A Simple Guide to Pipe Freezes

Frozen pipes *are a nightmare for homeowners and a dream come true for repair plumbers every winter. However, a few simple precautions can help you eliminate the chilly drafts that freeze pipes, letting you relax this winter. Pipes freeze because of large "convective" or air current losses of heat. Therefore pipes within northern exposure walls where there is more wind are at greater risk. The all-purpose do-it-yourself protective material is three and a half inch thick foil-faced fiberglass blanket insulation. A roll costs approximately $15, and with some duct tape you are ready to protect your pipes from freezing this winter. Bear in mind that this is preventive work and must be done before the bitter cold weather sets in.*

Preventive Measures

1. Make sure your outdoor water faucets have been drained. Turn the faucet on. If water flows, you will have to go inside, locate the shut-off valve, and close it. Go back outside and open the faucet again. If the water between the inside valve and the outside faucet does not run out, you will have to go back inside and open the little knurled knob on the inside valve body to release the vacuum. "Frost free" faucets do not require draining since the valve stems extend straight back through the wall and close off the water inside the house where it will not freeze. Shut-off drain valves for outside faucets fed through garage spaces can typically be found inside the garage. This leaves the supply portion of the pipe inside the garage vulnerable to freezing. Have a shut-off drain valve installed inside the heated portion of the house.

2. Water meters located in shallow pits at curbside often freeze because they are not below the frost line. If this happens, all water leading to the house will be cut off. Coordinate insulating the meter pit with a reading of the meter by the water company, since they have a special wrench that is necessary to remove the pit cover. Wrap the meter and stuff the pit with the three and a half inch foil-faced fiberglass with the foil facing outward.

3. Survey the supply pipes in crawlspaces and basements, looking specifically for pipes in drafts. Supply pipes that run along the top of foundation walls are likely to freeze due to drafts that seep in under the sill plate (the wood piece bolted to the foundation and supporting the floor joists). To protect them, stuff fiberglass insulation behind the pipes and under the sill plate and foundation, or tape over it with duct tape. Pipes passing close by poorly fitted basement windows are equally as vulnerable, so tape around the window sash edges or staple plastic sheeting over the frame.

4. Wrap vulnerable pipes with insulation. Cut the three and a half inch thick rolls into four-inch wide strips and lay the strips along the pipes with the foil facing outward. Fold the strips around the pipe, overlap the edges and tape securely with duct tape. Studies have shown that this method is as effective as any commercially available pipe wrap, but is much cheaper and far easier to use. Next, survey along the upper perimeter of the foundation walls and look for pipes that run up exterior walls; these are drafty areas and are vulnerable if the wall is uninsulated or faces north. Shove insulation behind these pipes if you can.

5. Double check additions where plumbing pipes run underneath and carefully survey around new vents added to dry out a damp crawlspace. Recently insulated crawlspace flooring can allow pipes to freeze by cutting off the heat that previously protected them. Play it safe by insulating all crawlspace supply pipes. As an added measure, wrap up drain line traps as well. The drain lines of slow draining fixtures should be wrapped as they are much more vulnerable to freezing in winter.

6. Open the cabinet doors beneath your kitchen sink and see if the hot and cold supply pipes come through the wall or floor. Pipes coming through outside walls are vulnerable to freezing and will require protection. You can provide a small measure of protection by allowing the taps to drip overnight and by leaving the cabinet doors open so the kitchen heat can reach the wall. A truly thorough job requires breaking into the wall and wrapping the pipes within. Check laundry tubs and washing machines located on exterior walls to be sure that heat is available. Baths above unheated garages are at risk, particularly if they are located near drafty doors. Weatherstrip the garage door and have a contractor blow insulation into the floor cavity.

7. There is often a wide cavity wall between baths that back up to each other beneath attics. The cavity is called a chase and is used to house the servicing pipes. It is common for insulation above the chase to fall into the cavity, leaving the pipes exposed to cold drafts from overhead. Seal off the top of the chase by stuffing in blankets of fiberglass insulation. Overlay the stuffing with regular attic insulation.