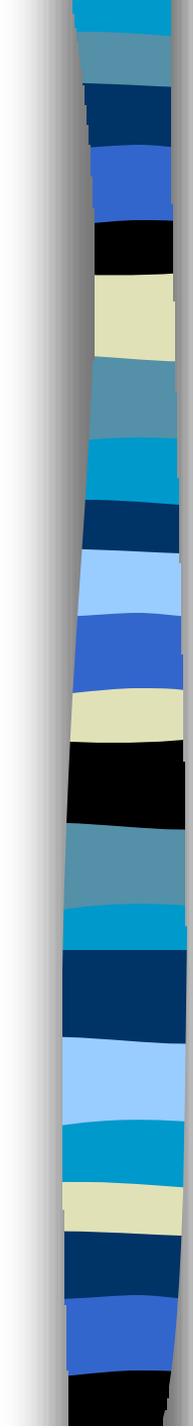


# Reasons for Humidity Control in Residential Construction



Rodney H. Lewis, PE, Fellow ASHRAE  
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Houston, Texas



These are a few examples of  
Mold Problems



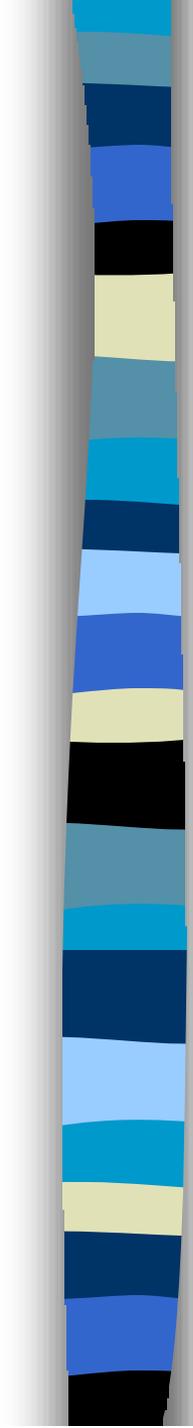






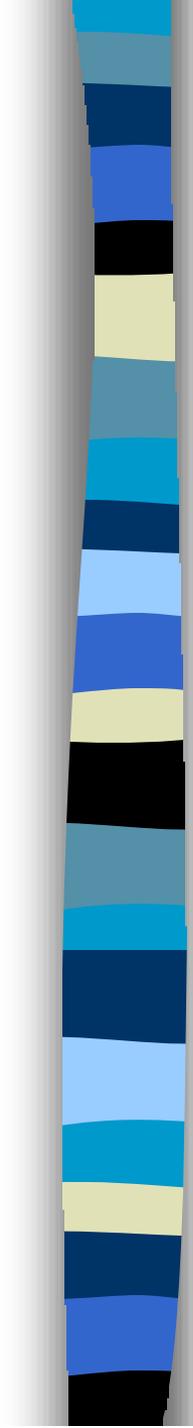






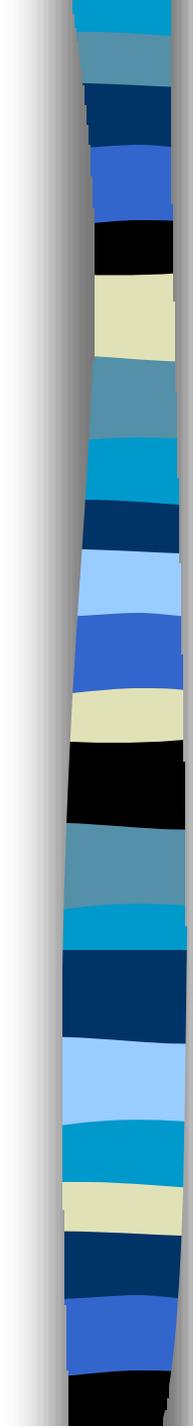
# Causes

- Condensation
  - On Ducts
  - On Equipment
  - On Light Fixtures
  - On Windows
- Water Intrusion
  - Roof Leaks
  - Window Leaks
  - Site Drainage
  - Pipe Leaks



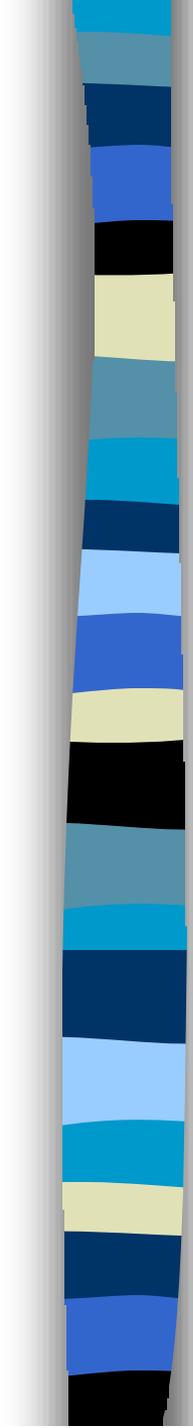
# Causes of Elevated Indoor Relative Humidity

- Energy Conservation
- Infiltration
- Building Exhaust (ICC- Code Required)
- Duct Leakage
- Thermostat Settings
- High SEER System



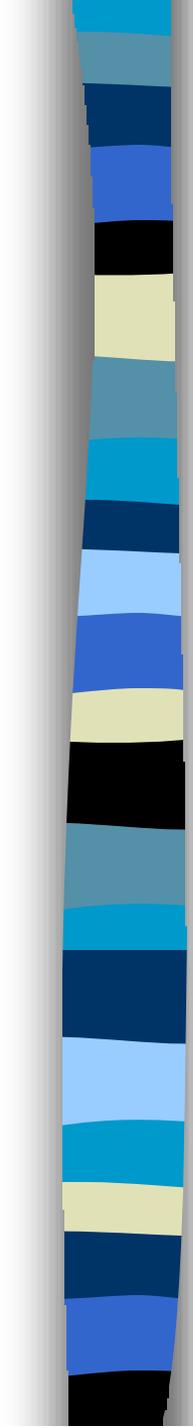
# Infiltration Sources

- Recessed Light Fixtures
- Windows
- Doors
- Pocket Doors
- Power Attic Ventilation
- Interstitial spaces communicating with ventilated attics
- Storm shutters
- Holes in top plates for electrical and plumbing



# Problem Times

- Nights
- Spring & Fall
- Warm humid days in winter
- Really cold days



# Systems That Dehumidify

- Two speed compressors with variable or multi speed evaporator fans
- Two compressor systems with variable or multi speed evaporator fans
- Independent humidifiers
- Outside air in winter

# Recommended System

