



CONDENSATION

"There is condensation on my window. Help!"

OMAHA & LINCOLN



WHAT IS CONDENSATION?

Condensation is the process of changing a gas into a liquid. As air becomes saturated with too much humidity, it cannot hold the water vapor. Moisture is in the air all around us. When warm, moist air contacts a cooler surface, such as window glass, it cannot hold as much water vapor so it condenses onto the cool surface.

Roomside (Interior) Condensation

Condensation on the interior of windows and doors is not caused by the window or door product. Condensation is the result of high humidity levels in your home. Air with high humidity holds water vapor until it comes into contact with a surface temperature less than or equal to the dew point (the temperature at which air becomes saturated and produces dew). Because glass surfaces are usually the coldest part of the home, condensation appears on windows first, generally in the form of water droplets or frost on the roomside of your window. As interior air becomes drier or as the glass surface becomes warmer, condensation begins to dissipate.

Conditions That **Cause** Condensation

Inside

Temperature: 70° F
Humidity: 40%
Dew Point: 44° F

Glass Temperature: 43° F



Outside

Air Temperature: 0° F

- Humidity is higher than recommended amount
- High humidity causes dew point to be higher.
- Condensation appears on interior glass because glass temperature is below dew point.

Conditions That **Prevent** Condensation

Inside

Temperature: 70° F
Humidity: 30%
Dew Point: 37° F

Glass Temperature: 43° F



Outside

Air Temperature: 0° F

- Humidity is at recommended amount
- Lower humidity also lowers dew point.
- No condensation on interior glass because glass temperature is above dew point.

Maximum Recommended Humidity Levels

Outside Temperature	Inside Temperature
20° F to 40° F	Not over 40%
10° F to 20° F	Not over 35%
0° F to 10° F	Not over 30%
-10° F to 0° F	Not over 25%
-20° F to -10° F	Not over 20%
-20° F or below	Not over 15%

**Based on engineering studies at 70° F conducted at the University of Minnesota Laboratories.*