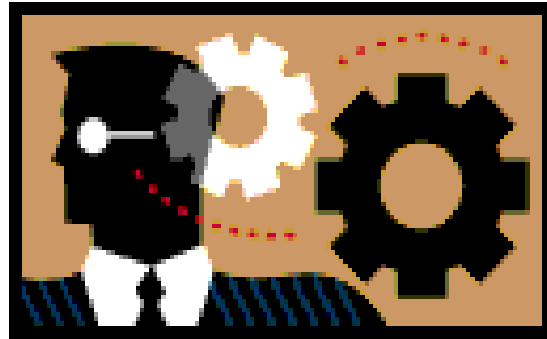


LA Code Changes 2015:



***Moving from: 2006 to 2012
Mechanical Code &
2006 to 2009 Energy Code***

Louisiana Energy Efficiency and Mechanical Code Adoptions

CURRENT CODES

- Louisiana One & Two Family Supplement to the 2006 IMC
- 2012 INTERNATIONAL MECHANICAL CODE
- 2012 INTERNATIONAL FUEL GAS CODE
- 2006 IRC CHAPTER 11 ENERGY EFFICIENCY

PROPOSED CHANGE

(EFFECTIVE JANUARY 1, 2015)

- 2012 INTERNATIONAL RESIDENTIAL CODE Part V Mechanical
- 2009 IRC CHAPTER 11 ENERGY EFFICIENCY

2012 INTERNATIONAL RESIDENTIAL CODE



BUILDING PLANNING ***CHAPTER 3***

2012 INTERNATIONAL RESIDENTIAL CODE

BUILDING PLANNING

➤ R302.5.2 DUCT PENETRATION.

DUCTS IN THE GARAGE AND DUCTS PENETRATING THE WALLS OR CEILING SEPARATING THE DWELLING FROM THE GARAGE SHALL BE CONSTRUCTED OF MINIMUM NO. 26 GAUGE SHEET METAL OR OTHER APPROVED MATERIAL AND SHALL HAVE NO OPENINGS INTO GARAGE

➤ R303.3 BATHROOMS

MECHANICAL EXHAUST RATES FOR BATHROOMS SHALL BE 50 CFM INTERMITTENT OR 20 CFM CONTINUOUS (M1507.4)

➤ R303.4 MECHANICAL VENTILATION REQUIRED FOR TIGHT DWELLINGS

WHERE THE AIR INFILTRATION RATE OF A DWELLING UNIT IS **LESS THAN 5 AIR CHANGES PER HOUR** WHEN TESTED WITH A BLOWER DOOR AT A PRESSURE OF 0.2 INCH OF W.C. (50 PA) IN ACCORDANCE WITH SECTION N1102.4.1.2, THE DWELLING UNIT SHALL BE PROVIDED WITH WHOLE HOUSE MECHANICAL VENTILATION IN ACCORDANCE WITH SECTION M1507.3

2012 INTERNATIONAL RESIDENTIAL CODE

BUILDING PLANNING

MECHANICAL VENTILATION RATES

| CONTINUOUS WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM AIRFLOW RATE REQUIREMENTS | | | | | | | |
|--|--------------------|-----|-----|-----|-----|------|--|
| UNIT FLOOR AREA (square feet) | NUMBER OF BEDROOMS | | | | | | |
| | 0-1 | 2-3 | 4-5 | 6-7 | >7 | | |
| | AIRFLOW IN CFM | | | | | | |
| < 1,500 | 30 | 45 | 60 | 75 | 90 | | |
| 1,501-3,000 | 45 | 60 | 75 | 90 | 105 | | |
| 3,001-4,500 | 60 | 75 | 90 | 105 | 120 | | |
| 4,501-6,000 | 75 | 90 | 105 | 120 | 135 | | |
| 6,001-7,500 | 90 | 105 | 120 | 135 | 150 | | |
| > 7,500 | 105 | 120 | 135 | 150 | 165 | | |
| INTERMITTENT WHOLE-HOUSE MECHANICAL VENTILATION RATE FACTORS | | | | | | | |
| RUN-TIME PERCENTAGE IN EACH 4-HOUR SEGMENT | 25% | 33% | 50% | 66% | 75% | 100% | |
| FACTOR | 4 | 3 | 2 | 1.5 | 1.3 | 1.0 | |

M1507.3.3(1)

M1507.3.3(2)

2012 INTERNATIONAL RESIDENTIAL CODE

BUILDING PLANNING

➤ R303.5.1 INTAKE OPENING

MECHANICAL AND GRAVITY OUTDOOR AIR INTAKE OPENING SHALL BE LOCATED A MINIMUM OF 10 FEET FROM ANY HAZARDOUS OR NOXIOUS CONTAMINANT SOURCE, SUCH AS VENTS, CHIMNEYS, PLUMBING VENTS, STREETS, ALLEYS, PARKING LOTS, AND LOADING DOCKS, EXCEPT AS OTHERWISE SPECIFIED IN THIS CODE. WHERE A SOURCE OF CONTAMINANT IS LOCATED WITHIN 10 FEET OF THE INTAKE OPENING, SUCH OPENING SHALL BE LOCATED A MINIMUM OF 3 FEET BELOW CONTAMINANT SOURCE.

➤ R303.6 OUTSIDE OPENING PROTECTION

SHALL BE PROTECTED BY CORROSION RESISTANT SCREENS, LOUVERS, OR GRILLES WITH MINIMUM OPENING SIZE OF ¼ INCH AND A MAXIMUM OF ½ INCH, AND PROTECTED AGAINST LOCAL WEATHER CONDITIONS

2012 INTERNATIONAL RESIDENTIAL CODE

BUILDING PLANNING

- R315.3 CARBON MONOXIDE ALARMS REQUIRED FOR EXISTING DWELLINGS:
WHEN ALTERATIONS, REPAIRS OR ADDITIONS OCCUR OR WHERE ONE OR MORE SLEEPING ROOMS ARE ADDED OR CREATED IN EXISTING DWELLINGS THAT HAVE ATTACHED GARAGES OR IN EXISTING DWELLINGS CONTAINING FUEL-FIRED APPLIANCES, CARBON MONOXIDE ALARMS SHALL BE PROVIDED IN ACCORDANCE WITH SECTION R315.1

- R322.1.6 PROTECTION OF MECHANICAL AND ELECTRICAL SYSTEMS
ELECTRICAL SYSTEMS, EQUIPMENT AND COMPONENTS; HEATING, VENTILATING, AIR CONDITIONING; PLUMBING APPLIANCES AND PLUMBING FIXTURES; DUCT SYSTEMS; AND OTHER SERVICE EQUIPMENT SHALL BE LOCATED AT OR ABOVE THE FLOOD ELEVATION.

- R1006.1 EXTERIOR AIR FOR FIREPLACES
FACTORY-BUILT OR MASONRY FIREPLACES COVERED IN THIS CHAPTER SHALL BE EQUIPPED WITH AN EXTERIOR AIR SUPPLY TO ASSURE PROPER FUEL COMBUSTION.

2012 INTERNATIONAL RESIDENTIAL CODE



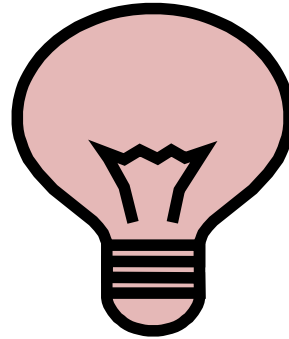
WALL CONSTRUCTION ***CHAPTER 6***

2012 INTERNATIONAL RESIDENTIAL CODE

WALL CONSTRUCTION

- R602.6 DRILLING AND NOTCHING OF STUDS (EXTERIOR WALL/BEARING WALL)
 - CUT OR NOTCHED NOT TO EXCEED 25% OF ITS WIDTH
 - BORED HOLE MAX. DIAMETER 40% OF STUD DEPTH
 - MINIMUM 5/8 INCH FROM EDGE
 - BORED HOLES SHALL NOT BE LOCATED IN THE SAME CROSS SECTION OF CUT OR NOTCH IN STUD
 - HOLES IN STUDS THAT ARE BETWEEN 40% AND 60% MUST BE DOUBLED
- R602.6 DRILLING AND NOTCHING OF STUDS (INTERIOR WALL/NON-BEARING)
 - NOTCH MUST NOT EXCEED 40% OF STUD DEPTH
 - BORED HOLE IN STUD 60% MAXIMUM
 - BORED HOLES SHALL NOT BE LOCATED IN THE SAME CROSS SECTION OF CUT OR NOTCH IN STUD
 - HOLE OR NOTCH NOT CLOSER THAN 5/8 INCH TO EDGE
- R602.6.1 DRILLING AND NOTCHING OF TOP PLATE
 - NOTCH GREATER THAN 50% OF TOP PLATE MUST HAVE A 16 GAUGE AND 1.5 INCH WIDE METAL TIE FASTENED ACROSS AND TO THE PLATE AT EACH SIDE OF THE NOTCH WITH 8-10d NAILS
- NOTE: PURLINS AND ROOF BRACES AND THEIR REMOVAL

2012 INTERNATIONAL RESIDENTIAL CODE



ENERGY EFFICIENCY-- CHAPTER 11

2009 INTERNATIONAL RESIDENTIAL CODE

- **N1102.2.3 ACCESS HATCHES & DOORS** (Louisiana Amendment)
 - ACCESS DOORS FROM CONDITIONED SPACES TO UNCONDITIONED SPACES SHALL BE WEATHERSTRIPPED & INSULATED TO A MINIMUM INSULATION VALUE OF R-4. (International residential Code specifies equal R-value as surrounding insulation.)

2009 INTERNATIONAL RESIDENTIAL CODE

ENERGY EFFICIENCY

➤ N1102.4 AIR SEALING (BUILDING)

- N1102.4.2 THE AIR TIGHTNESS METHOD OF COMPLIANCE IS TO BE DETERMINED BY THE CONTRACTOR, DESIGN PROFESSIONAL, OR HOMEOWNER.
- N1102.4.2.1 TESTING OPTIONS FOR AIR TIGHTNESS DEMONSTRATION:
 - **TESTED AIR LEAKAGE OPTION** – (Louisiana Amendment) **BLOWER DOOR TESTING SHALL BE PERFORMED BY INDIVIDUALS CERTIFIED TO PERFORM BLOWER DOOR TESTING BY A NATIONALLY RECOGNIZED ORGANIZATION THAT TRAINS & PROVIDES CERTIFICATION EXAMS FOR THE PROPER PROCEDURES TO PERFORM SUCH TESTS. THE RESPONSIBLE BCEO SHALL ACCEPT WRITTEN BLOWER DOOR TEST REPORTS FROM THESE CERTIFIED INDIVIDUALS TO VERIFY THE MINIMUM REQUIREMENTS OF THIS SECTION.** TESTED AIR LEAKAGE MUST BE LESS THAN **7 ACH** WHEN TESTED WITH A BLOWER DOOR AT A PRESSURE OF **50 PASCALS**
 - **VISUAL INSPECTION OPTION** (SEE CHECKLIST TABLE N1102.4.2) FOR AIR BARRIER AND INSULATION INSPECTION

2009 INTERNATIONAL RESIDENTIAL CODE

ENERGY EFFICIENCY

N1102.4.3 FIREPLACES

NEW WOOD-BURNING FIREPLACES SHALL HAVE OUTDOOR COMBUSTION AIR.

N1103.1.1 PROGRAMMABLE THERMOSTAT

WHERE THE PRIMARY HEATING SYSTEM IS A FORCED AIR FURNACE, AT LEAST ONE THERMOSTAT PER DWELLING UNIT SHALL BE CAPABLE OF CONTROLLING THE HEATING AND COOLING ON A DAILY SCHEDULE TO MAINTAIN DIFFERENT TEMPERATURE SET POINTS AT DIFFERENT TIMES OF THE DAY.

N1103.2.1 DUCT INSULATION

SUPPLY & RETURN DUCTS SHALL BE INSULATED TO A MINIMUM OF R-6.
(International Residential Code requires R-8 for ductwork, but Louisiana local governments can only require a maximum of R-6.)

2009 INTERNATIONAL RESIDENTIAL CODE

ENERGY EFFICIENCY

➤ N1103.2.2 DUCT SEALING

▪ DUCTS, AIR HANDLERS, FILTER BOXES AND BUILDING CAVITIES USED AS DUCTS SHALL BE SEALED. Duct Leakage testing shall be performed by individuals certified to perform duct leakage tests by a nationally recognized organization that trains & provides certification exams for the proper procedures to perform such tests. The responsible BCEO shall accept written duct leakage test reports from these certified individuals to verify the minimum requirements of this section.

❖ POST CONSTRUCTION: **LEAKAGE TO OUTDOORS** SHALL BE LESS THAN OR EQUAL TO **8 CFM/100sf** OF CONDITIONED FLOOR AREA OR A **TOTAL LEAKAGE** LESS THAN OR EQUAL TO **12 CFM/100sf** OF CONDITIONED FLOOR AREA WHEN TESTED AT A PRESSURE DIFFERENTIAL OF 0.1 INCH OF WATER (25 PA) ACROSS THE ENTIRE SYSTEM, INCLUDING THE MANUFACTURER'S AIR HANDLER END CLOSURE.

❖ ROUGH-IN TEST: TOTAL LEAKAGE SHALL BE LESS THAN OR EQUAL TO **6 CFM PER 100 SQ FT** OF CONDITIONED FLOOR AREA WHEN TESTED AT A PRESSURE DIFFERENTIAL OF 0.1 OF WATER (25 PA) ACROSS THE ROUGH-IN SYSTEM, INCLUDING THE MANUFACTURER'S AIR HANDLER ENCLOSURE.

❖ NOTE: DUCT TIGHTNESS TEST NOT REQUIRED WHEN DUCTS & AIR HANDLER ARE IN CONDITIONED SPACE

2009 INTERNATIONAL RESIDENTIAL CODE

ENERGY EFFICIENCY

➤ N1103.5 MECHANICAL VENTILATION - DAMPERS

- OUTDOOR AIR INTAKES AND EXHAUSTS SHALL HAVE AUTOMATIC OR GRAVITY DAMPERS THAT CLOSE WHEN THE VENTILATION SYSTEM IS NOT OPERATING

➤ N1103.8.3 POOL COVERS

_____ This national energy code not required in Louisiana.

2012 INTERNATIONAL RESIDENTIAL CODE



GENERAL MECHANICAL SYSTEM REQUIREMENTS CHAPTER 13

2012 INTERNATIONAL RESIDENTIAL CODE

GENERAL MECHANICAL SYSTEM REQUIREMENTS

➤ M1302.1 LISTED AND LABELED

- APPLIANCES REGULATED BY THIS CODE SHALL BE LISTED AND LABELED FOR THE APPLICATION IN WHICH THEY ARE INSTALLED AND USED.

➤ M1305.1 APPLIANCE ACCESS FOR INSPECTION FOR SERVICE, REPAIR, AND REPLACEMENT

- LEVEL WORKING SPACE 30 INCHES DEEP AND 30 INCHES WIDE ON CONTROL SIDE

➤ M1305.1.1 FURNACES AND AIR HANDLERS

- HAVE CLEARANCES OR WORKING SPACE OF 3 INCHES ALONG SIDES, BACK AND TOP WITH A TOTAL NET WIDTH OF AT LEAST 12 INCHES WIDER THAN THE FURNACE OR AIR HANDLER

➤ M1305.1.2 APPLIANCES IN ROOMS (ALCOVE OR SIMILAR SPACE)

- PASSAGEWAY AT LEAST 24 INCHES WIDE AND LARGE ENOUGH TO REMOVE THE LARGEST PIECE OF EQUIPMENT
- MINIMUM HEIGHT IS 30 INCHES

➤ M1305.1.3 APPLIANCES IN ATTICS

- UNOBSTRUCTED PASSAGEWAY LARGE ENOUGH TO REMOVE THE LARGEST APPLIANCE
- MINIMUM PASSAGEWAY DIMENSIONS 30 BY 22 AND NOT MORE THAN 20 FEET LONG

2012 INTERNATIONAL RESIDENTIAL CODE

GENERAL MECHANICAL SYSTEM REQUIREMENTS

➤ M1305.1.2 APPLIANCES IN ATTICS (CONTINUED)

- THE CLEAR ACCESS OPENING MINIMUM DIMENSIONS SHALL BE 20 INCHES BY 30 INCHES OR LARGE ENOUGH TO REMOVE THE BIGGEST APPLIANCE.

➤ M1305.1.3.1 ELECTRICAL REQUIREMENTS

- LUMINAIRE WITH SWITCH
- RECEPTACLE OUTLET

➤ M1305.1.4 APPLIANCE UNDER FLOORS

➤ NOTE:

- PLEASE SEE THE APPLIANCE MANUFACTURER FOR OUTSIDE APPLICATION (UNDER HOUSE)
- APPLIANCE INSTALLATION IS NOT ALLOWED BELOW FLOOD GRADE

➤ M1305.1.4.1 GROUND CLEARANCE

- LEVEL AND FIRMLY SUPPORTED
- CONCRETE SLAB OR OTHER APPROVED MATERIAL
- ACCORDING TO MANUFACTURER'S INSTRUCTION
- 3 INCHES MINIMUM

2012 INTERNATIONAL RESIDENTIAL CODE

GENERAL MECHANICAL SYSTEM REQUIREMENTS

➤ APPLIANCE CLEARANCE

- APPLIANCES SHALL BE INSTALLED WITH CLEARANCES FROM UNPROTECTED COMBUSTIBLE MATERIALS AS INDICATED ON THE APPLIANCE LABEL AND IN THE MANUFACTURER'S INSTALLATION INSTRUCTIONS
- THE ONE INCH MINIMUM APPLIES FOR ALL VENTS THAT CONDUCT HOT FLUE GASES FROM APPLIANCE

➤ M1307.2 ANCHORAGE OF APPLIANCES

- FASTENED OR ANCHORED IN APPROVED MANNER

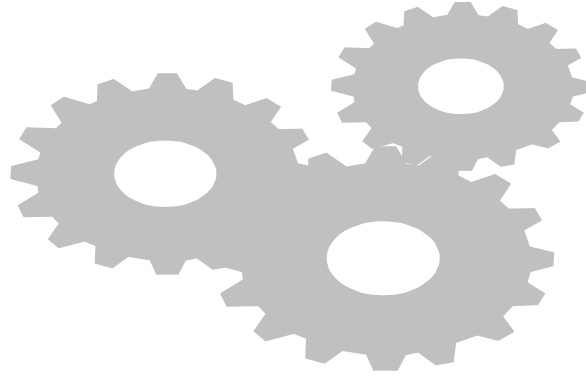
➤ M1307.3.1 PROTECTION FROM IMPACT

APPLIANCES SHALL NOT BE INSTALLED IN A LOCATION SUBJECT TO AUTO OR TRUCK DAMAGE EXCEPT WHERE PROTECTED BY APPROVED BARRIERS

➤ M1308.2 PROTECTION AGAINST PHYSICAL DAMAGE

- LINE SETS, PVC DRAINS, ETC
- NAIL GUARDS NUMBER 16 GAUGE SHALL EXTEND A MINIMUM OF 2 INCHES ABOVE SOLE PLATES AND BELOW TOP PLATES.

2012 INTERNATIONAL RESIDENTIAL CODE



HEATING & COOLING EQUIPMENT & APPLIANCES CHAPTER 14

2012 INTERNATIONAL RESIDENTIAL CODE

HEATING & COOLING EQUIPMENT & APPLIANCES

➤ M1401.2 ACCESS

- HEATING AND COOLING EQUIPMENT AND APPLIANCES SHALL BE LOCATED WITH RESPECT TO BUILDING CONSTRUCTION AND OTHER EQUIPMENT AND APPLIANCES TO PERMIT MAINTENANCE, SERVICE AND REPLACEMENT

➤ M1401.3 SIZING

- ACCA MANUAL "S"
- ACCA MANUAL "J"
- ACCA MANUAL "D" (M1601.1)

➤ M1401.4 EXTERIOR INSTALLATIONS

- EQUIPMENT MUST BE LISTED AND LABELED FOR OUTDOOR USE.

➤ M1411.3 CONDENSATE DISPOSAL

- APPROVED PLACE OF DISPOSAL
- 1/8 UNIT VERTICAL IN 12 UNIT HORIZONTAL SLOPE (1%) TO PLACE OF DISPOSAL
- NO DRAINAGE INTO ALLEY, WALKWAY OR OTHER LOCATION WHERE THERE COULD BE A HAZARD

2012 INTERNATIONAL RESIDENTIAL CODE

HEATING & COOLING EQUIPMENT & APPLIANCES

➤ M1411.3.1 AUXILLARY AND SECONDARY DRAIN SYSTEMS

- MINIMUM SLOPE FOR DRAIN IS 1/8 VERTICAL TO 12 HORIZONTAL (1%)
- MINIMUM OF 3/4 NOMINAL SIZE
- OPTION
 1. AUXILIARY DRAIN PAN WITH ATTACHED AUXILLARY DRAIN LINE THAT DISCHARGES TO CONSPICUOUS PLACE . THE PAN MUST BE 3 INCHES LARGER THAT THE EQUIPMENT WITH A DEPTH OF AT LEAST 1.5 INCHES. METAL PANS SHALL HAVE A THICKNESS OF NUMBER 24 GAUGE AND NON-METAL PANS A THICKNESS OF NOT LESS THAN 1.6MM
 2. A SEPARATE OVERFLOW DRAIN LINE SHALL BE CONNECTED TO THE DRAIN PAN INSTALLED WITH THE EQUIPMENT (CONNECTED AT HIGHER LEVEL THAN THE MAIN DRAIN)
 3. AN AUXILIARY DRAIN PAN WITHOUT SEPARATE DRAIN LINE, BUT MUST BE EQUIPPED WITH WATER LEVEL DETECTION DEVICE (UL 508)
 4. A WATER LEVEL DETECTION DEVICE CONFORMING TO UL 508 SHALL BE INSTALLED THAT WILL SHUT OFF THE EQUIPMENT SERVED IN THE EVENT THAT THE PRIMARY DRAIN LINE BLOCKED, THE DEVICE SHALL BE INSTALLED IN THE MAIN DRAIN LINE, THE OVERFLOW DRAIN LINE OR THE EQUIPMENT SUPPLIED DRAIN PAN

➤ WATER-LEVEL MONITORING DEVICE

- REQUIRED IN ALL OTHER INSTALLATIONS (DOWNFLOW AND UPFLOW)

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HEATING & COOLING EQUIPMENT & APPLIANCES

➤ M1411.3.2 DRAIN PIPE MATERIALS AND SIZES

- BE AT LEAST $\frac{3}{4}$ INCH IN INTERNAL DIAMETER AND SHALL NOT DECREASE IN SIZE
- WHERE TWO DRAIN LINES ARE MANIFOLDED TOGETHER THEIR SIZE MUST INCREASE PER APPROVED METHODS
- PVC, CPVC CAST IRON OR OTHER APPROVED MATERIALS

➤ M1411.3.3 APPLIANCES, EQUIPMENT AND INSULATION IN PANS

- INSTALLED ABOVE FLOOD RIM OF PAN
- SUPPORTS LOCATED IN THE PAN MUST BE WATER RESISTANT AND APPROVED

➤ M1411.4 AUXILLARY DRAIN PAN

- CATEGORY 4 AND 5 FURNACES MUST HAVE AUXILIARY DRAIN PANS WHERE PROPERTY DAMAGE IS POSSIBLE.

➤ M1411.5 INSULATION OF REFRIGERANT PIPING

- MUST BE R-4 MINIMUM

➤ M1411.6 LOCKING ACCESS PORT CAPS

- REFRIGERANT CIRCUIT ACCESS PORTS LOCATED OUTDOORS SHALL BE FITTED WITH LOCKING-TYPE TAMPER-RESISTANT CAPS OR SHALL BE OTHERWISE SECURED TO PREVENT UNAUTHORIZED ACCESS

2012 INTERNATIONAL RESIDENTIAL CODE



EXHAUST SYSTEMS

CHAPTER 15

2012 INTERNATIONAL RESIDENTIAL CODE

EXHAUST SYSTEMS

➤ M1503.1 GENERAL (RANGE HOODS)

- MUST DISCHARGE TO OUTSIDE
- SINGLE-WALL DUCT
- AIR TIGHT
- SMOOTH INTERIOR SURFACE
- INDEPENDENT OF OTHER SYSTEMS
- EQUIPPED WITH BACK DRAFT DAMPER
- SHALL NOT TERMINATE IN ATTIC
- STAINLESS STEEL, GALVANIZED STEEL OR COPPER

➤ M1503.4 MAKEUP AIR REQUIRED

- EXHAUST HOOD SYSTEMS CAPABLE OF EXHAUSTING IN EXCESS OF 400 CFM SHALL BE PROVIDED WITH MAKEUP AIR AT A RATE APPROXIMATELY EQUAL TO THE EXHAUST AIR RATE. SUCH MAKEUP AIR SYSTEMS SHALL BE EQUIPPED WITH A MEANS OF CLOSURE AND SHALL BE AUTOMATICALLY CONTROLLED TO START AND OPERATE SIMULTANEOUSLY WITH THE EXHAUST SYSTEM

➤ M1503.3 KITCHEN EXHAUST RATES

- SEE TABLE M1507.4 FOLLOWING PAGE

2012 INTERNATIONAL RESIDENTIAL CODE

EXHAUST SYSTEMS

➤ TABLE M1507.4 MINIMUM REQUIRED LOCAL EXHAUST RATES FOR ONE-AND TWO FAMILY DWELLINGS

| TABLE M1507.4 | |
|------------------------|---|
| AREA TO BE EXHAUSTED | EXHAUST RATES |
| KITCHENS | 100 CFM INTERMITTENT OR 25 CFM CONTINUOUS |
| BATHROOMS-TOILET ROOMS | MECHANICAL EXHAUST CAPACITY OF 50 CFM INTERMITTENT OR 20 CFM CONTINUOUS |

2012 INTERNATIONAL RESIDENTIAL CODE

EXHAUST SYSTEMS

➤ M1506.2 EXHAUST OPENINGS

- NOT LESS THAN 3 FEET FROM PROPERTY LINE
- 3 FEET FROM OPERABLE AND NON-OPERABLE OPENING INTO BUILDING
- 10 FEET FROM MECHANICAL AIR INTAKE

➤ M1507.2 RECIRCULATION OF AIR (TABLE M1507.4)

- EXHAUST AIR FROM BATHROOMS AND TOILET ROOMS SHALL BE EXHAUSTED TO OUTSIDE
- EXHAUST AIR SHALL NOT BE DIRECT INTO ATTIC, CRAWL SPACE OR OTHER AREAS WITHIN BUILDING

➤ M1507.3 WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM

▪ M1507.3.1 SYSTEM DESIGN

- ❖ THE WHOLE-HOUSE VENTILATION SYSTEM SHALL CONSIST OF A COMBINATION OF SUPPLY & EXHAUST FANS, & ASSOCIATED DUCTS AND CONTROLS. LOCAL EXHAUST & SUPPLY FANS ARE PERMITTED TO SERVE AS SUCH A SYSTEM. OUTDOOR AIR DUCTS CONNECTED TO THE RETURN SIDE OF AN AIR HANDLER SHALL BE CONSIDERED TO PROVIDE SUPPLY VENTILATION.

❖ M1507.3.2 SYSTEM CONTROLS

- THE WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM SHALL BE PROVIDED WITH CONTROLS THAT ENABLE MANUAL OVERRIDE & A METHOD OF AIRFLOW ADJUSTMENT.

2012 INTERNATIONAL RESIDENTIAL CODE

EXHAUST SYSTEMS

➤ M1507.3.3 MECHANICAL VENTILATION RATE

- THE WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM SHALL PROVIDE OUTDOOR AIR AT A CONTINUOUS RATE OF NOT LESS THAN THAT DETERMINED IN ACCORDANCE WITH TABLE M1507.3.3(1)
- EXCEPTION
 - ❖ THE WHOLE-HOUSE SHALL BE PERMITTED TO OPERATE INTERMITTENTLY WHERE THE SYSTEM HAS CONTROLS THAT ENABLE OPERATION FOR NOT LESS THAN 25% OF EACH 4 HOUR SEGMENT AND THE VENTILATION RATE PERSCRIBED IN TABLE M1507.3.3(1) IS MULTIPLIED BY THE FACTOR DETERMINED IN ACCORDANCE WITH TABLE M1507.3.3(2)

| | | | | | | |
|--|-----|-----|-----|-----|-----|------|
| RUN-TIME % EACH 4-HOUR SEGMENT | 25% | 33% | 50% | 66% | 75% | 100% |
| FACTOR | 4 | 3 | 2 | 1.5 | 1.3 | 1.0 |
| INTERMITTENT WHOLE-HOUSE MECHANICAL VENTILATION RATE FACTORS | | | | | | |

2012 INTERNATIONAL RESIDENTIAL CODE

EXHAUST SYSTEMS

➤ M1507.3.3 MECHANICAL VENTILATION RATE (TABLE M1507.3.3(1))

| DWELLING UNIT FLOOR AREA (SQ FT) | NUMBER OF BEDROOMS | | | | |
|--|--------------------|-----|-----|-----|-----|
| | 0-1 | 2-3 | 4-5 | 6-7 | >7 |
| | AIRFLOW IN CFM | | | | |
| <1,500 | 30 | 45 | 60 | 75 | 90 |
| 1,501-3,000 | 45 | 60 | 75 | 90 | 105 |
| 3,001-4,500 | 60 | 75 | 90 | 105 | 120 |
| 4,501-6,000 | 75 | 90 | 105 | 120 | 135 |
| 6,001-7,500 | 90 | 105 | 120 | 135 | 150 |
| >7,500 | 105 | 120 | 135 | 150 | 165 |

**CONTINUOUS WHOLE-HOUSE MECHANICAL VENTILATION
SYSTEM AIRFLOW RATE REQUIREMENTS**

2012 INTERNATIONAL RESIDENTIAL CODE



DUCT SYSTEMS

CHAPTER 16

2012 INTERNATIONAL RESIDENTIAL CODE

DUCT SYSTEMS

➤ M1601.1 DUCT DESIGN

- DUCT SYSTEMS SERVING HEATING, COOLING AND VENTILATION EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE PROVISIONS OF THIS SECTION (M1601) AND **ACCA** MANUAL “D” OR OTHER APPROVED METHODS

➤ M1601.4.1 JOINTS, SEAMS, AND CONNECTIONS

- ALL LONGITUDINAL AND TRANSVERSE JOINTS, SEAMS, AND CONNECTIONS IN METALLIC AND NONMETALLIC DUCTS SHALL BE CONSTRUCTED AS SPECIFIED IN **SMACNA HVAC DUCT CONSTRUCTION STANDARDS**. ALL JOINTS, LONGITUDINAL AND TRANSVERSE SEAMS, AND CONNECTIONS IN DUCTWORK SHALL BE SECURELY FASTENED AND SEALED WITH WELDS, GASKETS, MASTICS (ADHESIVES), MASTIC-PLUS-EMBEDDED-FABRIC SYSTEMS OR TAPES
- CLOSURE SYSTEMS MUST BE USED IN CONJUNCTION WITH MANUFACTURERS INSTALLATION INSTRUCTIONS AND USED IN THE APPROVED APPLICATION

➤ M1601.4.7 DUCT SEPARATION

- DUCTS SHALL BE INSTALLED WITH AT LEAST 4 INCHES SEPARATION FROM EARTH EXCEPT WHERE THEY MEET THE REQUIREMENTS OF SECTION M1601.1.2

➤ M1601.6 INDEPENDENT GARAGE HVAC SYSTEMS

- FURNACES AND AIR-HANDLING SYSTEMS THAT SUPPLY AIR TO LIVING SPACES SHALL NOT SUPPLY AIR TO RETURN AIR FROM A GARAGE

2012 INTERNATIONAL RESIDENTIAL CODE

DUCT SYSTEMS

➤ M1602.2 RETURN AIR-PROHIBITED SOURCES

- OUTDOOR AND RETURN AIR FOR A FORCED-AIR HEATING OR COOLING SYSTEM SHALL NOT BE TAKEN FROM THE FOLLOWING LOCATIONS:
 1. CLOSER THAN 10 FEET TO AN APPLIANCE VENT OPENING FROM A PLUMBING DRAINAGE SYSTEM OR THE DISCHARGE OUTLET OF AN EXHAUST FAN, UNLESS THE OUTLET IS 3 FEET ABOVE THE OUTSIDE AIR INLET
 2. WHERE FLAMMABLE VAPORS ARE PRESENT; OR WHERE LOCATED LESS THAN 10 FEET ABOVE THE SURFACE OF ANY ABUTTING PUBLIC WAY OR DRIVEWAY; OR WHERE LOCATED AT GRADE LEVEL BY A SIDEWALK, STREET, ALLEY, OR DRIVEWAY
 3. A ROOM OR SPACE, THE VOLUME WHICH IS LESS THAN 25% OF THE ENTIRE VOLUME SERVED BY THE SYSTEM.
 4. A CLOSET, BATHROOM, TOILET ROOM, KITCHEN, GARAGE, BOILER ROOM, FURNACE ROOM, UNCONDITIONED ATTIC OR OTHER DWELLING UNIT
 5. A ROOM OR SPACE CONTAINING A FUEL-BURNING APPLIANCE WHERE SUCH ROOM OR SPACE SERVES AS THE SOLE SOURCE OF RETURN AIR
 6. SEE EXCEPTIONS

2012 INTERNATIONAL RESIDENTIAL CODE

DUCT SYSTEMS

➤ M1602.3 INLET OPENING PROTECTION

- OUTDOOR AIR INLETS SHALL BE COVERED WITH SCREENS HAVING OPENINGS THAT ARE NOT LESS THAN $\frac{1}{4}$ INCH AND NOT GREATER THAN $\frac{1}{2}$ INCH

➤ NOTE:

1. DUCT PENETRATIONS, HOLES, SEAMS, AND SEALING IN REGARD TO THE FOLLOWING:
 - a. SEALING START COLLARS
 - b. PI BOX
 - c. AIR HANDLERS
 - d. PLENUM SEAMS AND ENDS (CAPS)
 - e. RETURNS
 - f. METAL WYE'S

2012 INTERNATIONAL RESIDENTIAL CODE

All of the information from this presentation was taken from the *International Residential Code for one-and two-family dwellings.*

Our gracious thanks to the International Code Council (ICC) for the use of their information and material. You can contact the International Code Council (ICC) at the following toll free numbers:

1-800-786-4452

1-888-422-7233

THANK YOU FOR YOUR ATTENDANCE

QUESTIONS??