



## Sealants and Compounds: Which one should you use?

**Insecure** joint fixtures can lead to disaster. You can avoid leaks and bursts by using the right type of sealer. **Sealants** such as **Teflon tape** and **compounds** like **pipe dope** seal the spaces between pipes with threaded connections. These substances are easily applied with **brush applicators**.

When working with copper pipe, you can **solder** pieces together. You will need a **torch** to melt metal components to each other. At lower temperatures, you should use **flux** to help the solder form a solid bond. Always make sure you are using approved solder and flux for pipes used with drinking water. **Brazing**, a soldering technique at high temperatures, is preferable for joining different types of metals to each other.

Use **solvent-welding** when you need to join plastic pipes. To ensure a strong **bond**, you will need to use **cleaner** to prepare the surfaces. Then apply a **primer** to aid the bonding process before applying the final **glue**.



torch



solvent-welding



glue

### Get ready!

1 Before you read the passage, talk about these questions.

- How are pieces of pipes or parts joined together?
- Why is using the right sealer for a particular job important?

### Reading

2 Read the magazine article on sealants and compounds. Then, mark the following statements as true (T) or false (F).

- A brush applicator is used to apply solder.
- Different types of metals can be brazed together.
- Soldering is the preferred method for joining plastic pipes.

### Vocabulary

3 Write a word that is similar in meaning to the underlined part.

- The plumber used a method for joining plastic parts with chemicals to install the new pipes.  
\_ \_ l \_ \_ n \_ - w \_ \_ d i \_ \_
- Sealants are applied to threaded connections with a bristled tool.  
b \_ \_ \_ h \_ \_ p p \_ \_ c \_ \_ o r
- We need a compound used for threaded connections to finish the project.  
\_ \_ p e \_ \_ o \_ e
- The joint might leak if you don't use a substance that removes grease or debris first.  
c \_ e a \_ \_ r
- The chemical company released a new substance formed with two or more parts for sealing something.  
\_ o m \_ \_ \_ n \_
- Sam used a metal compound to join the copper pipes.  
s \_ \_ \_ e r

**4 Read the sentence pair. Choose where the words best fit the blanks.**

**1 glue / primer**

- A When solvent-welding, the \_\_\_\_\_ is applied first.
- B When solvent-welding, the \_\_\_\_\_ is applied last.

**2 braze / solder**

- A For a strong bond, use flux before you \_\_\_\_\_.
- B You need especially high temperatures to \_\_\_\_\_ a joint.

**3 sealant / torch**

- A The joint leaked because the plumber used the wrong \_\_\_\_\_.
- B This \_\_\_\_\_ is not hot enough for brazing.

**4 flux / Teflon tape**

- A \_\_\_\_\_ helps the solder stick.
- B \_\_\_\_\_ is used mainly for threaded connections.

**5 Listen and read the article on sealants and compounds again. What is a danger of using the wrong sealing product?**

## Listening

**6 Listen to a conversation between a customer and a clerk. Choose the correct answers.**

- 1 Why does the clerk suggest a different product?
  - A the glue does not work on plastics
  - B the customer does not need a sealant
  - C the pipes need a flexible glue
  - D CPVC is the wrong pipe for the project
- 2 What will the customer likely do next?
  - A look for a stronger primer
  - B buy the recommended glue
  - C get a new type of pipe
  - D purchase a soldering torch

**7 Listen again and complete the conversation.**

**Customer:** I need something for 1 \_\_\_\_\_ - \_\_\_\_\_ two pieces of CPVC.

**Clerk:** Oh, 2 \_\_\_\_\_ want that glue.

**Customer:** Really? 3 \_\_\_\_\_ that it's for plastic piping.

**Clerk:** 4 \_\_\_\_\_, \_\_\_\_\_ it's only for PVC.

**Customer:** Sorry, I don't know much about 5 \_\_\_\_\_ . What's the difference?

**Clerk:** CPVC expands and contracts with 6 \_\_\_\_\_ water. Your glue needs to be more flexible to accommodate that.

## Speaking

**8 With a partner, act out the roles below based on Task 7. Then, switch roles.**

**USE LANGUAGE SUCH AS:**

- I need something for ...*
- It says here ...*
- I don't know much about ...*

**Student A:** You are a customer. Talk to Student B about:

- your project
- the right glue
- types of pipe

**Student B:** You are a store clerk. Talk to Student A about the right glue for a project.

## Writing

**9 Use the conversation from Task 8 to fill out the store clerk's recommendation.**

Irwin's Hardware

### Product Recommendation

Type of project: \_\_\_\_\_

Materials used: \_\_\_\_\_

Product recommendation and why: \_\_\_\_\_



## PLUMBING AT HOME

Sink Installation  
PART III

## Preparing the pipes

First, **measure** the correct length of pipe. Choose where to **cut** the pipe and **mark** the spot. To **slice** the pipe, we recommend a pipe cutter.

**Slide** the piece of pipe into the pipe cutter. **Adjust** the pipe cutter to fit the pipe. Then **turn** the wheels until the blade touches the pipe. Be sure that the pipe is straight. If the pipe **tilts** in the pipe cutter, it will not cut properly.

To **saw** through the pipe, **rotate** the pipe cutter. Remove any rough edges inside the pipe. Measure the new pipe **segment** to ensure it is correct.

If it is, turn to Part 4: Fittings.



## Get ready!

1 Before you read the passage, talk about these questions.

- 1 What are some tools that can be used to cut a pipe into two pieces?
- 2 What are the steps a plumber should take when cutting a pipe with a pipe cutter?

## Reading

2 Read the chapter from a book on plumbing at home. Then, complete the chart.

Pipe Preparation: Steps	
Step 1	_____ and _____ the pipe.
Step 2	_____ the pipe into a pipe cutter.
Step 3	Be sure that the pipe does not _____.
Step 4	_____ the pipe cutter to _____ through the pipe.

## Vocabulary

3 Match the words (1-6) with the definitions (A-F).

- |              |            |
|--------------|------------|
| 1 __ measure | 4 __ slide |
| 2 __ tilt    | 5 __ cut   |
| 3 __ rotate  | 6 __ mark  |

- A to place a sign on something  
 B to turn something over or around  
 C to determine the physical properties of an object  
 D to move something along a surface  
 E to separate or divide something with a blade or edge  
 F to lean in a direction

**4** Read the sentence pair. Choose where the words best fit the blanks.

**1** adjust / slice

- A Turn the wheel to \_\_\_\_\_ the wrench.  
 B Be careful with that knife or you'll \_\_\_\_\_ your hand.

**2** saw / turn

- A \_\_\_\_\_ through the pipe with this tool.  
 B \_\_\_\_\_ the screwdriver clockwise to tighten the screw.

**5** Listen and read the chapter on pipe preparation again. What actions do plumbers take before cutting pipes?

## Listening

**6** Listen to a conversation between two plumbers. Mark the following statements as true (T) or false (F).

- 1 \_\_\_ The man needs assistance.  
 2 \_\_\_ The woman will measure the pipe.  
 3 \_\_\_ The man lost his pipe cutter.

**7** Listen again and complete the conversation.

**Plumber 1:** Hey, Carol. Can you **1** \_\_\_\_\_ with something?

**Plumber 2:** Oh, of course. What do you need?

**Plumber 1:** I'm **2** \_\_\_\_\_ this pipe. But I need help measuring it.

**Plumber 2:** **3** \_\_\_\_\_. Should I hold the pipe or use the tape measure?

**Plumber 1:** Just hold it, thanks. **4** \_\_\_\_\_.

**Plumber 2:** Sure thing. Do you have something to **5** \_\_\_\_\_ it?

**Plumber 1:** Oh, I forgot. Let me grab one.

**Plumber 2:** Don't **6** \_\_\_\_\_ it. You can borrow my pen.

## Speaking

**8** With a partner, act out the roles below based on Task 7. Then, switch roles.

**USE LANGUAGE SUCH AS:**

- Hey, can you ...?*  
*Should I ... or ...?*  
*Do you have something to ...?*

**Student A:** You are a plumber. Talk to Student B about:

- getting help cutting a pipe
- measuring the pipe
- marking the pipe

**Student B:** You are a plumber. Talk to Student A about cutting a pipe.

## Writing

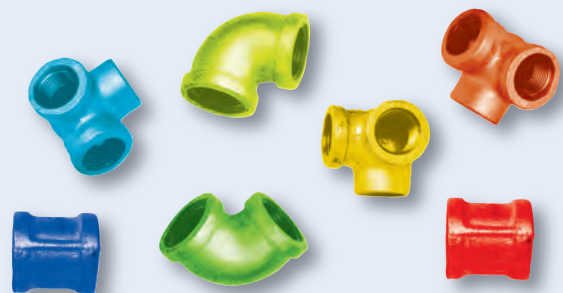
**9** Use the conversation from Task 8 to fill out the chapter summary.

### Preparing Pipes Chapter Summary

Before cutting, \_\_\_\_\_

If you have a partner, you might want to \_\_\_\_\_

To cut, \_\_\_\_\_



# Glossary

- above-ground pump** [N-COUNT-U12] An **above-ground pump** is a pump system for a well located above ground or away from the well.
- activation temperature** [N-COUNT-U1] An **activation temperature** is the point at which the temperature is high enough to set off a sprinkler system.
- active fire prevention** [N-UNCOUNT-U1] **Active fire prevention** is a method of controlling and stopping fires using moving objects and devices.
- adhesive latex caulk** [N-UNCOUNT-U7] **Adhesive latex caulk** is a substance used to seal the edges of a sink to a countertop.
- alignment** [N-UNCOUNT-U12] **Alignment** is the state of parts being adjusted so that they are in the correct position.
- auger** [N-COUNT-U10] An **auger** is a tool used to remove materials from a pipe.
- back up** [N-COUNT-U13] A **back up** is a situation that occurs when a pipe system becomes clogged and material is pushed back toward where it came from.
- backfill** [N-UNCOUNT-U3] **Backfill** is loose soil that is placed into a dug-out area to fill it up.
- ball float** [N-COUNT-U9] A **ball float** is a hollow, sealed ball that floats on the water surface in a toilet tank and triggers the fill valve to start or stop the flow of water.
- ballcock** [N-COUNT-U9] A **ballcock**, also called a fill valve, is a mechanism that controls the water level in a toilet tank.
- ball-type faucet** [N-COUNT-U11] A **ball-type faucet** is a faucet with a single handle that moves over a ball-shaped cap above the base of the spout.
- blockage** [N-COUNT-U10] A **blockage** is an obstruction in a drain or other piping system.
- bolt** [N-COUNT-U6] A **bolt** is a metal rod that is inserted through a hole and secured with a nut on the other side, used to fasten two objects together such as a toilet tank and toilet bowl.
- bowl** [N-COUNT-U6] A toilet **bowl** is the bottom piece of the toilet into which waste is deposited and then flushed with water.
- braided-stainless-steel** [N-UNCOUNT-U14] **Braided-stainless-steel** is a strong, flexible material used in some tubes and hoses.
- branch vent** [N-COUNT-U5] A **branch vent** is a vent that connects one or more individual vents with a stack.
- break down** [V-I-T-U13] To **break down** is to separate into pieces or component parts.
- build-up** [N-UNCOUNT-U15] **Build-up** is the increased presence of a substance in a particular place.
- burial-depth** [N-UNCOUNT-U3] **Burial-depth** refers to how deep underground a pipe is placed.
- burr** [N-COUNT-U14] A **burr** is a rough edge on a piece of metal.
- cable auger** [N-COUNT-U10] A **cable auger** is a tool for clearing obstructions in a drain system. It consists of a coiled flexible cable with a corkscrew tip and a cranking device to extend it spinning through the system to push or pull the obstruction out of place.
- cam washer** [N-COUNT-U11] A **cam washer** is a small metal ring found near the ball in a ball-type faucet.
- cartridge faucet** [N-COUNT-U11] A **cartridge faucet** is a faucet with a cartridge that moves up and down to control the flow of water.
- cast iron** [N-UNCOUNT-U7] **Cast iron** is a combination of iron, carbon, and silicon that is made into shapes using a mold.
- caulk** [N-UNCOUNT-U6] **Caulk** is a substance used to create a waterproof seal, such as between the base of a toilet and the floor.
- ceramic disc faucet** [N-COUNT-U11] A **ceramic disc faucet** is a faucet with a single lever over a tall, round body.
- chain** [N-COUNT-U9] A **chain** is a metal part that connects a toilet's tank handle to the tank flapper so that the flapper is lifted when the handle is pressed.
- chamber** [N-COUNT-U2] A **chamber** is an enclosed space.
- circuit breaker** [N-COUNT-U15] A **circuit breaker** is a device that stops an electrical current that has become too strong and might be dangerous.