How to Secure a Toilet Flange in 8 Steps

Securing a toilet flange is a bit harder than you would think. But if you are already handy around the house and have the right tools and parts, you will be able to do it without needing to hire someone else.

What are the steps to securing a toilet flange?

1. **Block off the Gases from the Pipe**
2. **Cut the Drainage Pipe**
3. **Remove Material Surrounding the Pipe**
4. **Test It Out**
5. **Secure Flange to the Floor and Pipe**
6. **For Extra Stability, Add Masonry Anchors**
7. **Add Wax Ring**
8. **Secure the Base in Place to the Flange**

Keep reading below as we get into all the specifics of installation that you will need, plus helpful guides on toilet flange maintenance and replacement.

What Is A Toilet Flange?

If you think about it, the fact that a toilet (or at least most standard, low tech toilets) sits around in your bathroom for decades and flushes without needing electricity is one of the miracles of modern plumbing. They get flushed thousands of times without incident and yet we do not even really know how they work. In fact, toilets are composed of (besides gross stuff) many complicated working parts that come together to keep your house sanitary.

The toilet flange is typically covered by the outer ceramic of the toilet base, so odds are you did not even know it was there before getting stuck at its installation. A toilet flange, also sometimes referred to as a "closet flange" because of the bathroom's old nickname of a "water closet," is **the crucial piece connecting your toilet to the drainage pipe in the floor below**. It is typically made up of a short PVC (polyvinyl chloride) pipe connector and steel ring with holes for screws, although it can also be:

- **All PVC**
- **All Steel**
- **Copper**
- **Brass**
- **Stainless Steel**

Different Types of Toilet Flanges

Since toilet flanges can be made out of many different kinds of material, which one is best is more of a matter of personal preference.

Steel

Steel is the most standard material for a toilet flange. It is sturdy and does its job. It is what most strong household connections are made out of, and for good reason. Danco makes a good one.

Stainless Steel

Still steel, but with the added benefit of being rust proof. Quite the advantage when you are dealing with plumbing parts. Stainless steel tends to be more expensive though, but it is worth it. Here are some good ones:

- **Oatey**
- **Harvey's**
- **Sioux Chief**

Aluminum

Aluminum flanges may not be as sturdy as steel, but they have better protection from erosion. Also, even though they are not as heavy, they still do a strong job.

Copper

Copper flanges cost more but offer a high protection from erosion. They are also highly flexible, making installation a breeze. However, that also means they can only be used with elbow joints on the drainage pipe, in order to prevent them from slipping down. Copper flanges are also a bit harder to find online.

Brass

Brass is fairly sturdy and durable. You will need an extra wax ring to make it fit properly, but otherwise they work quite well. There are three different styles of brass flanges:

- **Deep seal**
- **Offset**
- **Regular**

They are also usually more round in shape than other flanges.

Cast Iron

If you are dealing with an older house that utilizes cast iron pipes, you will want a flange that fits that system, although considerably more expensive, cast iron flanges exist so that you can still complete your installation and attach it successfully to any toilet you have. Here are a few:

- **Oatey**
- **Oatey 42255**
- **Repair Kit**
- **PROFLO**

PVC/Plastic

Some toilet flanges are all PVC. Although the idea of using all plastic for a serious plumbing connection seems unsafe, PVC is a very durable material and is also fairly cheap. Try these ones:

- **Universal Drain**
- **Flexon**
- **Oatey**- This one is offset, should your project require it.

Keep These Things in Mind Before Installing Your Toilet Flange and Toilet

Unless you want sewage leaking onto the floor next to your toilet (or worse, leaking **into** the floor next to your toilet), installing your toilet flange correctly is one of the most important steps in installing a toilet. Before you do that though, you will want to get your **incoming water connection** (usually found on the wall behind where the toilet will be) ready to go. Follow these steps to be sure that the later flange installation to your toilet plumbing can occur easily and without incident:

1. **Shut Off the Main Water**
2. **Open Another Water Outlet in the Bathroom**
3. **Clean the Pipe**
4. **Cut the Pipe**
5. **Attach Connection to Pipe**

1. Shut Off the Main Water

Any toilet needs to have its own shut off connection so that water can be stopped from flowing to it in the case of a malfunction. Until that happens, the incoming water pipe coming out of the wall has active water pressure. You do not want water spraying in your face while you are doing this, so you will first need to **shut off the main incoming water to your house**. Every house is different, but household water supply connections are typically located in the basement or a utility closet. **If you do not know where this is, do not just start turning random levels and knobs.** Ask an expert or consult your new construction contractor.

2. Open Another Water Outlet in the Bathroom

Shutting off the main helps get rid of the pressure and most of the water, but there will still be some remaining water in your bathroom pipes. You can get rid of that by simply turning on the:

- **Bathtub**
- **Shower**
- **Sink**

For any remaining water in the toilet pipe itself, place a small container under it.

3. Clean the Pipe

Cleaning the pipe, especially if it was covered with paint or dirt during the initial install, makes cutting it a lot easier. Emery cloth usually does the trick.

4. Cut the Pipe

Cut the pipe off approximately an inch away from the wall, using a steel pipe cutter. That dimension can vary though, so your best bet is to check the instructions on your new shut off connection first. Let the water run out of the pipe for a few seconds.

5. Attach Connection to Pipe

Grab a connection like this one and install it onto the pipe. Follow the instructions carefully, but typically the order goes:

a. **Wall plate**

b. **Nut**
c. **Brass ring**
d. **Rest of connection piece**

Tighten up the nut to make a solid waterproof connection.

Do I Have the Right Toilet?

Probably. Existing pipes installed by the new construction plumber are required by law to fit with the dimensions of an average toilet. As long as you are getting a toilet from your local store and it is not getting ordered from the other side of the globe, you should be fine. But it is always a good idea to check its specifications, just in case.

How Is a Toilet Flange Attached to Pipe?

Alrighty! Let's get this toilet installed, shall we? In order to set your toilet in place, you will need to make sure the toilet flange is attached properly to both the pipe and base of the toilet itself. Here are all the steps to securing the flange in more detail:

1. Block Off the Gases from the Pipe

During the installation process, you will be dealing with a pipe in the floor that is connected to your waste and sewage systems. It will not smell…pleasant. Even if it does not smell too bad, it is certainly not healthy to breathing those gases. To prevent this, simply put a rag loosely into the pipe. There is a 90 degree turn directly underneath you, so it will not go too far. **Just remember to take it out before you set the toilet!**

2. Cut the Drainage Pipe

The drainage pipe needs to be flush with surface below, **which is not necessarily the same height as the main floor if you have tiles.** Since that makes it hard to cut with a standard saw, it is best to use cutting wheels that connect to a standard drill to cut at the right length from **inside** the pipe.

3. Remove Material Surrounding the Pipe

To fit the toilet flange, you will need a small amount of space (half an inch or less should do it) around the drainage pipe. Hopefully the new construction installer left you some filler that can easily be pulled out. Otherwise you may have to chip away at the surrounding concrete. Remember, you only need enough space for the toiler flange to fit snug, so do not go too crazy.

4. Test Out the Toilet Flange

Make sure the toilet flange will fit snugly on the drainage pipe. A critical part of this is the two closet bolts. Place the two bolts across from each other in the connection holes of the flange, so that they sit at "9 and 3" (like a clock) relative to the wall, as if the spot on the wall directly in front of you were 12. If that all fits flush and even, you are ready for the next step.

5. Secure Toilet Flange to the Floor and Pipe

To establish a nice waterproof connection, you will need glue them together, as glue will not cause any unnecessary leakage like screws and holes would. Apply the following liberally to both the toilet flange and drainage pipe:

- **Primer**
- **PVC Cement**

Then stick them both together, **making sure the two bolts are also in place**. Line everything up by the same 9 and 3 rule and then allow two minutes for the primer and cement to settle.

6. For Extra Stability, Add Masonry Anchors

That will hold reasonable well, but for a truly solid connection, you will want to really clamp down your toilet flange with a few masonry anchors. Screwing them directly in can risk damaging the bathroom tile though, so first pre-drill the holes so that they line up with the flange's connections. Then screw in the anchors.

7. Add Wax Ring

A wax ring is then placed between the top of the toilet flange and the drainage hole on the bottom of the toilet. This is used to seal that connection, keeping both water and sewage gas in the drainage system and away from your bathroom floor.

a. **Place the ring on top of the toilet flange**
b. Make sure it is right in the middle, snug between the two bolts.
c. The bottom of the toilet will have one hole on either side.
d. Place it on top of the wax ring and flange, so that the two bolts slide through the two holes.
e. Make sure the base is still sitting flat on the tile floor.

The holes in the base are oval shaped on purpose, to give you some wiggle room.

8. Secure the Base in Place to the Flange

Now that the base is sitting in place on the flange, you are well on your way to having your new toilet ready to go. To finish the toilet flange portion of the installation, you will need fasten the base to the bolts. Apply the pieces that should have come with your toilet in this order:

a. **Bolt cap base**- Should fit snuggly in the base's hole
b. **Stainless steel washers**
c. Nuts- Get them tight to truly secure the overall connection between toilet and flange

You may need to go back and forth between both bolts while tightening the nuts, so the base does not move too much on the flange. Get it snug, but not overly snug, as you would risk breaking the porcelain.

If needed, cut the excess length of each bolt before place before screwing on the more aesthetically pleasing bolt caps.

Finishing Your Toilet Installation

So now that your toilet flange is securely installed between your drainage pipe and the base of the toilet, you probably will want to finish installing your toilet so you can actually use it. Here are **the rest of the steps you should take:**

1. **Gather the Rest of the Toilet Pieces**
2. **Install Gasket for Tank**
3. **Put on the Toilet Seat**
4. **Connect the Water to the Toilet**
5. **Open the Water**
6. **Test It Out**

1. Gather the Rest of the Toilet Pieces

Your standard toilet kit will come with more than just the bowl. It should also include the following:

a**. Tank**
b. Tank Lid
c. Seat

Any screws or bolts to connect these parts should come with the kit.

2. Install Gasket for Tank

The next thing you will want to do is connect the tank to the bowl. The manufacturer should have done all the complicated plumbing within the toilet for you already, which means this step should be really easy. Simply find the gasket and place it in the open hole on the bottom of the tank. Then put the tank on top of the bowl in its proper location to make the watertight seal. Use the nuts and bolts that should also be included to bolt them securely together.

3. Put on the Toilet Seat

Toilet seats are pretty important for obvious reasons. The seat should contain two brackets which line up to the corresponding holes next to the bowl. Send through the usually plastic bolts and tighten them up with the nuts.

4. Connect the Water to the Toilet

To get your toilet fully operational, it needs water. Using a flexible stainless steel water supply line, connect it to the incoming water connector on the wall that we set up earlier. Screw one end into the connector, and the other end into the connection on the bottom of the tank. Again, make sure both connections are watertight.

5. Open the Water

Next, open up the valve on the wall water connector. You should hear water flowing through the hose and then filling up the tank. Let it fill until the tank is full. If you have ever used a toilet before, which I hope you have, you should know what that sounds like.

6. Test it!

Last but not least, give it a flush! Make sure it is a nice, steady flush, which means you are not losing water pressure somewhere along the line. Check the following places to make sure there are no leaks:

- **Wall connector**
- **Water supply line**
- **Around the base of the toilet**
- **Anywhere else on the floor or down the wall**

Flange Is Leaking- Easy Fixes

If your toilet flange connection is leaking, you will see water developing on the floor around the toilet or worse, dripping off the ceiling on the floor below. To fix, you will first need to remove the toilet to expose the flange and drainage pipe connection. What you will do next largely depends on the state of your material here. First, you will want to put a rag in the pipe to block the gases, just like we did for installation earlier. Then take a good look at the situation.

Wax Ring is Compressed

Sometimes, due to faulty design or installation, the wax ring will be flattened or non-existent. When this happens, a gap develops between the flange and the toilet itself. Remember, the flange sits level with the actual floor, not the tile. Meanwhile, the toilet rests on the tile. So even though they are bolted together, there is now that gap which allows water to escape under the base and out the sides. If this is what happened, you will want to replace that wax ring.

Degraded Flange

There is also a good chance that while the wax ring is perfectly fine, the flange has rusted away over the years, causing a faulty connection and/or a gap between the toilet and the drainage pipe. If it is degraded badly enough, try clearing it out and simply replacing it with a brand new one. You might also want to change out the wax ring here anyway, just to be safe.

Installing a Flange Extender

More than likely though, the flange will be deteriorated but you will not be able to get the whole thing out. If the initial installer was just as competent as you after following these directions, then he or she (or you) did a great job cementing it into place. Your solution then, rather than doing major damage to your floor, would be an extender.

Get one or even a few of these and experiment with what will fit but still do a snug job. To play it safe, I would just get one of these Toilet Flange Extension Kits from Oatey, which will give you plenty of flexibility during this process. You really do not want to keep buying extenders or not having long enough bolts, depending on how much your flange and drainage pipe have sunk down over time. Follow these steps for installing your extensions:

1. **Clean out any wax**- Dissolved wax or debris may very well be sitting around the connection. Dirt and grime do not allow for a flush connection. So, clean out what is left of the flange the best you can.

2. **Add sealant**- Add silicone sealant to the flange so you will be able to add extenders as a waterproof connection. Allow a minute for drying. Repeat this process each time you add an extender.
3. **Add the bolts**- Fit the long bolts through the bottom of the original flange connection holes and any extenders. Make sure they will be long enough to also fit past the wax ring and the actual toilet base. Odds are you are talking as much as 4 to 6 inches, depending on the number of extenders. That kid I mentioned should have a few variations of bolts for your convenience. If you need to, add some glue around the bolts to make sure they do not fall into the floor.
4. **Add the wax ring on top**- Even with all these extenders, you will still need that wax ring for a proper seal. Make sure it is properly snug, of course.
5. **Install the toilet**- Lastly, install the toilet, making sure the two bolts adequately go through the holes of the base and clear out the other side. Add on the bolt covers and install the rest of the toilet like normal.

How Often Should I Change My Flange Under Normal Usage?

As long your toilet flange was installed properly from the beginning, along with the rest of your toilet, you definitely should not be needing to replace it all the time. Although the type of flange you use can vary the amount of wear and tear it can take, **flanges usually will last up to 30 years, if not more.** When are the times you should be replacing it? Here are a few:

Leaks or Odors

As we just mentioned, leaks coming from your toilet, as well as odors, are very bad for the health of both you and your house. While this could just mean you need a new wax ring or just some extenders, it could also mean it is time for toilet flange replacement, if you are able.

Toilet Rocks Back and Forth

If your toilet consistently rocks back and forth with ease, that can mean a big problem with your flange. Undo the bolts and take a look beneath the floor. If your toilet comes off way too easily, that probably means a bolt broke. Replace the bolt and you will be back in business.

If that is not it, there is a good chance your flange broke or cracked. That can happen to the PVC ones, or the metal ones over a long period of decay. Carefully remove the pieces of the flange so that none of it falls into the drainage pipe (then you would have a much bigger problem. Then install a **new** toilet flange, taking the same amount of care as your original installation. Make sure everything is even and flat against the floor too. Having a bolt in the way or the wax ring not installed perfectly flat could have contributed to an incorrect weight distribution, which may have caused the crack.

Toilet Replacement

You should try and replace most of your complimentary parts every time you get a new toilet. Granted, you should not need to be getting a new toilet every year, so that will not be often either. When you remove the toilet, examine the condition of the other parts. Is there rust on the drainage pipe? What about the incoming water valve? These might need to be replaced or at least cleaned. Unless your flange is in pristine condition, you may as well get that replaced while it is easily accessible. After they are inexpensive and easy to get to. Also, do you really want to have

to take your brand-new toilet off its bolts six months after installation just because your flange went bad? Just get a new toilet flange.

Sources

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