

levels shown in the following guidelines. If humidity exceeds these levels, the windows will fog.

OUTSIDE AIR TEMPERATURE	MAXIMUM INTERIOR HUMIDITY
20 degrees F	40%
0	30%
-20	15%

If you have high-performance glazing or specially insulated glass, the interior glass temperature will be warmer because there is less heat loss. With a warmer glass temperature, you can raise the humidity level. If you have triple glazing, you can also raise the humidity level. With poor windows, you need to lower the humidity level.

### Create a moisture balance

Every combination of home structure and family situation introduces an almost unlimited set of variables when evaluating condensation problems on windows. You need to try to understand the basics of moisture and condensation, limit moisture sources and properly ventilate.

Watch those windows! They will tell you when you need to take action.

Don't worry about temporary or short-term fogging of windows. Do worry if you have constant moisture problems and you notice water damage, mildew or water stains. Follow the steps outlined here, and consult a professional if you have persistent problems.

And don't condemn modern building practices and windows. Modern products and building techniques have given us comfortable, energy-efficient homes. While we enjoy our low energy bills, we simply need to understand how these homes react to moisture. ■



Tom Feiza is a registered professional engineer (PE, BSME) with over 35 years of construction and engineering management experience. He's known as "Mr. Fix-It" to loyal readers, callers to his weekly radio show, and audiences at home shows and conventions. An ASHI Certified Inspector with over 18 years and 6,000 inspections under his belt, he has published *How To Operate Your Home*, *Home Systems Guide*, *Basic Home Systems*, *Home Systems Illustrated*, and *My Home - Mi Casa*, and frequently presents at national and local inspection conventions.

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**IN CASE OF EMERGENCY**  
How to turn off water, gas, and electricity in your home

**BE PREPARED!**  
Every homeowner should set up an emergency plan and make sure everyone in the household knows how to follow it. To get started, review this information, then place the card where it's easy to find in an emergency. Your safety plan could include a list of emergency shut-offs, information sources, and basic tools. You may need to find an expert to help locate, repair or maintain some of these valves and switches. In addition, develop a list of emergency numbers and an escape plan.

**MAIN WATER VALVE**  
This valve turns off all the water to your home. If the valve looks old, worn or rusty, have a plumber check it for proper operation.  
If your house has its own well, the valve will be near the pressure tank. In this case, to disable the system, you must turn off the valve and the electrical switch for the well pump.

**Well - Main Water Disconnects**  
To turn off water to home, close main valve between tank and home. Turn power off to disconnect pump and stop pump operation.

**MAIN WATER VALVE (CONTINUED)**  
For a municipal water supply, the valve will be located indoors on the "street side" of your home near the water meter. In a warm climate, the valve will be outside your home.

**Water Supply System in a Cold Climate**  
TWO TYPICAL OPTIONS

**Water Main / Meter - Warm Climate**

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