nothing to do with the quality or durability of the fabric, and it cannot compensate for a poorly designed tent.

The waterhead rating and season rating of a tent should be considered hand in hand. A two season tent is not designed for heavy rainfall so it won't have a high waterhead rating. Three to four season tents on the other hand, are used in a range of weather from warm sunny climates to cold and wet or tropical locations, so they need to be adequately waterproof.



*Ratings can be a little mystifying and often leave you wondering: just how waterproof is my*



tent? Photo: [MSRGear](#)

## What about DWR treatment?

DWR, or Durable Water Repellant treatment doesn't affect the waterhead rating of a fabric. It's a surface treatment that helps shed water from the fabric, a bit like wax for your car. It's a handy feature generally found on good quality tents as it prevents the fabric from wetting out.

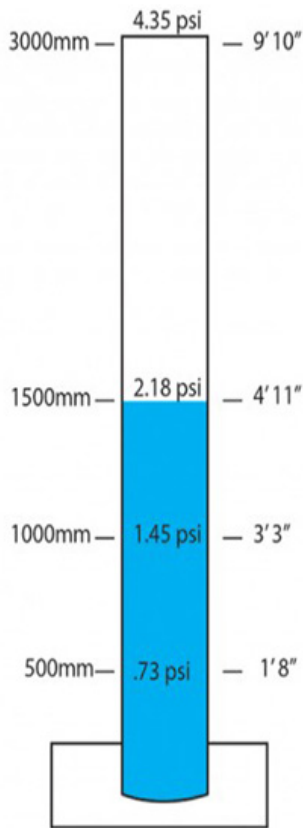
## So, how is waterhead rating measured on a tent?

The most common methods are lab tests with a Suter Tester or columns filled with water bearing pressure down on the fabric. Both tests are similar.

The Suter Tester applies pressure to a piece of fabric that's clamped down into the machine. Once water starts to penetrate the fabric a psi measurement is taken that can be translated to mm as the waterhead rating.

The cylinder test involves securing a section of the fabric to the bottom of a column. The column is then filled with water and once the water starts to penetrate the fabric, the height of the water is measured in mm, giving the waterhead rating of the fabric.

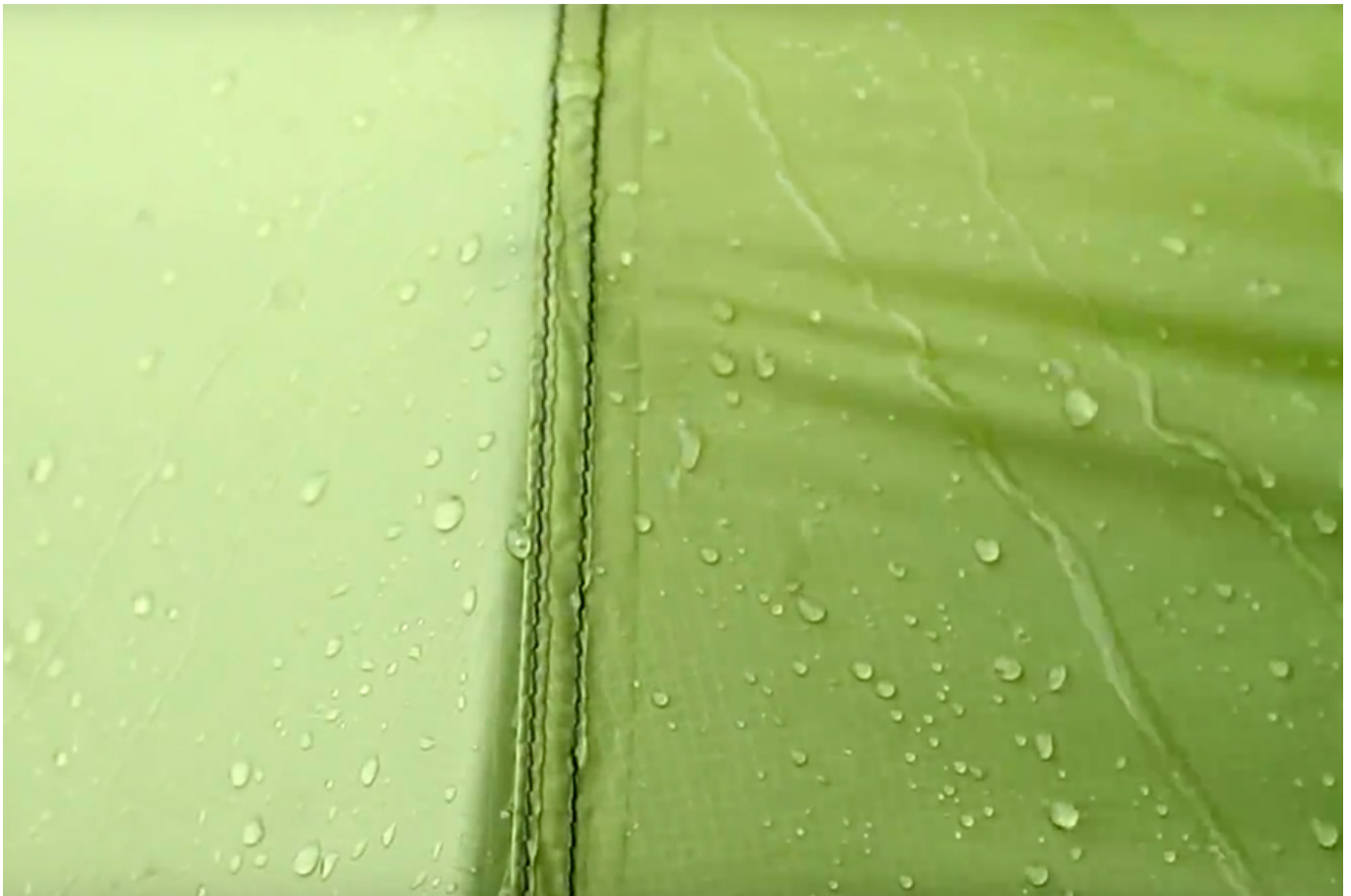
It's important to note that these tests are in a controlled environment and don't take into consideration mechanical forces such as wind driven rain, the forces of gravity on rain, or the weight of someone standing on a tent floor bearing pressure down onto the wet ground.



*A fabric's waterproof rating is measured in mm, which represents the pressure at which water is able to press through the fabric. Photo: [MSR Summit Register](#)*

## Is a higher waterproof rating better?

Not necessarily. There's not much point having a high waterhead rating on fabric that has low tear strength. Excessive waterproof coatings can also mean heavy and stiff fabrics. What's worse, is a poorly applied coating which can delaminate or crack. These considerations are not factored into the tests mentioned above.



*Keep in mind ratings are tested in a controlled environment, so Mother Nature isn't in full force. Photo: [MSRGear](#)*

### **The quality and overall build of your tent**

You should also consider the build quality of your tent or shelter. Seams, zippers, tabs, anywhere that stitching exists are points of water entry. Good quality tents will have sealed all seams to prevent water penetrating through and the tent will also be designed to shelter zippers and have adequately sloped walls to shed water.





*High-quality tents have sealed seams which assist with keeping your tent leak free. Photo: Zempire*

## **What you really want is a waterhead rating guide... right?**

### **<1000mm**

This is 2 season tent country, so the fabrics in this range will withstand light rain for short periods.

### **1000mm to 1500mm**

This is the lightweight hiking tent range. 1500mm is considered completely waterproof and is more than adequate for lightweight 3 season hiking or compact camping tents. A 1500mm rating will keep you dry in a rainstorm with 120kph winds. But, if you're camped out in a family tent in these kinds of conditions, a waterhead rating may be the least of your concerns.



## **>1500mm**

These ratings are more waterproof, but unless all of your camping is on the north eastern coast of Queensland during the wet season, I wouldn't base my entire purchase decision on this.



*Tent floors are usually rated higher than the fly. Pictured is the PVC coated poly oxford floor of the Instant Up Gold Tents from Coleman. Photo: Coleman*

## **What about the rating for a tent floor?**

Well, that's a slightly different story. Given the extra forces generated through walking on it, a tent floor needs a higher rating. Hiking tents would ideally have around 10,000 mm rating, but many lightweight tents are now coming out with 6000mm or even 3000mm in favour of a less weight.

Family tents often have a polyethylene (tarpaulin) or PVC floor which generally don't have a waterhead rating. But, you can assume both will be hard wearing and pretty much impermeable to water anyway.

## **Some final advice on waterhead ratings**

To summarise, and help you choose your new tent, a general rule is that a good quality tent



with a 1500 - 3000mm waterhead rating on the tent fly along with a durable polyethylene or PVC floor is going to keep you sheltered and dry in all but the absolute worst of conditions.

***So, how does your tent hold up in adverse weather conditions?***