

PRODUCT KNOWLEDGE TRAINING

Learn the common features and uses of each product.

PK DESCRIPTIONS

1. Copper Pipe



- Rigid copper pipe is good for new installation. Soft or flexible copper pipe is good for repair

work since it can bend around obstacles without multiple cuts and joints.

- Type K is heaviest, used in municipal, commercial, residential and underground installation.
- Type L is medium weight and is the most commonly used in residential water lines.
- Common sizes are 3/8", 1/2 and 3/4".
- Type M is hard and thin. Recommended for light domestic water lines and not permitted in some city codes or for underground use.
- Refrigeration tube has moisture removed and ends sealed for better performance of refrigerants. Often used in heater connections but may corrode. For heater connections, use flexible brass or aluminum.
- Larger sizes also used for DWV (drain-waste-vent) applications.

2. PVC Pipe



- PVC stands for Polyvinyl Chloride.
- Used for carrying cold water,

irrigation, as conduit and for DWV (drain-waste-vent) projects.

- Rated by thickness and strength. Common ratings (thickest to thinnest) are Schedule 40 (most common), Class 315, Class 200 and Class 125 (generally used for irrigation).
- Available in sizes from 1/2" to 2". White in colour.

3. CPVC Pipe



- CPVC stands for Chlorinated Polyvinyl Chloride.
- Used for both hot and cold water supply or chemical distribution systems.
- Good for temperatures at 93°C in pressure systems and non-pressure systems.
- Requires special solvent cement that is different from cement used for other types of plastic solvents. Most solvents will indicate this on the can.

4. ABS Pipe



- Means Acrylonitrile Butadiene Styrene
- Made from a thermoplastic resin. Lightweight and easier to use than metal pipe.
- Commonly used for DWV (drain-waste-vent) applications or for underground electrical conduits.

cal conduits.

- Available as either solid wall or cellular core construction.

5. Black Poly Pipe



- Used for carrying low-pressure, cold water. Common applications include golf course sprinklers, underground conduits or to carry corrosive liquids and gases.
- Good chemical and crush resistance.
- Lightweight enough to cut with an ordinary knife or a fine-toothed hacksaw blade.

6. PEX Pipe



- PEX stands for crosslinked polyethylene.
- Chief advantage is its flexibility and strength. It can make turns around corners without couplings.
- In a PEX plumbing system, a separate line is run from the main water supply to each fixture in a set up much like a circuit breaker box.
- Used for carrying hot and cold water.
- Excellent chemical resistance to acids and alkalis, but do not use for fuel oil, gasoline or

kerosene systems.

- Do not weld with solvents. Join with heat fusion, flare, crimp ring or compression fittings.

7. Galvanized Pipe



- Has zinc coating that prevents rust if not scratched.
- Use primarily for carrying water or waste. Do not use for gas or steam.
- Common water sizes are 3/8", 1/2", 3/4" and 1". Common waste sizes are 1-1/2", 2" and 3".
- Often sold in pre-threaded standard lengths, or can be custom threaded.
- Use only with similar galvanized pipe fittings, not with black pipe fittings.
- Measured using the I.D. (inside diameter).

8. Black Iron Pipe



- Not treated for rust resistance.
- Used for carrying steam or gas.
- Used only with black iron pipe fittings, not galvanized fittings.
- Measured using the I.D. (inside diameter).

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9. Water Supply Tube



• Used to connect a water supply line to a faucet fixture, toilet or appliances. Several types available.

• Plastic type is flexible and inexpensive but not designed for exposed connections.

• Ribbed chrome type bends easily without kinking.

• Braided type features pre-attached connector nuts at both ends and can be flexed to fit.

• Chrome-plated copper or brass tubes are more rigid than other types and are good for exposed applications.

• The most common size is 3/8", with lengths ranging from 6" to 72".

10. Vinyl Tubing



• Economical and used in a variety of applications.

• Usually joined with pressure fittings and clamps.

11. Trap



• Installed under sinks and tubs to route wastewater to the drain. Bridges the gap between the sink tailpiece and the drain line.

• The bend in the trap uses gravity to hold

water and prevent sewer gas from seeping into the house.

• Attach using slip nuts

• Three configurations include: P trap, S trap and J bend.

• Most common sizes are 1-1/4" and 1-1/2".

• Also available is a trap with flexible tubes that help in connecting misalignments of the tailpiece and the drain line.

• Available in plastic and chrome-plated brass.

12. Tub Drain



• Uses an overflow opening to control draining in a tub.

• The Spring type consists of an assembly controlled by a lever that moves a pop-up plug up and down. It is easiest to install, especially in retrofits.

• The Weight type consists of an assembly that controls a weight that lifts up or down out of the drain hole. It is also controlled by a lever.

13. Pop-Up Drain



• Also known as a P.O. drain.

• Controls the mechanism in a lavatory sink with a plug that can open or close the drain.

OTHER TRAINING TIPS

Designed to give you confidence on the salesfloor!

This section is for retail skills training specific to this core product category.

FAQs

Q: What is the difference between PVC and CPVC plastic pipe?

A: CPVC can be used on hot and cold lines, while PVC is for cold water only. PVC is usually used as a drainpipe.

Q: What does O.D. and I.D. mean?

A: This refers to the diameter of a pipe. Some pipes are measured based on their outside diameter, or O. D. Others are measured by their inside or interior diameter, or I.D.

Q: Is 2" CPVC and 2" PVC the same size?

A: No. CPVC is measured by O.D., which makes its sizing similar to hard copper. PVC is measured by I.D., which makes its sizing similar to iron pipe.

Q: You stock two sizes of supply lines. Which one will I need for my toilet?

A: The toilet supply line head is the larger of the two. The smaller ones are sink supply lines.

Q: What are the advantages of plastic supply lines?

A: They are less expensive, do not corrode, will not kink, are more flexible and are non-toxic.

Q: Do I use the same type of glue for both PVC and CPVC?

A: No, CPVC requires special solvent cement that is different from cement used for other types of plastic pipe.

Q: How do I join fittings to plastic pipe?

A: Use a solvent welding glue, which softens the pipe and fittings so they can melt together.

Q: Can the fittings be removed after they have been glued?

A: No, they are permanently joined and cannot be taken apart.

Q: What do the letters "K," "L" and "M" on copper tubing mean?

A: They refer to different wall thicknesses. Type K is the thickest and the heaviest. Type L is medium weight and used most often for water lines in homes. Type M is thinner and is used underground or for light domestic water lines if local codes allow.

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Q: There is dripping along some of my pipes. Does this indicate a leak?

A: Not necessarily. Warm, moist air condenses when it strikes cold pipes. To prevent this condensation, wrap the pipes in insulation.

Q: I have a problem with the plumbing in my house making groaning noises.

A: It could be that you have lost your “air cushion.” To get it back, turn the water supply off at the main valve. Turn on all the faucets around your home. Then turn on the main valve again and shut off each faucet. This should take care of the problem.

Q: What does the toilet vent pipe do?

A: It is a pipe that runs from the toilet drain to the outside, usually to the roof. This prevents air lock in the drain line.

Q: What diameter trap do I need for my kitchen sink?

A: These are almost always 1-1/2”. The 1-1/4” traps are for bathroom lavatories.

Q: Is a trap necessary under the sink?

A: Yes, you need a trap to shut off odour (sewer gas) from coming into the kitchen and bath area.

Q: Can I use plastic drain parts on metal drain parts under the sink?

A: Yes.

UPSELLING

• Copper pipe, while it costs more, is still the choice of many professionals and is many times used in new construction. If customers have any doubts about the toxicity of the solvents used in the installation of plastic pipe or its long-term reliability, suggest they use copper instead.

- If the water supply tube is not exposed, suggest a flexible, braided type of line. While they cost more, they are much easier to install. If the lines will be exposed, suggest they upgrade to a brass, stainless steel or chrome supply line. These will look better than the standard plastic tube.
- If the trap will be exposed, suggest using a chrome-plated brass trap. Although they are more expensive, they look better than the white plastic traps.

ADD-ON SALES

- Pipe Fittings
- Pipe Cutter
- Extra Pipe Cutting Wheels
- Hacksaw

- Pipe Hangers
- Pipe Strap
- Nails
- Te flon Tape
- Pipe Joint Compounds
- Pipe Wrenches
- Pipe Reamers
- Pipe Threader
- Pipe Flaring Tool
- Sandpaper
- Propane Torch
- Propane or MAPP Gas
- Solder & Flux
- Flame Shield
- Crimp Tool for PEX Pipe
- Cutting Tool for PEX Pipe
- Safety Glasses
- Flashlight
- Pipe Insulation
- Pipe Heating Cables
- Water Hammer Muffler

SAFETY TIPS

- When sweating a copper joint, use a metal flame shield in tight places to protect surrounding areas from catching fire.
- Wear safety glasses, a hat and gloves when cutting pipe or soldering a joint, especially if making a repair where you must reach over your head.

- Always have adequate ventilation when using solvents to prevent buildup of fumes.

PRO CORNER

- Some pros with their own pipe threader may want their threaded pipe TOE, or threaded on one end only. They also may be glad to buy any odd sizes you have that aren't threaded.

MERCHANDISING

- Pipe is tall (10 ft.) and bulky. Be sure to display it along a wall to call attention to the plumbing department and to keep it well organized.
- Arrange pipes by type and diameter with smaller diameters to the left.
- Don't let bulk rolls of plastic tubing get messy. Keep it neatly wound on the spool and have a cutter nearby for ease of use. Place smaller hoses at the top and larger hoses on the bottom.
- Display all the pieces of a trap and drain assembly on project boards in the plumbing department as a learning tool for DIYers.

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PK DESCRIPTIONS

1. Plunger



- Also known as a force cup or a plumber's friend.
- Used to clear blockages in toilets, sinks and tubs.
- Combination plungers (usually black in colour) consist of two cups, one inside the other.
- Recommend combination plungers for clearing toilets.

2. Auger



- Also known as a snake.
- Consists of a coiled spiral cable, usually 1/4" thick and of varying lengths.
- The most basic type has a z-shaped handle used to crank the cable as it snakes through the drain.
- Another type uses a funnel-shaped container to store the cable and then to spin it as it works its way through the drain.
- Professionals use an auger attached to a drill or other device that spins the cable. Usually these versions can maneuver a much longer cable.

3. Closet Auger



- Also known as a toilet auger.
- Used for clearing toilets. Better than a regular auger because it is more rigid.
- Consists of a short cable with a crank.
- The handle is covered with a rubber sleeve to protect the porcelain in a toilet bowl.

4. Sewer Tape



- An alternative to the auger, but not as effective in difficult blockages.
- A flat metal band with a hook on one end.

5. Chemicals

- Used to clear stopped-up drains by chemical action.
- Most liquid drain cleaners are heavier than water and will seek out the stoppage, even if the sink, tub or bowl is full of water.
- Cleaners are typically a combination of potassium hydroxide, which turns grease to soft soap, and thioglycolic acid, that dissolves hair. Others may contain sodium hydroxide, sulfuric acid or lye.
- Toxic liquids should carry warnings and must be used with caution.



OTHER TRAINING TIPS

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FAQs

Q: I think my kitchen drains are partially clogged because the sink drains slowly. What do you recommend?

A: First, try using a plunger. If that doesn't clear the clog, try using a liquid drain opener, but use caution and read the directions carefully. Third, you can remove the trap. Be careful if you have used a liquid drain opener because there may be some left in the trap. If the clog is beyond the trap, there are drain augers that extend from 15' up to more than 50'.

Q: Do you have anything I can put in my drain line that will kill the tree roots invading the line?

A: Yes, there are root killers that contain copper sulfate that are quite effective.

Upselling

- Encourage buying a heavy duty and high quality auger. The cheaper ones will kink

at bends in the pipe, which will make them more difficult, if not impossible, to use.

- Different size drains need different types of plungers. Be sure the customer has both a standard and a combination plunger for toilet clogs.

Add-On Sales

- Adjustable Pliers
- Work Gloves
- Rubber Gloves
- Rags
- Hand Cleaner
- Plastic Pail
- Sponge
- Air Freshener

Safety Tips

- If one type of drain cleaner doesn't clear the drain, do not pour another type down after it. Toxic fumes may result from the mixing of certain chemicals.
- Always read the labels on drain cleaner chemicals carefully. Many are toxic and can harm sensitive skin.
- Be sure to wear eye protection whenever clearing a clogged drain.

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PRO Corner

- Professional customers will likely only be interested in the powered augers, the handiest of which is the type attached to a drill. Large powered augers also make good rental items.
- Be sure to know the chemical names of the professional-grade drain chemicals you stock as plumbers and pro customers will likely refer to the chemical names, such as potassium hydroxide, rather than by brand.

Merchandising

- When displaying chemicals, make it easy for customers to shop and compare different types.
- Drain chemicals make great items for display on endcaps throughout the store.

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PK DESCRIPTIONS

1. Cap



- Is closed on one end and fits over end of pipe run to seal a run of pipe or a fitting.
- Either has female threads (for galvanized pipe) or no threads (for copper, PVC and other solvent welded pipe).

2. Plug



- Is closed on one end either has male threads (for galvanized pipe) or no threads (for PVC and other solvent welded pipe).
- Used to seal a run of pipe or fitting.
- A Cleanout Plug can be added to a tee at the base of a vertical drain pipe. The plug is threaded for easy access to the drain. The threaded fitting for the plug can be added on, or some tee fittings have the threaded connection built-in.

3. Coupling



- Connects two lengths of pipe.
- Has female thread on both ends (for galvanized pipe) or no threads (for copper, PVC and other solvent-welded pipe).
- A Reducer Coupling joins two different

sizes of pipe.

- An Adapter Coupling joins two different types of connection types, such as threaded and solvent weld.
- A Repair Coupling, or mender coupling, has no centre stop so two lengths of pipe can be fastened together. Use on unthreaded lengths of pipe.
- A Fitting Trap Adapter adapts PVC to tubular traps used for sinks.

4. Elbow



- Changes the direction of the pipe, usually at a 45°, 90° or 22-1/2° angle.
- Most common are elbows with female threads or solvent welds on both ends.
- A Street Elbow has a female end on one end and a male end on the other. Also available for solvent welded products.
- A Sweep is a type of elbow that has a longer curve for a more gradual bend. Available in long or short versions.
- In two-piece toilets, a Closet Bend attaches a toilet tank to the bowl.
- Reducing Elbows change the size of the pipe.
- Adapter Elbows change from one type of joint to another, such as from a threaded con-

nection to a solvent weld connection.

5. Nipple



- Any length of pipe less than 12" used to extend a run of pipe.
- Usually available in increments of 1", from "close" (the shortest length, where threads almost touch) to 12"
- Longer lengths of pipe are considered "cut lengths" and are available in 24" increments.

6. Bushing



- Male threaded on one end with a smaller diameter female thread on the other.
- Inserted inside a coupling to reduce the size of the pipe.
- With a Reducer Bushing, any number of reductions can be made to reduce and couple to another size of pipe.
- As Adapter Bushing connects different types of pipe, such as PVC to CPVC.

7. Reducer



- Attaches directly to pipe threads to reduce pipe size.
- Female threaded.
- Can refer to couplings, tees, or elbows.

8. Tees



- Three female openings in a T shape.
- Straight tees have the same size openings.
- Reducing Tees have two openings of the same size and one of a different size.
- Sanitary Tees are used in waste lines. They have a curved branch designed for a cleanout plug and are designed to prevent obstruction of waste.
- A Cross has four female openings of equal size.
- A Wing Tee has lugs for fastening the fitting to a wall or stud.
- A Compression Tee uses compression fittings on two or more ends.
- A Test Tee has a threaded opening to be used in conjunction with a threaded plug for a cleanout opening on a drain pipe.

9. Wye Bend



- Also called a Y Bend.
- Has three female openings. Two are straight in a line; the third is at a 45° angle.
- A Reducing Wye has two openings of the same size and the third Y opening of a

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different size.

- A Double Wye has four openings.

10. Union



- A three-part fitting that connects any standard size pipe where it may be necessary to disconnect later, such as on a water heater.

- Connects to male threaded ends.
- Also known as a ground joint union.
- A Transition Union joins different types of tubing, such as CPVC to brass.

11. Floor Flange



- Connects a pipe to a wall, floor or any flat surface.
- Flanges are threaded

- onto pipe and tightened. Four screw holes allow the flange rim to attach to a flat surface.
- A Closet Flange is made to connect toilets to drain and vent systems.
- Another type is the Offset Closet Flange that is used when the drain pipe has been incorrectly positioned.
- The adjustable ring on some closet flanges allows for easier toilet alignment.

12. Saddle Tee



- Joins a smaller drainpipe to a larger one, such as a 1-1/2" pipe to a 3" pipe.
- Used when installing a

drain on existing plumbing. Saves the labour of cutting and rejoining the main pipe.

- Some types are made for joining a PVC pipe to a cast iron drain.

13. Drop-Ear Elbow



- Provides a rigid installation for mounting an elbow to a wall.
- Usually used for installing a shower arm or washer hose valve.

- Some variations include fittings that can transition from plastic to brass or copper.
- Also known as a wing elbow.

14. Pipe Clamp



- Also known as a repair plate.
- Used to repair small holes in pipes.
- Consists of two concave

pieces of metal and a rubber gasket. The clamp is tightened over the pipe with the gasket over the leak. Easiest way to repair a leaky pipe.

OTHER TRAINING TIPS
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FAQs

Q: What does O.D. and I.D. mean?

A: This refers to the diameter of a pipe. Some fittings are measured based on their outside diameter, or O.D. Others are measured by their interior diameter, or I.D.

Q: I need to install a new water heater. What type of fitting will I need to connect the unit to my plumbing?

A: You need a union that is a compression fitting that can be tightened or disconnected later.

Q: I want to transition from 1/2" copper pipe to 3/4" copper pipe. How do I do that?

A: You need a reducer coupling or elbow (if there is a change in direction) to join the two pieces together.

UPSELLING

- Most fittings are inexpensive. For customers who are making several connections, suggest a contractor pack. When it comes to plumbing, it's cheaper to have a few extra pieces and save a trip back to the hardware store.
- Suggest that customers unsure of fitting

sizes or configurations buy several different options and bring the ones back they don't need. Chances are they probably won't.

ADD-ON SALES

- Teflon Tape
- Pipe Joint Compound
- Solder & Flux
- Sandpaper
- Propane Torch
- Flame Shield
- Bulk Tubing
- Pipe Cutter
- Hacksaw
- Pipe Wrenches
- Pipe Reamers
- Pipe Flaring Tool
- Pipe Strap
- Pipe Hanger
- Safety Glasses
- Flashlight
- Hand Cleaner

SAFETY TIPS

- Solvent chemicals for joining PVC and other solvent welded pipe and fittings have fumes, so use plenty of ventilation when using them.
- When sweating a joint, use a flame shield to keep the propane flame from setting fire to surrounding areas, such as wooden floor joists.
- Use safety glasses or goggles, especially when soldering or applying pipe glue to a

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joint above your head. Also, be sure to wear a hat and gloves.

- Always use lead-free solder on water lines.

PRO CORNER

- Be sure to stock contractor packs of fittings as your plumber customers buy in bulk.
- Time is money to your pro customers, so be sure your fittings are neatly organized so they can quickly find what they need and get back on the job site.

MERCHANDISING

- Arrange so that the largest fittings are on the bottom and the smallest are on the top. Keep the order consistent across the display, side-to-side and top to bottom. For example, place 1" tees directly below the 3/4" tees, directly below the 1/2" tees.
- Use gravity-fed shelves in the fittings category to maintain a well-stocked appearance.



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PK DESCRIPTIONS

1. Soldered Fitting



- Used to join copper pipe.
- Unthreaded. Joined by soldering, or sweating, using flux, solder and a torch.

2. Threaded Fitting



- Most commonly used in steel fittings, but some plastic and copper fittings will be threaded.
- Uses pipe dope or Teflon tape on the threads when joining to prevent leaks and corrosion.
- If the threads are on the interior, the fitting is female. If the threads are on the exterior, the fitting is male.
- IPS means Iron Pipe Size, and also refers to threaded pipe.
- MIP means Male Iron Pipe size. It refers to a male threading that will fit an IPS pipe.
- FIP means Female Iron Pipe size. It refers to a female threading that will fit an IPS pipe.

3. Solvent Weld Fitting



- Used for unthreaded plastic pipe.
- Has specially-formed

sockets into which plastic pipe is inserted.

- Bonded with cement that is compatible to the type of plastic being connected.

4. Compression Fitting



- Achieves a watertight seal by tightening a nut, which compresses a ring onto the pipe.
- Avoids threading, gluing or soldering a pipe connection.
- Used with water supply tubes or other unthreaded ends of pipe.
- Can also be used to connect two different types of pipe, such as plastic and copper.
- Can be removed and reinstalled or retightened.

5. Flared Fitting



- Operates the same as a compression fitting, but one end of the pipe is flared.
- Used in refrigeration, small appliances and oil heating.

6. Insert Fitting



- Sometimes used with flexible plastic pipe.
- Inserted onto the pipe and compressed and sealed with

an adjustable clamp.

7. Adapter Fitting



- Any kind of fitting that helps connect two different types of tubing, such as copper and galvanized steel, or threaded and solvent weld, or two different sizes that are usually incompatible.
- A dielectric fitting connects pipe of dissimilar metals (such as copper and galvanized metal) to prevent corrosion in the copper pipe.
- Two main types, reducers and bushings, are used to convert from one size to another.

8. Flexible Fitting



- Short lengths of flexible and soft plastic that is very flexible and forgiving.
- Generally used for drain fittings in repair applications or to tie into existing drainage systems.
- Fits over an existing pipe and tightens with a clamp.

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FAQs

- Q:** What is the proper way to join galvanized pipe to copper pipe?
- A:** You should use a dielectric union. This will prevent electrolysis from occurring, which deteriorates the copper tubing.
- Q:** How do I join PVC fittings to PVC pipe?
- A:** Use a solvent welding glue, which softens the pipe and fittings so they can melt together.
- Q:** Can the PVC fittings be removed after they have been glued?
- A:** No, they are permanently joined and cannot be taken apart.
- Q:** What is a compression fitting?
- A:** This type of fitting squeezes a brass or plastic ring around copper or plastic tubing.

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Q: What is a flare fitting?

A: A connector is slipped over the end of a copper tube, which is then flared out using a special tool. The fitting can then be screwed into another fitting.

Q: Can I attach metal fittings and plastic fittings?

A: Yes, there are transition fittings that make this possible.

UPSELLING

• Low water pressure may be a result of clogged pipes, which is a problem with older galvanized pipes that corrode on the inside. Replacing the supply lines in the house is a major plumbing task, but with the right instruction, many DIYers may be ambitious enough to try it.

ADD-ON SALES

- Teflon Tape
- Pipe Joint Compounds
- Solder & Flux
- Sandpaper
- Propane Torch
- Extra Propane Tank
- Flame Shield
- Bulk Tubing
- Pipe Cutter
- Hacksaw
- Pipe Wrenches

- Pipe Reamers
- Pipe Threader
- Pipe Flaring Tool
- Pipe Strap
- Pipe Hanger
- Safety Glasses
- Flashlight

SAFETY TIPS

- Solvent chemicals for joining PVC and other solvent welded pipe and fittings have fumes, so use plenty of ventilation when using them.
- When sweating a joint, use a flame shield to keep the propane flame from setting fire to surrounding areas, such as wooden floor joists.
- Use safety glasses or goggles, especially when soldering or applying pipe glue to a joint above your head. Also, be sure to wear a hat and gloves.
- Always use lead-free solder on water lines.

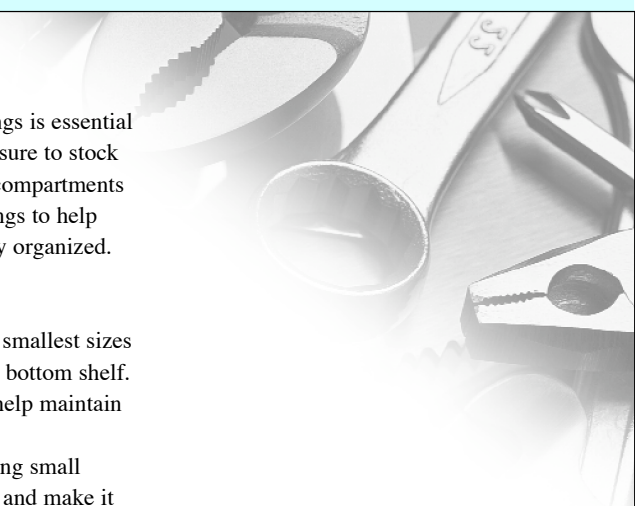
PRO CORNER

- Someone who crawls around underneath a house to install or repair plumbing will want a good flashlight. A hands-free flashlight that straps onto the head, or a miniature halogen worklight with a heavy-duty clip and a swivel that turns in any direction, will appeal to the pro. Merchandise a few in the plumbing section.

- Organization of various fittings is essential to professional customers. Be sure to stock toolboxes or tool chests with compartments that hold various types of fittings to help your plumbing contractors stay organized.

MERCHANDISING

- Arrange fittings by size with smallest sizes on the top shelf, largest on the bottom shelf.
- Angled, gravity-fed shelves help maintain an “always full” appearance.
- Tilt bins are best for displaying small nylon fittings for flexible pipe and make it easier for customers to shop.
- Bulk flare and compression fittings are one of the most frequently shopped areas in the department. Make this the leading section that opens the department.
- For an aisle that looks complete, display copper fittings between the valves and galvanized fittings.



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PK DESCRIPTIONS

1. Pipe (Stillson) Wrench



- Used to grasp pipes and other curved surfaces.

Solid housings and hardened steel jaws provide excellent bite and grip.

- Has two serrated jaws, one adjustable and the other fixed and slightly offset.
- The Straight pattern is standard.
- The End-pattern style has jaws slightly offset and is handy for working in restricted spaces or close to walls.
- The Offset style has jaws at 90° to the handle and is also handy for tight spots.
- The jaws will leave marks on the pipe, so it's best to avoid using them on coated pipe, such as galvanized pipe.
- Some pipe wrenches have aluminum handles for lighter weight.

2. Chain Pipe Wrench



- Offers easy handling in close quarters

on round, square or irregular shapes without crushing the object.

- Consists of a forged-steel handle attached to a length of heavy sprocket chain. The

chain wraps around a length of pipe and engages the sprockets in notches on the back of the handle. Sharp teeth on the face of the handle bite into pipe while the chain holds the pipe against the teeth to prevent slipping.

- Turns pipe in either direction and can be used like a ratchet wrench. The handle can be loosened, shifted and turned again without removing the chain from around pipe.

3. Strap Wrench



- Recommended for working with brass, aluminum, lead, soft metal

or plastic pipe because it grips pipe without teeth and does not damage the surface.

- Consists of a fabric strap, attached to a loop ring that is fastened in the curved head of a straight forged bar or handle. It is then pulled around the pipe, back through the loop and over the head.
- When the wrench is pulled tight, the strap grips the pipe.

4. Basin Wrench



- Also known as a faucet wrench or a crowfoot

faucet wrench.

- One type has fixed jaws opening at right angles to the shaft handle. It is primarily used to remove supply nuts and hose coupling nuts on faucet spray attachments under worktables, sinks and lavatories.
- The second type has spring tension pipe-gripping jaws that are reversible by flip-over on the end of drive shaft handle. It will grip pipe nipples, odd sized supply nuts and jam nuts in hard-to-reach spots.

5. Plastic Nut Basin Wrench



- Used to reach and turn plastic mounting nuts

- on faucets, sprayers and ballcocks.
- Notched ends self-centre on 2, 3, 4 and 6-tab nuts.

6. Spud Wrench



- A generic name for many types of wrenches that have large, flat-sided jaws.

- Good for general purpose plumbing use.
- The Adjustable type is an all-purpose model with notched jaws ideal for various sizes of nuts. It is the handiest and most

common.

- The Fixed type works with large spud nuts under kitchen sinks.
- The 4-in-1 is similar to the fixed type and is use for turning locknuts on the toilet tank, basket strainers and spuds.
- The Closet type is designed for toilet tanks and bowls.
- The Internal type holds the sink strainer basket in place while you tighten the locknut below. It can also remove or install closet spuds, pop-up plugs, and strainers.

7. Seat Wrench



- Also known as a faucet seal tool or faucet seat wrench.
- Used to remove faucet seats.

- It is L shaped. One end has four flat sides, the other has five flat sides.

8. Packing Nut Socket Wrenches



- Also known as a plumber's wrench or wall socket set.

- Available in sets and fits nearly all tub and shower valves.
- Hex-shaped on both ends and hollow core to fit over faucet stem handles.

NOTE: ALWAYS CONSULT YOUR PROVINCIAL AND LOCAL CODES



9. PO Plug Wrench



- Use to remove pop-up or pop-out (PO) plugs from the drain opening in the basin.
- The 4-way shape makes it useful for a variety of strainer types.

10. Water Pump Pliers



- Also called expanding pliers.

- Larger sizes can be used as a quick opening pipe wrench.
- Used to loosen sink strainer jam nuts or grip flush valve jam nuts.

OTHER TRAINING TIPS
Designed to give you confidence on the salesfloor!
This section is for retail skills training specific to this core product category.

Anatomy of a Wrench

The **Nut** adjusts the space between the jaws. The **Fixed Jaw** helps keep the pipe from slipping.

The **Movable Jaw** self tightens as it digs into the pipe. If jaws are oriented the wrong way, they will fall off the pipe when the wrench is turned.

FAQs

Q: I don't have enough room under my sink to get the faucet nut off.

A: A basin wrench is a tool that is specifically designed for that.

Q: Is there a wrench I can use that will not damage the brass, aluminum or other soft material?

A: Yes, a strap wrench grips the pipe without teeth.

Q: Can I keep the pipe wrench from damaging the coating on a galvanized pipe?

A: Yes. Wrap the pipe in duct tape first.

Q: Do I need all of those special wrenches? Can't I just use a standard wrench or a pair of adjustable pliers?

A: The plumbing fittings these wrenches are designed for are usually difficult to access and the standard wrench or pliers will not fit into those tight spaces. Using the proper tool will save frustration and ensure a proper installation.

UPSELLING

- If customers don't already have a pipe wrench, suggest they buy two. Always use two pipe wrenches when tightening or loosening a pipe. One pipe wrench turns, while the other stabilizes the pipe that is not turn-

ing. Particularly on plumbing that is already installed, using only one wrench could cause pressure on the rest of the plumbing system, resulting in additional breaks.

- Make sure your customer has all of the wrenches he needs. Many of the specialty wrenches will make a plumbing job much easier, especially when working in tight areas.

ADD-ON SALES

- Penetrating Oil
- Pipe Joint Compound
- Pipe Dope
- Teflon Tape
- Plumbers' Putty
- File
- Reamer
- Burr Remover
- Duct Tape
- Safety Glasses

SAFETY TIPS

- Always pull rather than push a pipe wrench handle.
- Maintain a gap between the back of the hook jaw and the pipe. This helps maximize gripping force and centres the pressure on the jaw teeth.
- Always wear eye protection.
- Do not use a pipe wrench to bend, lift or raise pipe.

PRO CORNER

- Many pros may want an aluminum handle pipe wrench, which offers all the strength of a regular pipe wrench at a much lighter weight.
- Replacement pins and chains are available for chain pipe wrenches, and replacement teeth and jaws are available for standard pipe wrenches.

MERCHANDISING

- Merchandise Teflon tape and plumbers' putty close to plumbing tools. They are always great add-on items to anyone buying repair parts or tools.
- Display the tools off the main aisle to strengthen sales opportunities.

NOTE: ALWAYS CONSULT YOUR PROVINCIAL AND LOCAL CODES

PRODUCT KNOWLEDGE TRAINING

Learn the common features and uses of each product.

PK DESCRIPTIONS

1. Nipple Extractor



- Also known as an internal pipe wrench.
- Used to remove pieces of pipe that have broken off.
- Has a rigid cylinder with a moving part that fits into the inside of the pipe and is used with pliers to turn it.

2. Handle Puller



- Also known as a faucet handle puller.
- Used to remove corroded or frozen handles without scarring the chrome.
- Has two hook-like jaws with a centre rod that turns.
- Use penetrating oil to help loosen the handle before pulling.

3. Yoke Vise



- Helps hold pipe when cutting or reaming pipe.
- Has V-shaped jaws that grip pipe from above and below. The lower jaw is fixed, while the upper jaw is raised or lowered by a screw.
- Holds pipe with the inverted V-shaped

yoke that unlatches on one side and tilts to accommodate the pipe.

4. Chain Vise



- Helps hold pipe when cutting or reaming pipe.
- Smaller than the yoke vise. Has a fixed lower V-shaped jaw with teeth on where the pipe is laid and a bicycle-type chain fastened to one end. When the pipe is inserted, the chain is placed over it and locked in a slot on the opposite side.

5. Reamer



- Removes burrs from the inside of the pipe. Burrs are the flakes of metal or plastic on the outside and inside of the pipe after the pipe is cut.
- Cone-shaped, with ratchet handles.
- Cutting edges can be sharpened, but this is difficult and time-consuming and the small replacement cost usually makes it impractical.
- Straight-fluted reamers have straight cutting edges. They can be used by hand or in a pipe rotating on a power drive unit.
- Spiral-fluted reamers have spiral-shaped cutting edges. They cut more easily, save

time and are often used by sheet metal workers to enlarge holes in sheet metal and conduit box outlets, as well as smoothing inside edges of pipe. They are for hand use only.

6. PVC Cutter



- Used for cutting ABS, PVC and PE pipe.
- Makes clean cuts with one-handed operation.

7. Tubing Cutter



- Primarily used to cut copper pipe.
- Easier to use than an ordinary hacksaw, and it makes a cleaner cut.
- Has a single cutting wheel and two rollers that make smooth right-angle cuts.
- Some have a triangular blade-type reamer that folds out of the way when not in use.
- Sized to cut material with outside diameters ranging from 1/8" through 4-1/2".
- Major points of wear are rollers, wheels and pins on which they are mounted. When cutter wheels are worn out, they should be replaced; sharpening them is not advisable.

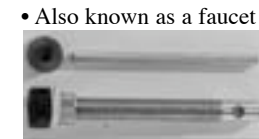
- Separate cutting wheels for plastic pipe are also available.

8. Pipe Threader



- Uses a die head to create threads on unthreaded pipe ends
- The hand tool type revolves around a stationary pipe. It is good for threading pipe on the job.
- With the powered type, the tool stays stationary while the pipe revolves into the die.
- Always use thread cutting oil for best results.

9. Seat Dressers



- Also known as a faucet seat reamer or valve seat-grinding tool.
 - Used to smooth a faucet seat.
- Seats may not operate properly if they collect corrosion or calcium deposits or become rough with wear.
- Inexpensive ones often have 1/2" and 5/8" cutters.

NOTE: ALWAYS CONSULT YOUR PROVINCIAL AND LOCAL CODES

10. Flaring Tool



- Use to flare the end of a pipe before joining it with a flared fitting.
- The two flat bars of the tool (the yoke) clamp

around the pipe at the appropriate sized hole. Then the cone-shape, powered by the drive screw, forces its way into the pipe and creates a flare.

OTHER TRAINING TIPS
Designed to give you confidence on the salesfloor!
This section is for retail skills training specific to this core product category.

FAQs

Q: Can I use an ordinary hacksaw to cut copper pipe?

A: Yes, but it doesn't do as good a job as a tube cutter, which makes a cleaner cut at a 90-degree angle.

Q: Can I use a copper tube cutter to cut PVC pipe?

A: While there are separate cutting wheels available for plastic pipe, such as PVC, you would probably be better off buying a PVC cutter.

Q: My faucet is leaking and I think it is due to my hard water. What do you recommend?

A: Instead of buying a new valve stem, try to ream the faucet seat with a seat reamer to remove any calcium deposits that may have formed from your hard water.

UPSELLING

- Be sure to explain the benefits of a pipe cutter, especially if a customer plans to use a hacksaw to cut pipe. Pipe cutters make clean, straight cuts, take less effort and can be used in tight spots.
- Better reseating tools have tapping attachments for reseating faucets with faulty and battered seat threads.
- Quality pipe cutters will be easier to use and often have a built-in reamer, which saves an extra tool to keep track of.

ADD-ON SALES

- Penetrating Oil
- Thread Cutting Oil
- Tube Cutter Wheels
- Adjustable Pliers
- Pipe Wrench
- Plumbers' Putty
- Teflon Tape
- Pipe Joint Compound

SAFETY TIPS

- Do not apply excessive pressure to a pipe

cutter, as this could cause the cutting wheel to break.

- Do not use a pipe cutter as a C-clamp.
- Replace worn cutter wheels on pipe cutters.
- Use the proper cutting wheel in the pipe cutter. There are separate wheels available for plastic, cast iron, copper and other materials.
- Always wear eye protection when cutting pipe.
- Do not use a flaring tool for holding pipe.
- Do not thread hardened steel or any pipe bigger than the working diameter of the threader.

PRO CORNER

- To help your professional plumbing contractor customers maintain good performance of their pipe threaders, always recommend they use a quality cutting oil. If there is insufficient oil during threading, the result could be poor threads, which will result in a leaky installation.
- Since they are used constantly by plumbers, recommend they maintain tube cutters with light oil to keep everything free of corrosion and working smoothly.

MERCHANDISING

- Display pipe cutters close to the pipe wrenches and near the main aisle.

- Optimize add-on sales opportunities by merchandising thread lubricants and replacement cutter wheels next to pipe cutters and threaders.

NOTE: ALWAYS CONSULT YOUR PROVINCIAL AND LOCAL CODES

PRODUCT KNOWLEDGE TRAINING

Learn the common features and uses of each product.

PK DESCRIPTIONS

1. Propane Torch



- Used to heat joints in copper pipe so solder can melt.
- Also use to heat corroded fittings to loosen them.
- Attaches to cylinder containing the gas.

2. Propane Fuel



- Attaches to a propane torch.
- Propane comes in bright blue tanks and MAPP welding gas comes in yellow tanks.
- Propane is generally used to heat copper for flaring. However, sometimes there is water in the line that needs to be evaporated so the pipe will heat enough to sweat a joint. Use MAPP gas, but use caution as too much heat can melt the pipe.

3. Solder



- Used to sweat a copper fitting.
- Forms a bond between fitting and pipe.
- Use lead-free solder if used on potable water lines.
- Most common type is 95-5 tin-antimony solder. The first number is the percentage of

tin in the solder. The more tin, the more workable the solder.

4. Flux



- Helps prevent oxidation and allows solder to flow freely.
- Comes in both liquid and paste.
- Necessary whenever sweating a joint.

5. Flux Brush



- Used to apply flux to a pipe.
- About 6" long.

6. Copper Fitting Cleaning Brush



- Use to clean copper fittings before soldering.

7. Emery Abrasive Cloth



- Can also be used to clean the copper pipe before sweating a joint.

8. Plumber's Putty



- Used on sink rims, drain plugs and faucets before installation.
- Ensures a good seal.

9. Flame Shield



- Protects surrounding areas from the torch flame when sweating a joint.
- Most popular type attaches to the torch.

10. Epoxy Repair



- Repairs small leaks in pipes.
- A two-part material that looks like clay.
- Just before using, break off a piece and mix together by rubbing between your fingers.

11. Pipe Joint Compound



- Also known as pipe dope.
- Thick oily paste brushed on pipe threads before joining.
- Prevents leaks, corrosion and makes it easier to disassemble.

12. Teflon Tape



- Does the same job as pipe joint compound, but is easier to use.
- Thin tape applied to pipe threads before joining.
- Do not use on gas pipes.

13. Pipe Solvent



- Glue used to weld together two pieces of plastic pipe.
- There are different types of solvent for PVC and CPVC.
- Also available are one-step solvents that combine primer and solvent into one.

14. Pipe Primer



- Used in conjunction with pipe solvent.
- Prepares plastic pipe for solvent by softening its surface.
- Some primers also contain a cleaner that helps remove surface dirt and grease from the pipe.

15. Pipe Cleaner



- Use in conjunction with pipe solvent and primer.
- Removes surface dirt and grease from plastic pipe.

NOTE: ALWAYS CONSULT YOUR PROVINCIAL AND LOCAL CODES

OTHER TRAINING TIPS

Designed to give you confidence on the salesfloor!

This section is for retail skills training specific to this core product category.

FAQs

Q: What is the purpose of pipe joint compound or tape?

A: They reduce friction in assembly and provide a watertight seal.

Q: Which is better for sealing—Teflon™ tape or pipe joint compound?

A: They do the same job, but Teflon™ tape is easier to work with and makes a cleaner joint.

Q: Do you recommend plastic pipe cleaners and primers?

A: These are applied to plastic pipe and plastic fittings before applying the solvent weld glue to ensure a strong bond. Their use is always a good idea, especially if it's for a water supply line or the connection is going to be somewhere that will be difficult to get to in the future.

Q: What does flux do?

A: It cleans the surface prior to soldering. It prevents the oxidation of the metal, and it allows the solder to flow freely.

Q: Do I use the same type of glue for both PVC and CPVC?

A: No, CPVC requires special solvent cement that is different from cement used for other types of plastic pipe.

Q: Can the plastic pipe fittings be removed after they have been glued?

A: No, they are permanently joined and cannot be taken apart.

Q: Why is the torch hard to light?

A: The valve may be open too far. Open the valve just slightly so the rush of gas doesn't blow out the flame.

Q: Why won't the torch stay lit while upside down?

A: In some torches, the liquid propane in an upside down tank works its way through the torch and blows out the flame. To avoid this, use a pressure regulated torch.

UPSELLING

- Many manufacturers offer kits that have propane torch, solder, flux and emery cloth all in one.
- If the customer is purchasing a torch for the first time, mention that he might need a new toolbox to keep all of the supplies together, as well as a few extra fittings.

ADD-ON SALES

- Rags
- Matches
- Spare Propane Tank
- Gloves
- Safety Glasses
- Flame Retardant Shield
- Fire Extinguisher

SAFETY TIPS

- Do not use too much solder when sweating a joint. Extra solder will drip like water and while it may not cause a fire, it can burn if it drips on you.
- Disconnect the propane cylinder when not in use so the torch is not accidentally turned on and leaks gas.
- Always wear eye protection and sweat joints in a well-ventilated area.
- Never use a torch to remove lead-based paint.
- Never use a propane torch near combustible material.
- Use a fire shield when soldering joints to avoid damaging or catching fire to surrounding areas.

PRO CORNER

- Pros will be looking for contractor sizes of solder, flux and emery cloth, and may want to buy multiple propane tank refills.
- Heavy-duty torches with self-igniting tips will appeal to the pro customer. They may

also require special tips for the torch, such as a flame spreader.

MERCHANDISING

- Place propane torches and accessories close by the copper fittings.
- Epoxy repair makes a great clip-strip item, and you can sell it as a must-have for any toolbox.

NOTE: ALWAYS CONSULT YOUR PROVINCIAL AND LOCAL CODES

PRODUCT KNOWLEDGE TRAINING

Learn the common features and uses of each product.

PK DESCRIPTIONS

1. Gate Valve



- Uses a sliding wedge to move across the waterway, in either a rising or non-rising action.
- Used to completely shut off or open a waterway. Does not control the volume of flow.
- In some models, either opening of a gate valve may face the pressure side of the line, while in others, an arrow indicates the direction of water flow.
- Because they allow the complete passage of water, use on supply lines that are in constant use.
- A Connector Gate Valve uses a union fitting on one side.

2. Boiler Drain Valve



- A horizontal faucet with male hose threads on the outlet side and either male or female IPS threads on the inlet side.
- Originally designed to drain water from a boiler, hence the name.
- Today, they're usually used for laundry machine hookups.
- Newer models of laundry valves have a

single lever that controls the hot and cold water supply.

3. Ball Valve



- Uses a large lever to turn a ball that closes or opens the flow of water with one quick quarter turn.
- Are the standard for natural and LP gas, replacing the older plug valves that were traditionally used as gas valves.
- Available in either metal or plastic, threaded or non-threaded types.
- Ball valves with double-stem seals provide greater durability.

4. Globe Valve



- Used when a valve must be opened and closed frequently under high water pressure.
- Used to control volume of flow. These valves have two chambers with a partition between them for passage of water that must change course several times from port to port.
- Should not be used in water supply lines for occasional shut-off purposes.
- An angle valve is similar to a globe valve, but has its ports at right angles. Install at a

turn in piping to eliminate the necessity of an elbow (this is often preferred to using a globe valve and elbow).

- An angle valve has greater water passage than a globe valve. Since there is only one change in direction of flow, there is less resistance.
- A Connector Globe Valve uses a union fitting on one side.

5. Pressure Relief Valve



- Used to protect water heaters or hot water storage tanks.
- When the water pressure reaches a dangerous level, the valve opens and discharges water. Cold water then flows into the tank and stabilizes the water pressure.

6. Stop & Waste Valve



- Has a small opening on the non-pressure side to allow drainage when it is in cut-off position. Helps prevent freezing of water lines in winter.
- Also known as a bleeder valve or drainable valve.
- Comes in threaded, sweat, flare and slip joint ends. The latter two are municipal and emergency valves.

• Flat head or socket head are common residential types have a socket head that takes a 3/8" key rod.

7. Check Valve



- Operates automatically, permitting flow in one direction only.
- Sometimes combined with a throttling or shut-off valve. Some communities require a check valve in cold water lines between the water heater and meter.
- Used to prevent water pumped to an overhead tank from flowing back when the pump stops.
- Some check valves are designed for use with vertical pipes only. Therefore, it will not work if installed upside down. The closing device—a disk, ball or clapper—falls shut by gravity when installed vertically.
- Another variety is the Swing-Type check valve, which is a small, smooth swing-type gate located in the centre of the valve. As water is pumped through the flow side of the valve, a gate swings open to allow water to pass. If water attempts to back up through the valve, the gate is forced shut against the pressure side of the valve.

NOTE: ALWAYS CONSULT YOUR PROVINCIAL AND LOCAL CODES



8. Shutoff Valve



• Used to shut on or off the water to a water supply tube. Generally used underneath sinks and toilets.

- Also known as a speedy, angle stop, water supply valve, cutoff valve, lavatory straight valve or stop.
- Made of metal or plastic in either a straight or 90° configuration.
- Fairly easy to install.

OTHER TRAINING TIPS

Designed to give you confidence on the salesfloor!

This section is for retail skills training specific to this core product category.

FAQs

Q: Can you repair a leaky valve?

A: Gate valves can sometimes be repaired by tightening the outside hex nut or by removing the hex nut and adding stem packing.

Q: What is a gasket?

A: It is made of rubber, plastic or paper and is the component that seals the joints in fittings and valves. It is sometimes available in liquid form.

Upselling

- A ball valve may be more expensive than a gate valve, but it is superior in quality to gate valves. They are easier to operate, immediately show whether the valve is on or off and more durable.
- For areas with hard water, use ACETAL valves. They resist mineral build-up.
- When buying a shut-off valve, opt for the metal-stemmed valve. The plastic-stemmed valves strip easily if too much force is applied during shut-off.

Add-On Sales

- Teflon Tape
- Pipe Joint Compounds
- Solder & Flux
- Sandpaper
- Propane Torch
- Extra Propane Tank
- Flame Shield
- Pipe Wrenches
- Channel-Locking Pliers
- Pipe Strap
- Pipe Hanger
- Safety Glasses
- Flashlight
- Gaskets
- Hand Cleaner

Safety Tips

- Plastic valves should not be used in steam, gas or compressed air lines. However, valves can be used with hot and cold fluid systems.
- Never over-tighten any valve, as you can strip the threads and ruin the valve.
- When ever turning on a main water supply valve that has been turned off, always be sure to turn the water on slowly to avoid water banging in the pipes.
- When soldering copper pipe to a brass valve, always open the valve completely to avoid excessive heat damage.

PRO Corner

- Newer CPVC valves make a mechanical connection to plastic or metal material easier which will save your pro customers time. They are easily installed and result in a leak-free connection. There is no solvent welding, sweating or pipe threading; the mechanical coupling on the CPVC valve is loosened, pushed on and hand tightened.
- Remind your pro customers that if the valve is made of a different material than the tubing, use a transitional connector to prevent leaks caused by the differing contraction/expansion characteristics of the two materials.

Merchandising

- A clip strip of Teflon tape works well in this category.
- Display the category with smaller diameter valves to the left.
- As with any plumbing category always maintain an “always full” appearance.

NOTE: ALWAYS CONSULT YOUR PROVINCIAL AND LOCAL CODES

PRODUCT KNOWLEDGE TRAINING

Learn the common features and uses of each product.

PK DESCRIPTIONS

1. Toilets



- Made of vitreous china and finished with a high-gloss glaze. Designed to be durable and sanitary.

- White and almond are most common colours.
- Many new toilets use no more than 6 L per flush, compared to old models that used 13 L or more.
- Gravity-fed toilets operate with a conventional flush, where water draining from the tank is released into the bowl and its weight and gravity pull waste down the drain.
- Pressure-assisted units use pressure built up within the water supply to increase the force of the flush. These tend to be noisier than gravity-fed models, but the bowl empties quickly (within 4 seconds). The larger water seal surface results in fewer stains. Since the trapway on pressure-assisted models has fewer bends, it is less likely to clog than a gravity-fed system.
- A third type of toilet uses a pump to assist the flushing operation with increased pressure. Some models are even designed to flush automatically when the seat lid is closed. Dual flushers feature a lever that

uses 6 L for solid waste removal and 3.7 L for liquid waste.

- The rough-in is the distance from the finished wall to the centre of the sewer outlet. Standard rough-ins are 10", 12" or 14".
- Another style is the one-piece toilet.

2. Flush Handle



- Activates the flush valve ball.
- Usually sold in combination with the trip lever.
- Attaches with a left-handed screw, which screws on in a counter-clockwise direction.

3. Flush Valve Seat



- Located at the bottom of the tank.
- Surrounds the opening that lets water into the bowl.
- Kept closed by a rubber flush ball or flapper.
- The flush valve seat is attached to the Overflow Tube, which drains water back into the bowl if the water level goes above it. This is a good safety precaution if the inlet valve fails.

4. Flapper Seat Valve

- Also called a Flush Valve Seat Ball, this device sits on the flush valve seat and



- attaches to the trip lever with a chain, rod or guide arm.
- When the outside handle on the toilet tank is pressed down, it raises a trip lever that pulls the flapper off its seat. Water inside the tank pours through the opening to flush the toilet bowl.
- The valve stays closed with water pressure. However, once the trip lever lifts the device, it remains off the seat by floating on top of the water until the tank is empty. As the water level drops, the flapper gradually settles back into the opening, sealing it so the tank can refill for the next flush.
- A new style design has replaced the older ball-style. It is connected to the float arm with a chain and eliminates many of the problems associated with wires, rods and guide arms.

5. Ballcock



- Also known as a fill valve or inlet valve.
- Controls refilling the tank.
- Consists of multiple parts, but is commonly sold as a complete unit. Parts include: upper lever, float rod, lower lever, plunger, valve seat, refill tube, nylon seat, eye screw, body,

hush tube, regular shank, shank gasket, lock nut, coupling nut washer, riser pipe and repair shank.

- Older models use a float ball. When repairing them it is best to replace the entire unit instead of trying to repair its parts.
- Newer models eliminate the flat ball and may have an anti-siphon feature that keeps toilet water from backing up into the water lines.

6. Float Ball



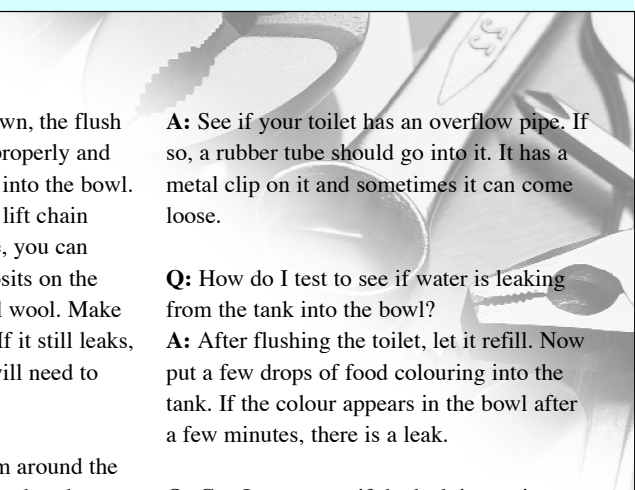
- Part of the Ballcock.
- When the water level raises it, it shuts off the valve that lets water into the tank.
- Made of plastic or copper.
- Should be replaced if it develops cracks or corrodes and let water inside.

7. Tank-To-Bowl Hardware



- Creates a secure connection between the tank and the bowl.
- Consists of long brass bolts with rubber washers and a large foam-rubber washer.
- One size fits all toilets.

NOTE: ALWAYS CONSULT YOUR PROVINCIAL AND LOCAL CODES



8. Bowl Gasket



- Also known as a wax ring.
- Seals the joint between the toilet bowl and the drain piping in the floor.
- Some types have a plastic ring inside to add protection.
- For a better seal, use two rings, one on top of the other.

9. Closet Flange Bolt



- Secures the toilet bolt base to the floor flange.

10. Toilet Water Supply



- Connects water supply to toilet.
- Flexible types are easiest to install.

11. Toilet Seat



- Made of plastic or kiln-dried hardwood.
- Hardware should be sturdy and non-rusting. Metal hardware should be solid brass with a quality finish.

- Some toilet seats have “easy-on, easy-off”

hinge posts that facilitate installation by the homeowner. These hinge posts also make it practical to remove the seat for thorough cleaning.

OTHER TRAINING TIPS
Designed to give you confidence on the salesfloor!
This section is for retail skills training specific to this core product category.

FAQs

Q: How do I replace a damaged refill valve?

A: Turn off the toilet’s water supply valve, flush the toilet and sponge out any remaining water in the tank. The refill valve is usually removed by turning a nut that holds it in place. When the nut is off, the refill assembly can be lifted out. Install the new assembly by following the manufacturer’s directions.

Q: You stock two sizes of supply lines. Which one will I need for my toilet?

A: The toilet supply line head is the larger of the two. The smaller ones are sink supply lines.

Q: My toilet fills up every 10 minutes. What is the problem?

A: If the toilet flushes on its own, the flush valve is probably not seating properly and water is leaking from the tank into the bowl. This could be the result of the lift chain being tangled. If it is the valve, you can change the flapper. Scale deposits on the seat can be removed with steel wool. Make sure you clean the valve seat. If it still leaks, the seat is damaged and you will need to replace it as well.

Q: There is water seeping from around the base of my toilet. What do I need to do to solve this problem?

A: Your wax gasket is probably not working anymore. This is a relatively simple problem to fix. You need to remove the toilet and install a new wax ring. While you have the toilet off, you should go ahead and replace the bolts. Otherwise, it could be a crack in your toilet bowl.

Q: What do I do if there is a crack in the bowl?

A: If it is a small crack, you can try to repair it. Drain the toilet, dry it off, apply some Plumber’s Goop and let it dry completely before refilling the tank. However, you may have to replace the bowl.

Q: The toilet bowl is not filling up. What is the problem?

A: See if your toilet has an overflow pipe. If so, a rubber tube should go into it. It has a metal clip on it and sometimes it can come loose.

Q: How do I test to see if water is leaking from the tank into the bowl?

A: After flushing the toilet, let it refill. Now put a few drops of food colouring into the tank. If the colour appears in the bowl after a few minutes, there is a leak.

Q: Can I test to see if the leak is coming from the refill or the flush valve?

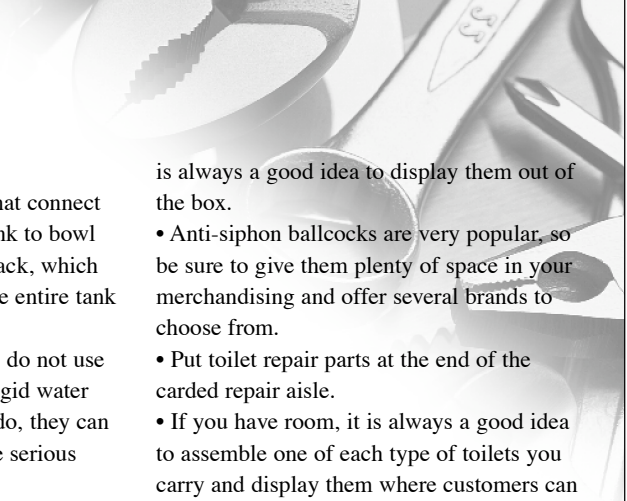
A: Yes. Shut off the water supply to the toilet. Mark the water level on the inside of the tank with a pencil. Check the water level in 10 or 20 minutes. If the water has fallen, you know the flush valve is leaking.

Q: The water in my tank seems to run constantly in my toilet.

A: If the refill valve is leaking, the tank overfills and the excess water runs into the overflow pipe and into the bowl.

Q: How high should the water level in the toilet tank be?

A: It needs to be high enough for complete flushes, but it should be below the top of the overflow pipe. The tank should have a coloured or moulded water level mark. The



rule of thumb is to set the water level about 3/4" below the top of the overflow pipe.

Q: How do I adjust this water level?

A: To adjust the water level on a conventional toilet tank, you simply bend the float arm down to lower the water level or up to raise it. Another widely popular valve has a pinch clamp that allows you to raise or lower the float.

Q: What is a toilet vent?

A: It is a pipe that runs from the toilet drain to the outside, usually to the roof. This prevents air lock in the drain line.

UPSELLING

- A waxless bowl gasket is now available that offers a cleaner, easier way to install a toilet. It eliminates the need for stacking multiple wax rings on new, raised flooring and seals on uneven floors or over recessed tile floors. It fits 3" and 4" drain pipes and adapts to all types of flooring and drain pipes.
- Better toilet seats have high-quality plastic or kiln-dried hardwood seats and lids with tongue and groove fittings. Seats should also be manufactured so that the colour or design is part of the plastic rather than a

coating that can chip or wear off.

- Solid brass hardware on a toilet seat will last longer and will not rust. Also suggest "easy-on, easy-off" hinge posts that make it practical to remove the seat for thorough cleaning.
- To make cleaning the toilet easier, suggest a cleaning system that installs in the tank and adds a cleaning solution to every flush. Some systems also dispense a chemical that aids in the care of septic systems.
- Toilets and even toilet seats are prime candidates for special order. Many styles are available that will fit any decorating demand.

ADD-ON SALES

- Toilet Cleaning Chemicals
- Automatic Bowl Cleaner
- Mop
- Rags
- Sponge
- Bucket
- Adjustable Pliers
- Penetrating Oil
- Screwdriver

SAFETY TIPS

- Use an anti-siphon ballcock to prevent toilet water from backing up into the water

lines.

- Don't over-tighten the bolts that connect the closet flange bolts or the tank to bowl hardware. The porcelain can crack, which means you'll have to replace the entire tank or bowl.
- In areas prone to earthquakes, do not use the rigid water supply tubes. Rigid water lines cannot move, and if they do, they can become disconnected and cause serious water damage.

PRO CORNER

- Pros will not likely want to waste time trying to repair an old ballcock. Therefore, make sure your replacement kits are located where they can be spotted easily by your plumbing contractor customers.
- Professional plumbing contractors will want to know the various types of toilets you have available for special order, so they can offer their customers a wide variety of styles and options. Make sure you stay current on what your store has available.

MERCHANDISING

- The average household changes toilet seats every three to five years. There are many different styles available and customers will want to be able to touch them. Therefore, it

is always a good idea to display them out of the box.

- Anti-siphon ballcocks are very popular, so be sure to give them plenty of space in your merchandising and offer several brands to choose from.
- Put toilet repair parts at the end of the carded repair aisle.
- If you have room, it is always a good idea to assemble one of each type of toilets you carry and display them where customers can touch them.
- Some retailers display cutaway toilet bowls to show customers all the working parts.

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STUDY GUIDE **NRHA** Basic Training Course in Hardware Retailing

PRODUCT KNOWLEDGE TRAINING

Learn the common features and uses of each product.

PK DESCRIPTIONS

1. Cartridge-Type Faucet



- Also known as a washerless faucet.
- Uses a rubber diaphragm or two

metal, plastic or ceramic discs with holes that align to let the water flow or close to shut off the water flow. Ceramic plates are more difficult to damage than rubber seats, but hard water can sometimes cause problems with the ceramic cartridges, such as squeaking or sticking.

- Single-handle faucets that use stainless steel ball design have just one moving part and are a durable alternative.
- Reduces leakage problems that result from worn washers.
- Easy to repair because most new models have the water-control mechanism housed in a replaceable cartridge. Replacing a cartridge is an easy do-it-yourself project, compared to working on conventional faucets. Most faucets that offer this convenience are labeled "self-contained cartridge."

2. Ball-Type Faucet

- Also known as a washerless faucet.
- A single-handle faucet that uses a ball with



- openings in it to control hot and cold water.
- May leak either at the spigot or at the handle.

- Leaks from the handle are usually caused by improper adjusting-ring tension. To stop the leak, adjust the tension. Worn cam seals can also result in leaks at the handle.
- Worn spring-loaded, soft rubber seal assemblies usually cause dripping from the spigot.

3. Compression Faucet



- Also known as a washer-type or stem faucet.

- When the spindle is turned down, the washer or disk attached to its lower end is pressed tightly against a smoothly finished ring or ground-seat that surrounds the flow opening to shut off the water flow. If the washer and seat do not make a firm contact at all points, water will leak. This usually happens when the washer becomes worn.
- Seats in faucets that are not removable may be reground with reseating tools.

4. Disc-Type Faucet

- A washerless faucet.
- Water is controlled by openings in the two discs. When the discs are rotated to align, the water flows. When the discs are misaligned,



- the water shuts off.
- May have one or two handles.
- Fix by replacing the O-Rings or, better yet, replace the whole disc.

5. Tub & Shower Faucet



- Usually combination style, where hot and cold mix in a single arm.
- Available in different patterns, they can be built into the wall or flush mounted on the wall above the bathtub.
- In three-valve bath and shower faucets, two valves control water and a third diverts water either through the spout or to the showerhead.
- Two-valve tub and shower faucets have an automatic device on the spout that, when activated, diverts water to the showerhead.
- Two-valve tub fillers and shower fittings fill either the tub or control water in the shower, as do the tub and shower faucets.

6. Lavatory & Kitchen Faucets



- Often come in a combination style, where hot and cold mix in a single arm.
- Available in several patterns.
- A Ledge-Mounted faucet is mounted in a horizontal position. Standard lavatory faucets are made with 4" centres.

- Wide spread faucets are made with adjustable centre measurements up to 12".
- The Wall-Mounted unit is connected to pipes coming through the wall above the sink. It is mounted vertically.
- The most common size in kitchen sink faucets is 8" centre, but 6" and 4" are also available.
- Concealed faucets are mounted underneath the sink, with only handle flanges and spout visible.
- Exposed faucets are mounted on top of the sink, with or without sprays.
- A mixing faucet, known generally as single lever, is produced by a number of manufacturers as swing spout kitchen faucets, lavatory faucets and bath faucets. They ordinarily operate by pushing the upright lever straight backward for a 50-50 opening of hot and cold water, back and to the right for cold, and back and to the left for hot water. They have the advantage of being quick-opening and closing, and nearly all have complete repair kits.
- An over-the-counter faucet is easier to install because there is no need to crawl under the sink and reach behind the basin to secure the faucet. It comes with factory-installed flexible supply lines and a spring-loaded toggle, with the screw head concealed by the escutcheon.

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7. Laundry Faucet



- Mounts either on laundry tubs or on the wall above the tub. Most fiberglass tubs require a ledge faucet with 4" centres

• Sometimes furnished with a standard 3-3/4" hose thread outlet on the spout. Most codes require the use of a vacuum breaker at attachment if the outlet contains threads to prevent water contamination.

8. Sill Cock



- Is a faucet located on the outside wall of the house that easily hooks to garden hoses.
- The best type is a frost-proof sill cock, made of heavy red brass, that looks and works like any ordinary faucet. However, water flow valves are located inside the building where it is warm.
- The anti-siphon frost-proof sill cock employs integral back-siphon and back-flow devices. These serve to prevent potential back-siphonage, which, if unchecked, could compromise the safe potable water supply to the home. Hose-attached garden sprays and other pressurized canisters can potentially link a cross-connection if a pressure change occurs when the frostproof is in the open position.
- The anti-siphon frostproof sillcock allows for outside spigot usage in freezing climates.

The closing member (seat washer) is located inside the heated building.

OTHER TRAINING TIPS
Designed to give you confidence on the salesfloor!
This section is for retail skills training specific to this core product category.

FAQs

Q: What does it mean when a faucet is said to have 8-inch centres?

A: The faucet mounts with the fixture holes set 8 inches apart. It's important that you buy the right size faucet to fit.

Q: What do I need to do to repair my leaking faucet? Is it leaking from the handle or out the spout?

A: Most faucets are washer-type, and if these are leaking from the spout, you will have to replace the washer.

- If the seat is corroded, you will have to dress it or replace it.
- If it is leaking from the handle, you may need to replace the O-rings, tighten the packing nut or replace the packing.
- If a disk faucet is leaking, you will need to replace the O-ring.
- If it is leaking from the spout, you will need to replace the disk assembly.
- For ball-type faucet leaks, you may need to replace the cam assembly, the seat assembly

and the ball.

Q: Are all faucet seats the same?

A: No, you will need to bring in their old seat to match up with the new one. Each brand has its own design and thread.

Q: When replacing a faucet, I was told that I should put some putty underneath the faucet. Why?

A: This is a good idea to keep moisture from getting under the faucet and into the cabinet below.

UPSELLING

- Better quality faucets will have ceramic disc cartridges or stainless-steel ball valves.

- Solid brass faucets will last the longest, especially if your area has hard water.

- A variety of finishes are available.

Among the most durable are finishes laid down with a process called PVD (physical vapor deposition). PVD can be used on most any material and with most any colour. While more expensive than chrome, which is the most standard and least expensive, PVC is also practically indestructible.

- Kitchen faucets can have added features, such as ergonomic designs or pullout spouts with adjustable spray control, are quite popular with homeowners because of their looks and practicality.

ADD-ON SALES

- Plumbers Putty
- Adjustable Wrench
- Basin Wrench
- Handle Puller
- Seat Dresser
- Stem Packing
- Matching Bath Accessories

TROUBLESHOOTING

- When repairing a faucet, line the sink with a towel to keep tools from damaging the basin. This will also keep small parts from sliding down the drain.

PRO CORNER

- Having a plumbing department with a special order section means your pro customer will feel comfortable sending his customers to your store to find their faucet no matter what their design demands.

MERCHANDISING

- Display faucets out of the box so customers can see and touch them.
- Faucets will lead the eye towards the plumbing department, so display them prominently off the main aisle.
- Lower-priced faucets on the bottom shelf.
- Increase add-on sales of laundry faucet and sinks by putting them near the washer hoses and dryer vents.

NOTE: ALWAYS CONSULT YOUR PROVINCIAL AND LOCAL CODES

PRODUCT KNOWLEDGE TRAINING

Learn the common features and uses of each product.

PK DESCRIPTIONS

1. Kitchen Sink



- Undermounted Sinks mount below the countertop.
- Self-Rimming

Sinks feature a rolled edge that mounts directly over the countertop. They are the most common and easiest to install.

- Double sinks are the most common in new construction, with one bowl available for washing and one for rinsing dishes.
- Single bowls are necessary in small kitchens with little counter space or can function as a second sink for meal preparation.
- In triple sinks, the middle bowl is designed for the garbage disposal.
- Shapes are rectangular or square; custom sinks can be round, oval or other shapes.
- Standard size is 8" deep; low-end sinks are only 5-7" deep and top-quality sinks can go 10" deep.
- Sinks are constructed of many different materials including enameled steel, stainless steel, cast iron, brass, stone and composites such as quartz or granite combined with resin. Enameled steel has a tendency to chip and is less durable than cast iron or stainless steel.

- Stainless steel comes in different gauges—the lower the number, the thicker the steel. Thicker steel is less noisy, and undercoating can help dampen noise. Satin finish is the easiest to clean.
- Other accessories for kitchen sinks include sliding cutting boards, clip-on colanders and custom dish drainers.

2. Countertop Lavatory

- Offers the advantage of storage space under and next to the sink.
- The mounting for vanity sinks can be self-rimming, flush-mounted, under-mounted or integral.



Integral sink basins are typically made of solid surfacing or cultured stone, and any damage to the sink will mean replacing the entire unit.

- In addition to cultured stone and solid surfacing bath sinks are made of enameled steel, vitreous china, glass, cast iron and stainless steel. Vitreous china is the most common material, since it provides a high-gloss finish and is durable and sanitary.
- For bath vanities, 34"-36" is a more comfortable height for adults than the typical height of 30"-32".

3. Pedestal Lavatory



- The bowl rests on a pedestal and does not have storage space underneath.
- The most common type of pedestal is made of vitreous china, but manufacturers offer other high-end types as well.
- More difficult to install than countertop vanities.

4. Utility Sink



- Also called a laundry sink.
- Provides an extra deep, multi-purpose single bowl for pre-washing laundry or washing out items like paint brushes not suitable or other more expensive sinks.
- Sturdy, durable and often made of fiberglass.

5. Garbage Disposal



- Uses a high-speed rotating table powered by a sealed motor, it flings kitchen waste against a stationary shredder, cutter or grinder. This action, together with a full flow of cold running water that must be used while the disposal is operating, reduces the garbage to fine particles and flushes them down the

drain to the sewage system.

- Fits standard 3-1/2" to 4" sink drain openings and are installed under the sink drain.
- Cold water congeals grease and prevents it from coating the drain line. Hard particles, such as bone and eggshell, actually scour the drain line as they whirl down and help keep it clean.
- One type is the Continuous-Feed disposals. Garbage can be fed while the machine is in operation. These disposals are controlled by a wall switch and operated with a continuous flow of cold water.
- A flexible splashguard at the disposal opening stops backsplash and helps to catch non-food items that may accidentally fall into the opening.
- Batch-Feed disposals grind or pulverize food waste one load at a time. The hopper is filled and cold water added. When the cover is put in place, the unit begins operating. Some models have a magnetic switch control in the cover; others require a locking turn of the cover to activate the unit. No other switch is necessary. The safer design of batch-feed disposals makes them more attractive to homeowners with children.
- A sealed motor requiring an electrical hook-up powers most garbage disposals.
- The typical disposal has an overload switch

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that shuts off the motor if something is jammed.

• Disposals will grind most garbage—from the sink and the dishwasher—but they are not intended for glass, crockery, leather, metal, newspaper, paper catons, rubber or plastic.

OTHER TRAINING TIPS

Designed to give you confidence on the salesfloor!

This section is for retail skills training specific to this core product category.

FAQs

Q: How do I clean my stainless steel sink?

A: Use a stainless steel cleaner and a nonabrasive cloth or sponge. Do not use cleaners containing chloride or abrasive pads or steel wool.

Q: How is cultured marble different from marble?

A: Cultured marble is made up of dust from natural marble. It is mixed with a liquid polyester resin for a product that is actually easier to care for than marble.

Q: How do I clean cultured marble?

A: Do not use abrasive cleaners. Use an all-purpose disinfectant cleaner and a soft

cloth. Keep the marble wet while working on it. Never use steel wool, powdered cleaners, metal scrapers or scrub pads on marble.

Q: How can I make my cultured marble sink look shiny again?

A: Use a polishing compound. To fill in scratches or dents, use appliance wax or car wax.

Q: How do I remove hard water stains from my stainless steel sink?

A: Try cleaning it with a cloth dipped in rubbing alcohol.

Q: What is the correct size of garbage disposal that I should put under my sink?

A: If you are replacing an existing unit that has worked well for a number of years, the old size should work fine. Otherwise, 1/3 horsepower will handle limited use once a day. A standard 1/2 horsepower will normally suffice for general use. Heavy-duty 1/2 horsepower units and larger are designed for a large volume of garbage.

UPSELLING

• If your customer is buying a new sink, encourage the purchase of a new faucet, particularly one that matches the style of the sink.

• Marble and granite sinks are the most expensive, but will last the longest and require the least amount of upkeep.

• If your customer is installing a pedestal sink and the plumbing will be exposed, suggest using chrome supply tubes and drains.

ADD-ON SALES

- Water Supply Tubes
- Traps and Drain Plumbing
- Adjustable Wrenches
- Teflon Tape
- Silicone Caulk
- Screwdriver
- Garbage Disposal
- Faucet
- Basin Wrench
- Cleaners
- Rags
- Sponges
- Stand-Alone Bathroom Storage Units
- Soap Dispensers
- Towel Racks

SAFETY TIPS

- When installing pedestal sinks, do not over-tighten the bolts that connect the basin to the wall. Over-tightening can crack the ceramic.
- If the new sink is to replace an old-fashioned cast iron sink, be aware that these are heavy and will need two people to remove.
- If your customer is worried about the dan-

ger a garbage disposal could pose to small children, suggest he buy a batch-fed type.

PRO CORNER

• Having a special-order program for sinks will drive business with pro customers. Sinks and the cabinets that go with them might be installed by a professional, but he will still want to send his customers to a place where they can choose the exact style and design they want.

MERCHANDISING

- Let the customer see all of the sizes and styles of sinks you have available. Display them out of the box whenever possible.
- Merchandise the smallest sinks on the top and the largest on the bottom.

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PRODUCT KNOWLEDGE TRAINING

Learn the common features and uses of each product.

PK DESCRIPTIONS

1. Bathtub



- The standard Drop-In tub installs within a tile or solid-surface surround within three walls of the bathroom, while the old-fashioned Clawfoot tubs are freestanding.
- Standard size for tubs is 60" wide, 30" deep and 14" high.
- Whirlpool and deep tubs are designed for soaking and relaxation. These tubs can be separate or incorporate a shower combination.
- Cast iron tubs are the most durable and do not stain or scratch easily.
- Acrylic is a better insulating material so the water takes longer to cool, and its light weight and flexibility makes it a better choice for larger tubs.
- Fibreglass tubs are easy to install, but are more apt to fade and scratch.
- Tub and shower combinations are typically made of reinforced fibreglass with a polyester finish.

2. Tub Surround



- Attaches to drywall, plaster or most any solid surface.
- Comes in three or more pieces

- that snap or caulk together for a leak-free fit.
- Inexpensive alternative to tile and good solution for keeping bathroom walls around the shower easy to clean.
 - Sell colour-coordinated caulk with this product.

3. Shower Stall



- Some units come in one piece, mainly for new construction or major remodels.
- Some units come in multiple pieces that snap or caulk together to be a leak free.
- Sell colour-coordinated caulk with this product.
- Easy to clean and some manufacturers claim they will not chip, crack or peel.

4. Towel Bar/Towel Ring



- Often sold in a style that matches other bathroom accessories, and some manufacturers will match them to light fixtures.
- Mount on the wall or shower door.
- Fancier models are stand alone and heated.
- Sold in a variety of finishes.

5. Soap Dish



- Often sold in a style that matches other bathroom accessories such as towel bars.
- Comes either stand-alone or wall-mounted.

6. Grab Bar



- Installed for safety around tubs to help prevent falls.
- Also used as a handrail to help anyone who may have trouble sitting down or standing up.
- Never use a towel rod in place of a grab bar.
- Never install diagonally, as a person's hand might slide if footing isn't secure.

7. Tub/Shower Door



- An attractive alternative to shower curtains.
- Usually easy to install and require few tools.
- Door mounts on a frame that is adjustable to all standard bathtubs.
- Sell caulk with this product.

8. Standard Showerhead

- Usually has full-range, adjustable sprays



- and features self-cleaning rims and swivel ball joints.
- Is typically made of chrome-plated brass or plastic. Plastic models are less expensive but also less durable.
- Many new models have a standard flow rate of 9.5 L per minute, although some deliver a more satisfying shower than others.

9. Massaging Showerhead



- Uses water pressure forced through a diverting valve to create one or more pulsating water actions.
- In most cases, users can vary the amount of pulsing pressure or force to their liking.
- Available in hand-held or permanently mounted models. While all offer massaging action of one or more kinds, they can all be easily converted to conventional shower action.

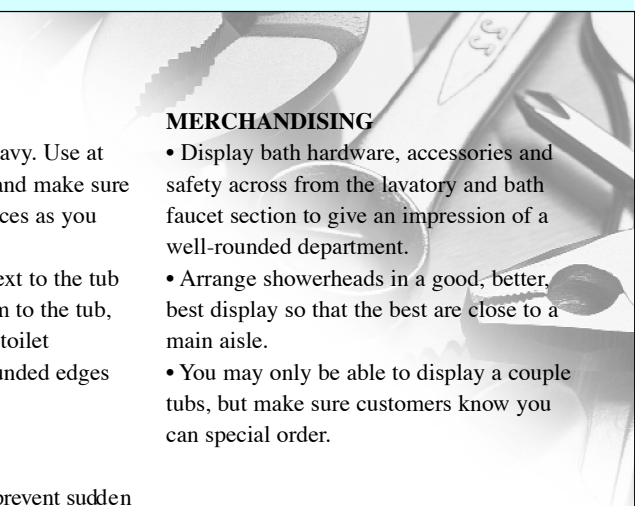
10. Continental Showers



- A versatile wall and hand shower combined.
- Some brands feature on-off flow control built into the handle, which is a brass push-button

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diverter valve that permits instant switch from showerhead to hand shower and a 6' flexible hose and hang-up bracket.

- It can be easily attached to existing shower arms.

OTHER TRAINING TIPS
Designed to give you confidence on the salesfloor!
This section is for retail skills training specific to this core product category.

FAQs

Q: Why is my showerhead spraying unevenly, or why is water not coming through some of the holes?
A: The shower head may need to be cleaned of hard water deposits. Take the shower head apart and clean it using an old toothbrush and a decalcifying-type cleaner.

UPSELLING

- Remodeling the bathroom is the perfect time to upgrade to a tub with new amenities, such as built-in heaters and whirlpool jets. There are even new clawfoot tub retro model available that incorporate these features if the customer wants an old-fashioned look.
- An easy upgrade to a bathroom is a new showerhead, especially if it has massaging

features. Some showerheads have been designed to have a rain drenching effect.

- Removing an old tub is a project that will crossover into several other categories. Anyone removing a tub may want to repair or replace the old floor, repaint the walls, tile the walls around the tub or change the fixtures on the tub.
- Suggest installing a glass shower door to replace the old shower curtain.

ADD-ON SALES

- Faucets
- Adjustable Wrench
- Teflon Tape
- Bathtub Liner Adhesive
- Tub Surround Kits
- Tub Surround Adhesive
- Bathtub Cleaner
- Soap Dishes
- Robe Hooks
- Towel Bars
- Shower Curtain
- Shower Rod
- Bath Grab Bars
- Night Lights
- Slip-Resistant Mat
- Waste Basket
- Shower Organizer

SAFETY TIPS

- Old cast iron bathtubs are heavy. Use at least two people to remove it and make sure to protect all of the floor surfaces as you carry it out.
- Consider adding grab bars next to the tub or toilet, a slip-resistant bottom to the tub, shower seats or transfer seats, toilet guardrails, night lights and rounded edges on vanities and doors.

PRO CORNER

- Install an anti-scald valve to prevent sudden changes in temperature. The pressure-balanced type provides consistent water temperature despite pressure fluctuations in the supply line. Thermostatic valves respond to outlet temperature rather than inlet pressure and adjust the hot-water pressure accordingly. Faucets can also have an adjustment that allows the installer to set how high the water temperature can go.
- For customers who may not want to replace the entire tub, suggest a bathtub liner. The liner should feature a nonporous surface for easy cleaning and be made of high-impact material to guard against dents and cracks. They come in a wide variety of colours and styles, are attached with adhesive.

MERCHANDISING

- Display bath hardware, accessories and safety across from the lavatory and bath faucet section to give an impression of a well-rounded department.
- Arrange showerheads in a good, better, best display so that the best are close to a main aisle.
- You may only be able to display a couple tubs, but make sure customers know you can special order.

NOTE: ALWAYS CONSULT YOUR PROVINCIAL AND LOCAL CODES

PRODUCT KNOWLEDGE TRAINING

Learn the common features and uses of each product.

PK DESCRIPTIONS

1. Tank Water Heater



- Can operate on either gas or electricity.
- Copper-, stone- and glass-lined water heaters perform better than unlined aluminum or galvanized steel heaters.
- A stainless steel alloy called HWT is designed to resist corrosion as well as the lined models.
- Unlined galvanized steel tanks perform least well, but they are the least expensive and may prove satisfactory in localities where the water supply does not have adverse effects on equipment.
- To stop tank corrosion, a magnesium-coated metal rod is available. It is hung inside the tank 3" or 4" away from the bottom. Because the magnesium paper eventually will be eaten away, the rod should be inspected from time to time and replaced when necessary.
- Better-grade, non-metallic gas water heaters are also popular. The tanks, although more expensive than metal models, are light, easy to install and corrosion-proof.
- Advise homeowners to partially drain their water heater once or twice a year to remove

the accumulation of sediment, which can affect operation.

2. Tankless Water Heater



- Can operate on either gas or electricity.
- Tankless water heaters are small heating units that are hooked into plumbing lines and heat water only as needed. They do not store water, but heat it as it moves through the unit.
- Larger tankless heaters are installed at the point where water enters the house; smaller units are installed at the point where water is used and require more than one in a house. Some operate on house current, others on gas.
- Some of the larger units require different size plumbing lines and different size flue vents than do tank-type heaters.
- If gas-fueled, the heater must be properly vented; if electric, it may need to be wired with two units in series which may not be practical for existing home wiring. Larger units require a 220V or 240V line. Smaller units will operate on standard 110V lines.
- Tankless heaters are more expensive than tank types. However, they do produce savings in annual energy consumption and cost.
- Although tankless heaters will deliver con-

tinuous hot water, they are limited in quantity. The central units cannot support hot water demands from several points at the same time; obviously, the smaller units will heat water delivered only at the points where they are installed.

- Because of the high initial cost and the fact that American consumers are not used to the limitations these heaters place on the availability of hot water, their recommended use is to supplement existing tank-type heaters or in summer homes or locations where demand for hot water is light.

3. Water Softener



- Helps remove minerals (magnesium, calcium, iron) that cause "hard" water.
- Quality water softeners have either fiberglass linings or steel tanks that have double coatings of epoxy for guaranteed rustproofing. Fiberglass tanks prevent electrolytic action that causes excessive rust and corrosion because there is no metal-to-metal contact.
- When water enters the home, it is directed into the water softener. Water passes over a mineral bed, with minerals holding the lime and magnesium present in the water.
- Chemicals in the water softener unit must

be regenerated, cleaned or replaced. The regeneration process happens by reversing the flow of water through the softener tank and adding sodium chloride or potassium chloride. The reversed water flow quickly flushes accumulated minerals from the chemical.

- Quality water softeners have solid brass and copper valves and bearings. Iron or steel parts are seldom used in a quality softener because salt can cause rust.
- One of the best ways to sell water softeners is to offer free tests to homeowners to determine the hardness of their water. If the water shows 8 to 10 grains hardness, a water softener is recommended to assure the home of sufficiently soft water. If tests show 15 grains of hardness, a water softener is necessary. The test is easy to conduct. Have the customer bring a sample of home water to the store; dip the specially treated paper into the water. Paper colour will change depending on water hardness. Testing kits will contain hardness charts.

4. Water Filter



- Used to remove bacteria and/or chemicals suspended in water to improve its taste and smell. Filters either install under the sink or at

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the point where the water supply enters the building (whole-house filters). Others mount on the faucet or countertop.

- The basic types of water filtration devices are activated-carbon filters, reverse osmosis, distillation and aeration.
- Activated-carbon filters are the least expensive water filtration devices. They can remove impurities and improve water taste and odour, but do not eliminate dissolved minerals or bacteria. One solution is to combine a carbon filter with a chlorination system.
- Reverse-osmosis systems take out dissolved lead, mercury, cadmium and other heavy metals that are present in the water, but will not eliminate microorganisms. They are also relatively expensive.
- Distillation removes most impurities in the water system. Distillers work slowly and must be cleaned regularly.
- Aeration reduces, but does not necessarily eliminate, the levels of iron, chlorine and other gases in the water. It works best when combined with other treatment forms.
- Some filters feature cartridges that can be cleaned and reused several times before replacement.
- Filters based on ceramic technology will remove up to 100 percent of bacteria as well as chemicals, tastes and odours. Some have proven effective in removing such contami-

nants as algae, chlorine and detergents found in many urban water supplies.

- Another under-sink model even reduces levels of MTBE, a gasoline additive that contaminates some wells and municipal water systems.
- Always study information about the specific filters that you are selling.

5. Sump Pump



- Used to discharge ground water that accumulates around a basement that is below the water line. The basement should have a drain tile around it to collect ground water and convey it to the sump in the basement.
- A Submersible type pump is a motor and pump sealed in one unit that rests in the sump pit.
- A Pedestal pump sits in the water, but the motor is mounted on a column above the water. They are available in automatic or manual models, either gravity-fed or self-priming operation.
- Pump capacity is rated by gallons-per-hour pumped as well as “lift” pressure generated—how high the liquid is to be pumped.
- Submersible Sewage and Effluent pumps are for continuous use in moving large volumes of water containing solids.

- Some pumps have battery backup in case of a loss of power. Now available is a combination electric and battery-powered sump pump. The system automatically switches from AC to battery when the power goes out and can shift into turbo mode if the incoming water flow is greater than the unit is pumping out.

6. All-Purpose Pumps



- Lightweight pumps used to clear flooded basements, drain low spots after a heavy rain, etc. Used by farmers, boaters and campers as well as homeowners.
- One type operates off a 12V battery and can be attached to a car, truck, tractor or boat battery.
- Another type uses a standard 115V house current.
- Most units pump from 946 to 1,892 L per hour and are self-priming and easy to operate.

7. Utility Pumps



- Larger than all-purpose pumps and often gasoline powered.
- Used to pump manholes, for irrigation and lawn sprinkling, for fire protection and as an emergency water supply during power failure.
- Capacities range up to 320 L per minute.

Suction lifts up to 25'.

- Another type is a high-pressure, hand-held utility pump that adds as much as 80 lbs. to intake pressure. It operates on 115V current, and when connected to a standard garden hose, can be used to hose down hard-surface driveways and window screens, to wash cars and boats and to clean animal-housing areas. They will also draw water from shallow wells, tanks, etc.

8. Homewater Systems



- Consists of a pump, a pressure tank and switch.
- The tank will supply water between the cut-on and cut-off pressure setting on the pump, usually 20-40 psi. While 20-40 lbs. pressure is adequate, 30-50 lbs. or 40-60 lbs. is best for home supplies. Since the tank supplies small amounts of water, the pump does not have to turn on each time a faucet is used.
- Pumps are shallow-well or deep-well. Shallow-well pumps are installed at well depths of 25' or less. Where deep-well pumps can be used in water depths of 300' or greater, depending on altitude.
- Horsepower rating determines pump size. Pumps used in the average home are 1/3-, 1/2-, 3/4- or 1-hp. When helping customers choose a pump, find the required capacity by counting the number of faucets in the

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home (count tub faucets as two) and multiplying by 227. This is the number of litres-per-hour the pump should supply from the well. Remind customers to allow for additional appliances that use water.

- Home water-system pumps are usually centrifugal or jet. This type builds a centrifugal force, which lifts the water.
- Older homes may have a piston pump. A piston pump builds pressure that pulls water up through the casing.
- There are several important terms to know when selling a pump:
- Well-sized. The inside diameter of the well indicates proper size pump, ejector, cylinder or drop pipe (pipe that is lowered into well casing to transport the water) and foot valve (located at the bottom of the drop pipe to keep water from flowing backward into the well).
- Pumping level. The vertical distance in feet from pump to water level while the pump is operating. If pump is installed away from the well and is on higher ground, this elevation must also be included. Most wells draw down (water level goes down inside the well as water is pumped into the home) so this must not be confused with standing water level.
- Average discharge pressure. The usual

average discharge pressure is 30 lbs., halfway between the 20-40 lb. switch setting of most water systems. When the tank is installed away from the pump at a higher level or when house or yard fixtures are above the pump and tank, a greater pressure is needed and a larger pump must be used.

- Capacity required. This is the discharge capacity of the pump in gallons per hour necessary for satisfactory service. The pump should have enough capacity so that it does not need to work more than the equivalent of two hours a day in intermittent service.
- Well points. These are used to drive wells in soil that is soft and primarily free of rock and where water is known to be close to the surface. Points are screwed onto the end of pipe to be lowered into the ground; then the point and pipe are driven into the ground with a sledgehammer or mallet. Well points have strainer baskets on the ends that sift out dirt and small stones.

9. Septic Tank



- A large watertight settling tank that holds sewage while it decomposes by bacterial action.
- Made of asphalt-coated steel, redwood,

concrete, concrete block, clay tile or brick.

- Tanks must be sized to suit the house. Two-bedroom homes need minimum 2,838 L tanks. Three-bedroom homes need 3,405 L tanks and four-bedroom homes require 3,784 L tanks. Garbage disposers, washing machines and dishwashers are figured in this estimate.
- Household sewage flows into the septic tank and decomposes. Sludge collects on the bottom of the tank and liquid effluent flows out to a distribution system. The distribution system is a series of underground disposal lines that radiate outward from a central distribution point; the effluent seeps into the earth.
- Sludge remaining in the tank must be cleaned out periodically to prevent this layer from building up enough to cause clogging of disposal lines or household sewer lines. Under ordinary use, the tank may need cleaning at two- to four-year intervals, but most experts recommend that the sludge level be inspected every 12 to 18 months. Inspect by opening a special manhole cover or trapdoor located at or near ground level.
- Septic tank cleaners dissolve sludge through enzyme activators that regenerate the natural bacterial activity of decomposition for which the tanks were designed.

These natural bacterial activators continue from the tank into the drain and tile field.

OTHER TRAINING TIPS
Designed to give you confidence on the salesfloor!
This section is for retail skills training specific to this core product category.

FAQs

- Q:** How does a typical water filter work?
A: Different types of filters work differently.
- If it is a bacteria/sediment/taste/odour filter, water flows through a silver-impregnated ceramic wall, which traps particles down to one micron. Then it flows through a granular-activated charcoal liner that absorbs chemicals, unpleasant tastes and odours. Water that is free of bacteria then passes through the centre hole and out of the filter.
 - If it is a filter that removes chemical/taste/odours, water enters the filter and surrounds a cartridge inside. Water then passes through the hole at the bottom of the cartridge and flows up through a bed of granular activated carbon, which absorbs chemicals, tastes and odours, and then out of the filter.
 - If it is a filter that removes sediment, it is

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installed at the source of the supply. Water containing sand, silt, algae and rust enters the filter and surrounds the cartridge, which is tightly sealed at both ends. Water passes through the cartridge well, which traps sediment particles. Relatively free of solid matter (depending on micron rating of the filter), the water flows up through the centre hole and out of the filter.

Q: What's the most likely reason my sump pump isn't working?

A: Usually it's the switch. If the pump shifts inside the sump pit, the float switch may become stuck and not float freely on the water. Debris can also get into the sump pit and interfere with the switch action.

Q: Are all electric hot water heater elements the same?

A: There are three types: screw in, bolt in and clamp in. They all have different wattage ratings and can work on either 120 or 240 voltage.

Q: There is water leaking from my water heater. What's the cause?

A: The pressure relief valve could be leaking. Try operating the valve to see if it will stop. It also might need tightening. A gasket

around the heating element may need to be replaced, or the tank could be rusted out, which requires a new hot water heater.

Q: What size water heater should I buy?

A: Most people base their purchases on the size of the storage tank, but a better method is to first estimate how much hot water you will need during the peak hour of use. This is referred to as the first-hour rating (FHR) on the Energy Guide label posted on new water heaters. Typical hot water use is:

- Showering--11 L/minute
- Bathing--56-95 L per bath
- Shaving--3.7-13 L
- Washing hands—1.8-7.5 L
- Washing dishes--15-22 L
- Running dishwasher--18-75 L
- Running clothes washer--94-151 L
- Cleaning house--18-45 L
- Food preparation--3.7-22 L

Q: What is the purpose of a pressure relief valve on a water heater?

A: This is a safety device that will open in case of high pressure or temperature.

Q: My sump pump runs constantly. Do I need to buy a new one?

A: It could just be a bad switch that is easy

to replace.

Q: I just refinished my basement and I want to ensure that it doesn't flood. Do you have any advice?

A: You can buy a sump pump that has a battery back up. There are also high-water alarms.

Q: I'm not getting enough hot water from my electric water heater.

A: The temperature control may be set too low. Otherwise it's probably a faulty heating element or thermostat, which can be replaced.

Q: The water from my electric hot water tank is too hot.

A: The thermostat may be set too high, or it may be faulty. It could also be a grounded heating element.

Q: I am getting no hot water from my gas water heater.

A: The pilot light might be out, or you may have a faulty thermostat.

Q: Is there any maintenance for a water heater?

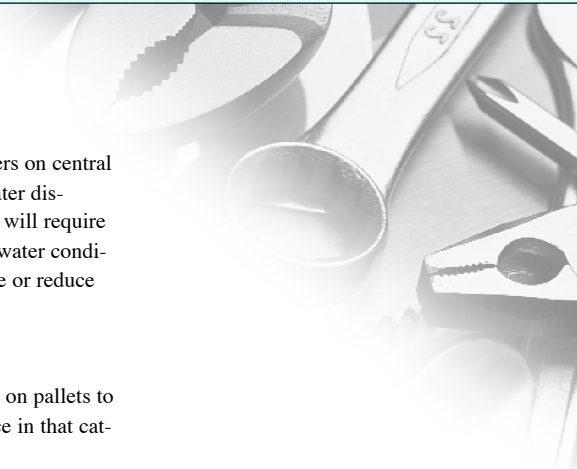
A: Yes, you should test the pressure relief

valve regularly and replace it if it fails to operate. At least once a year you should flush out the sediments. As long as a tank has a functioning anode, it should not rust. Therefore you should check the anode about once every two years. The fitting is usually on the top of the tank and it's often tight, so a torque multiplier is a useful tool. If you find 6" or more of the steel core wire exposed, or if the rod formed a hard, adherent calcium carbonate coating that prevents further corrosion of the sacrificial metal, replace the rod. There are segmented rods if overhead clearance is limited.

UPSELLING

- Water softeners with an automatic bypass are better. With this feature, the water is never shut off, even during the regeneration period. This prevents the possibility of the customer drawing brine water into the house line or water heater during the regeneration period. Better-grade water softeners also have a flow rate of about 41 L per minute, while the backwash rate is approximately 6.8 L per minute. The brine tank usually holds about 250 lbs. of salt.
- Submersible sump pumps are quieter and last longer than pedestal pumps.

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- Consider adding a battery back up to a sump pump. Also available is an alarm that sounds if the pump does not operate when it should. These upgrades can save thousands of dollars in water-damaged property.

ADD-ON SALES

- Water Heater Insulation Blanket
- Water Heater Pan
- Water Heater Stand
- Water Filter Wrench
- Vent Pipe Fittings
- Flex Water & Gas Connectors
- Extra Water Filter
- Check Valve
- Sump Pump Pit Liner
- Sump Pit Cover
- Garden Hose
- PVC Pipe
- Pipe Solvent
- Plumbers Putty
- Adjustable Wrench
- Screwdriver
- Hacksaw
- Drain Fittings
- Water Softener Salt
- Screwdriver
- Adjustable Wrench
- Electrical Tape
- Electrician's Pliers

- Septic Tank Chemicals
- Pump Discharge Hose
- Water Pressure Gauge

SAFETY TIPS

- Water filter cartridges should be changed regularly. Once they have reached their filtering capacity, they can begin to release previously filtered substances or block water passage altogether.
- Always leave the cold water gate valve open when the water heater is in use.
- Never store combustible or flammable products, such as gasoline, paint thinner, aerosol cans, etc., in a room with a gas water heater. These items can emit vapours that may come into contact with the gas pilot light and cause a fire.

PRO CORNER

- Educate your pro customers on how to recommend the proper size water heater to their customers. The number of people living in the household and number of bathrooms will determine what size water heater to purchase. For a house with 4 people and 1-1/2 baths, a minimum 189-litre capacity is recommended. Be sure to offer good service on water heaters—a 10-year guarantee is usual.

- With the increase of humidifiers on central heating units and instant hot water dispensers, your HVAC customers will require small water filters or magnetic water conditioners and chemicals to remove or reduce scale build-up in these units.

MERCHANDISING

- Set water softener salt outside on pallets to raise awareness of your presence in that category.
- Manufacturer displays will boost sales of water filters.
- Display water filters out of the box and place them next to the kitchen faucets.
- Remember that the spring thaw and rainy season are the peak times for buying sump pumps. Be well stocked on these and other pump add-on items.
- Display sump pumps out of the box and at eye level.

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CANADIAN IMPERIAL AND METRIC MEASUREMENTS

Canadians generally use a mixture of measurement units.

Liquid volumes are typically based on the metric (SI) system. Temperatures and distances are commonly specified using metric terminology. Weights, depending on the type of product, use either the metric or Canadian Imperial system. Lengths and dimensions of construction products, particularly for residential use, are generally in Canadian Imperial measurements. And many of the products we use are manufactured in U.S. measurements.

Canadian building codes are written using metric units. But the construction trades, particularly those in residential construction, typically use the Canadian Imperial system. This mixture of measurement systems frequently results in many product manufacturers providing information using both systems. Unfortunately, the approaches used in presenting the “converted” measurements are not consistent. Some information is based on “exact” conversion measurements, whereas other information is based on “rounded” measurements.

From your perspective and in communicating with your customer, it is important to

recognize that in some instances the exact conversion is necessary and in other

instances a more “rounded” conversion is appropriate.

CONVERSION FACTORS

1 inch (in.)	=	25.4 mm	32 fluid ounces - US (oz.)	=	1 US qt.
1 foot (ft.)	=	0.3048 m	40 fluid ounces - Canadian (oz.)	=	1 Canadian qt.
1 yard (yd.)	=	0.9144 m			
1 mile (mi.)	=	1.609 km	1 fluid ounce - US (oz.)	=	29.6 mL
			1 fluid ounce - Canadian (oz.)	=	22.8 mL
1 ounce - avoirdupois (oz.)	=	28.35 g	1 cup - US (cup)	=	236mL
1 pound - avoirdupois (lb.)	=	0.454 kg	1 cup - Canadian (cup)	=	227mL
			1 quart - US (qt)	=	0.946 L
1 pound per square inch (psi)	=	6.895 kN/m ²	1 quart - Canadian (qt)	=	1.136 L
1 pound per square foot (psf)	=	0.04788 kPa	1 gallon - US (gal.)	=	3.785 L
			1 gallon - Canadian (gal.)	=	4.546 L

Celsius temperature = (Fahrenheit temperature - 32) / 1.8

SOME TYPICAL MEASUREMENTS FOR HARDWARE AND FASTENER PRODUCTS

(“rounded” conversions)

Length		Length		Length		Length		Weight	
in.	mm	in.	mm	in.	m	ft.	m	lbs	kg
¹ / ₃₂	0.8	³ / ₈	35	48	1.2	7.5	2.3	1	0.45
¹ / ₈	3.2	¹ / ₂	38	60	1.5	10	3.0	10	4.5
¹ / ₄	6.4	2	51	72	1.8	12	3.7	50	22.7
³ / ₈	9.5	4	102	84	2.1	18	5.5	100	45.4
¹ / ₂	12.7	12	305	90	2.3	25	7.6	750	340
⁵ / ₈	15.9	18	457	120	3.0	50	15.2	1250	567
³ / ₄	19.1	24	610	156	4.0	75	22.9	1900	862
⁷ / ₈	22.2	30	762	216	5.5	100	30.5	2650	1202
1	25.4	36	914	312	7.9			5000	2268

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