Cross Connection Control

Residential Information Flyer

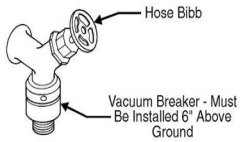
What is a cross connection? A cross connection is an arrangement of piping which could allow undesirable water, lawn fertilizer, bacteria, chemicals, etc. to enter the drinking (potable) water as a result of backflow due to backsiphonage or backpressure.

What is backsiphonage? Backsiphonage is the reversal of flow in a piping system caused by a negative pressure. Some examples of when backsiphonage can occur are during watermain breaks, fire fighting events or during an interruption in a building's water supply.

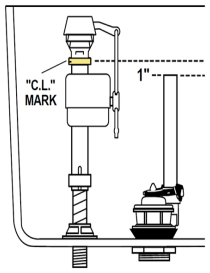
What is backpressure? Backpressure is the reversal of flow in a system due to an increase in the downstream pressure above that of the supply pressure. Backpressure could be caused by a high pressure boiler or a booster pump.

How can I eliminate cross connections? Cross connections can be eliminated by making sure each point of use is protected against backflow. This can be accomplished by maintaining air gaps or installing required backflow preventers so undesirable water is not able to enter the potable water supply piping. Some examples are listed below:

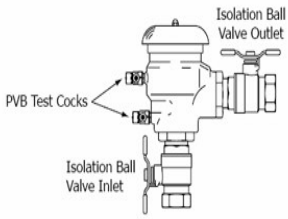
- **Sinks:** Maintain an air gap of at least twice the diameter of the supply pipe above the flood level rim of the receptacle.
- **Hose bibbs:** Install a hose connection vacuum breaker conforming to ASSE 1011 (approved for out-door use) on the hose bibb or install a sillcock that conforms to ASSE 1019.



- **Water operated backup sump pumps:** Most water operated backup sump pumps are required to have a reduced pressure principle backflow preventer that conforms to ASSE 1013 installed on the water supply to the pump.
- **Toilets:** Install an anti-siphon fillvalve in the toilet tank. Pay close attention to the installation instructions to make sure the critical level mark is at least 1" above the overflow tube as shown in this diagram.



- **Boilers:** Low pressure non-treated boilers may be protected against backflow by a double check valve with an intermediate atmospheric vent conforming to ASSE 1012. Chemically treated boilers are required to be protected against backflow with a reduced pressure principle backflow preventer that conforms to ASSE 1013.
- **Lawn irrigation system:** Most lawn irrigation systems are required to be protected against backflow by a pressure vacuum breaker conforming to ASSE 1020 or by a reduced pressure principle backflow preventer conforming to ASSE 1013. However, some irrigation systems are designed with atmospheric vacuum breakers which must be installed downstream of all valves.



Pressure Vacuum Breaker

Backflow Preventer Testing: Pressure vacuum breakers and reduced pressure principle backflow preventers are required to be periodically tested upon notification by the Water System. Testing must be completed by a licensed plumber who is ASSE certified.

Homeowners that get their drinking water from a public water system are required by the "Michigan Safe Drinking Water Act" to maintain their plumbing systems in a manner free of cross connections. For more information visit https://.grandrapidsmi.gov/Government/Programs-and-Initiatives/Cross-Connection-Control or call Cross Connection Control at 616-456-4170.

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